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School Web Sites and Teacher Employment Interest

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Abstract of a Dissertation
Submitted to the Graduate Studies Office
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in Partial Fulfillment of the Requirements
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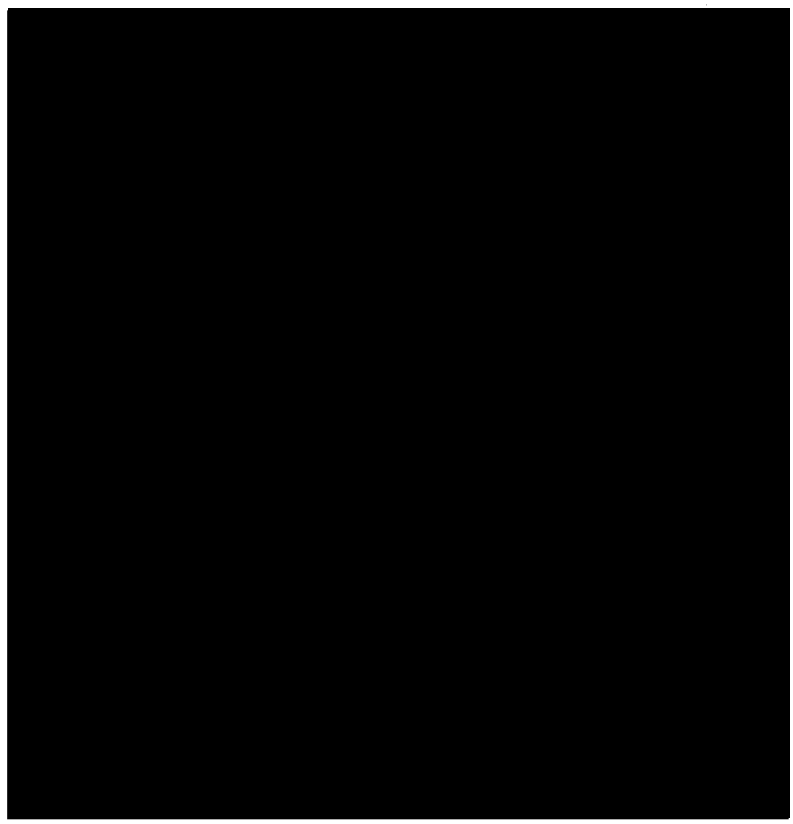

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ABSTRACT

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The Internet has changed the way many organizations, including public and private schools, recruit and select employees. It has also changed the way many people research and pursue employment opportunities, including those seeking positions in education. The school Web site is often the medium of first contact between a school or school district and a potential employee. That first contact can influence the potential employee's decision to actively pursue employment with a school or a school district.

This research measured the reactions of preservice teachers who visited three grade-level appropriate school Web sites of "poor," "average," and "best" distinction. The results indicated that preservice teachers interested in a high school position favored the best of the three Web sites more strongly than did preservice teachers interested in elementary or middle school positions. The results also indicated that while a poor-quality Web site places a school at a distinct "virtual" recruiting disadvantage, the difference between an average and a good Web site is not clear.

The results also indicated that not all preservice teachers viewed school Web sites the same. There are differences between specific demographic groups including age and race, as well as differences between teachers with varying degrees of computer efficacy. The school Web site's role in the employment process does not appear to be the same for all teachers.

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CHAPTER I

INTRODUCTION

This research attempted to examine the role of the school Web site in attracting the highly qualified teacher candidate. Now that educators can access thousands of school Web sites with a few strokes on a computer keyboard, performing research into how teachers form impressions about certain schools and school districts via the Internet may be important for administrators interested in attracting highly qualified educators. If the school district's Web presence generates employee interest and increases applications, the district might be able to make better hiring decisions and meet the "highly-qualified" demands of the law that requires a teacher to have at least a bachelor's degree, state teacher certification, and a major in the field he or she teaches (Galley, 2003). If, however, the school or school district's Web presence makes a poor impression, recruiting efforts may suffer. According to a survey conducted by Wetfeet.com, about 26% of 750 college students eliminated employers from consideration because of inferior Web sites (Karr, 2000).

Teachers Matter

While a child's socioeconomic status (Okpala, Okpala, & Smith, 2001) and previous academic success (Iwaniota, Kaplan, & Aniloff, 1976) can to some degree predict achievement, research has indicated that a highly qualified teacher has a positive impact upon student success (Kirkpatrick, 2002; Rugraff, 2004; Vandevoort, 2004). What the researchers reported, lawmakers required. In order to comply with the *No Child Left Behind Act of 2001* (2002) requirement to place a highly qualified teacher in every

classroom, school districts must attract highly qualified applicants. Having a large number of highly qualified candidates for a position in the school district increases the likelihood that the district will select the best applicant for the teaching position (Handler, 2005).

The advent of the World Wide Web changed how organizations, including many educational institutions, promote their images and attract both clients and employees (Cappelli, 2001). Private businesses, governmental agencies, and nongovernmental organizations use Web sites to promote the entity's activities, sell products, and even screen prospective employees with online aptitude tests (Mooney, 2002). Many enterprises overtly recruit job-seekers via a Web presence such as Monster.com, Hotjobs.com, and CareerBuilders.com. In the first decade of the 21st century, job-seekers can use their computers with Internet connections to seek employment far beyond the boundaries of their communities (Shaw, 2005). Such business practices have seeped into educational arenas (Radin & Greenburg, 1983). Some school districts post job vacancies on their Web sites (Jackson Public Schools, Jackson, MS, 2005) and others allow interested individuals the option of applying online (Palm Beach County Schools, FL, 2005) while some districts accept only online applications (Petal School District, Petal, MS, 2005). School teachers and administrators can use the Internet to search for job openings in education (a) around the world using the International Schools Service (2005) at http://www.iss.edu/edustaff, (b) across the United States with K-12 Jobs (2005) at http://www.K-12jobs.com, (c) within the confines of a specific state such as Pennsylvania through the Allegheny Intermediate Unit (2005) at http://www.PA-Educator.net, (d) in

specific metropolitan locations such as Atlanta with the Metro Atlanta Teacher Recruitment Consortium (2005) at http://www.matrec.org, and (e) for specific positions such as librarians (Nesbeitt, 2003) at http://www.libraryjobpostings.org, or science positions through Flinn Scientific (2005) at http://flinnsci.com/jobplacement.asp. This list is by no means exhaustive. It is clear, however, that educators are no longer limited to finding jobs via newspaper want ads, college placement boards, trade magazines, or word of mouth.

Through intuition and experience, most administrators believe that a good teacher has a positive impact upon student achievement. Intuition and experience, however, are not enough in a data-driven environment. Beliefs about the value of having a quality instructor in the classroom have been supported in numerous studies. In his dissertation, Rugraff (2004) reported a significant relationship between teachers' levels of education, student achievement, and dropout rates. In her dissertation, Vandevoort (2004) reported a strong correlation between the presence of a National Board Certified Teacher in the classroom and higher test scores. In her dissertation, Kirkpatrick (2002) found that mathematics teachers who used the practices recommended by the National Council of Teachers of Mathematics positively impacted student achievement. Another study showed that middle school students with fully certified math teachers made significantly larger gains than students without fully certified math teachers (Darling-Hammond, 2000).

Intuition and experience may again lead many decision makers to believe a large number of applicants improves the chances of making a good hiring choice. That idea

found support in the research. The frequently used term in employment literature has been a statistic known as the selection ratio.

Selection Ratio = Number of Hires/Number of Applicants

The selection ratio tells an organization how selective it can be based on the number of applicants for a job. The ideal situation for a school district has been to have "a great many applicants for a position (big denominator) and only need to hire a few of them (small numerator)" (Handler, 2005, ¶ 9).

Image Matters

The ability to attract applicants has been related to an organization's image (Fombrun & Shanley, 1990). It is human nature to seek out an organization with a favorable image. This has been supported by the social identity theory that suggests that the organizations to which individuals belong influence their self-concept (Tajfel & Turner, 1985). The better the organization is, the better an individual's self-concept is. "When one's employer is viewed favorably by oneself or by others, organizational membership is self-enhancing and results in positive social outcomes such as approval" (Barber, 1998, p. 33). It stands to reason that an individual who values technology will pursue employment with an organization that places a high value on technology. Research has shown that an individual will tend to seek out organizations with an image that reflects the individual's image (Tom, 1971). Computer efficacy may influence how education job-seekers pursue employment in a virtual environment.

How one views his or her own ability to succeed in a given environment has a great impact on how he or she will react to elements in that environment: "Performance

successes generally raise beliefs of personal efficacy" (Bandura, 1997, p. 81). The applicant with computer skills will likely function more successfully in a virtual environment than the individual without computer skills (Beckers & Schmidt, 2001). The computer-savvy teacher will likely be able to complete an online application whereas the noncomputer-savvy teacher might have more difficulty.

The virtual image of an organization, such as a school district, and the organization's perceived technology integration matter, because first impressions count. "(H)ome pages should be designed with potential recruits in mind, as they're frequently the first place job seekers look when they begin evaluating companies" (Cappelli, 2001, p. 140).

Technology Matters

Technology remains a vital element in school reform (Merrill, Hammons, Vincent, Reynolds, Christensen, & Tolman, 1996). The profound impact of technology on the transformation of schools into learning communities is still unfolding (Picciano, 1998). Studies have shown a significant positive correlation between technology and student achievement (Clements, Nastasi, & Swaminathan, 1993; Middleton & Murray, 1999; Page, 2002). Improved standardized test scores by general population students in classrooms with technology integration supported that finding (Mann & Shafer, 1997). Results also indicated a positive relationship between classroom computer use and the achievement of at-risk students (Diggs, 1997).

It is not simply the presence of the computer that makes the difference, however. Results indicated that classroom teachers who were comfortable with computers were

better introducers of technology and were able to reduce computer anxiety in children (Gardner, Dukes, & Discenza, 1993) and exemplary computer teachers knew how to integrate technology into the curriculum of all subject areas (Bitter & Pierson, 2002). When technology was pervasive in the classroom a cultural shift took place, moving away from entirely teacher-centered instruction to include student-initiated instruction (Page, 2002).

Statement of the Problem

Educational leaders may have a vague notion that a school or school district's Web site can propagate an image. The image that is propagated by the school's Web site might influence the opinions and actions of prospective teachers seeking employment. The relationship between organizational image and recruitment needs further study (Barber, 1998). The influence of the Web site might prompt the prospective teacher to apply for employment with the school or district, or the image might reduce the interest of the prospective teacher and decrease the likelihood that the prospective teacher will apply for employment. If the Web site influences the number or type of applicants, the Web site fits the definition of a recruitment activity (Breaugh, 1992, as cited in Barber, 1998). The influence of the Web site image might not be the same among all groups of teachers. For example, secondary teachers might place greater importance on Web presence than elementary teachers or teachers with an educational and experiential background in mathematics or the sciences might be more influenced by a Web site image than a teacher with a background in the liberal arts or human performance. The influence of a school or school district's Web site might vary depending on the teacher's own computer skills.

The teacher's computer efficacy might predict if the school or school district Web site will influence employment interest. If teachers have been required to demonstrate a certain degree of computer capabilities as a part of preparation, certification, or staff development, the teachers might have increased technology expectations and standards. The school leader charged with meeting the NCLB mandate of a highly qualified teacher (Galley, 2003) for every classroom may want to know if the school or district's Web site might be influencing teacher interest in the school or district.

Purpose of the Study

This quasi-experimental, descriptive study of teachers' computer self-efficacy, personal computer use, and attitudes about technology and integration of technology in education examined the potential influence of a school or school district Web site on prospective teachers. It is the intent of the researcher to disseminate the findings to school and school district leaders so that they can make informed decisions about the role of the Web site in the hiring of new teachers.

Hypotheses

This research tested three research hypotheses:

H_1: A school's Web site is related to teachers' perception of that school.

H_2: A school's Web site is related to teachers' interest regarding employment with that school.

H_3: The employment interest will vary between groups of teachers based on personal characteristics, content area, grade level, attitudes about computers, and computer efficacy.

Definitions

The following definitions are provided for clarification because this study examines the role of an emerging technology and its influence in the field of teacher recruitment.

Address - "a number or bit pattern that uniquely identifies a location in a computer memory" (Downing, Covington, & Covington, 2000, p. 8).

Computer anxiety - the psychological tension some individuals feel when having to deal with computers (Beckers & Schmidt, 2001).

Computerphobia - the irrational fear of computers (Weil, Rosen, & Wugalter, 1990).

Download - "to transmit a file or program from a central computer to a smaller computer or a computer at a remote site" (Downing et al., 2000, p. 140).

Field experience - These experiences include observation, assessment, planning, presentation, evaluation, and reflection within preservice and candidacy placements in diverse populations and environments (The University of Southern Mississippi, Office of Educational Field Experiences, 2004).

Functionality - the quality or state of being functional *(Merriam Webster 3rd New International Dictionary*, 1986).

Home page - "1. The main Web page for a person or organization; the page that users are expected to read first in order to access other pages; 2. The Web page that a person sees first, immediately after starting up the browsers" (Downing et al., 2000, p. 220).

Hyperlink or link - "an item on a Web page which, when selected, transfers the user directly to another location" (Downing et al., 2000, p. 224).

Image - a tangible or visible representation. A mental conception held in common by members of a group and being symbolic of a basic attitude or orientation toward something (*Merriam Webster 3rd New International Dictionary*, 1986).

Interface - a boundary across which two independent systems meet and act on or communicate with each other. The user interface allows the human to communicate with the operating system (Webopedia, 2005).

Internet - "a cooperative message-forwarding system linking computer networks all over the world" (Downing et al., 2000, p. 239).

Navigation - "finding your way around a complex system of menus, help files, or the World Wide Web" (Downing et al., 2000, p. 313).

Online - "connected to a computer or available through a computer" (Downing et al., 2000, p. 328).

Perception - the capacity for comprehension and intelligent discernment (*Merriam Webster 3rd New International Dictionary*, 1986). In the context of this work, *teachers' perceptions* will be used to describe the opinions, impressions, beliefs, and attitudes of classroom instructors.

Tech-ology - the study of computer technology and its role in human society (Tomei, 2003).

Text box - "an area within a window where the user can type or edit characters" (Downing et al., 2000, p. 461).

Usability - the characteristic of being convenient and practicable to use (Keeker, 1997).

URL - an abbreviation for universal resource locator, the global address of documents and other resources in the World Wide Web (Webopedia, 2005).

Virtual - it distinguishes something that is merely conceptual from something that has *physical* reality (Webopedia, 2005).

Web page - "a file of information made available for viewing on the World Wide Web and seen by the user as a page of information on the screen" (Downing et al., 2000, p. 505).

Web presence - having established existence through a Web site or collection of Web files on the World Wide Web (Webopedia, 2005).

Web site - a site (location) on the World Wide Web. Each Web site contains a home page, which is the first document users see when they enter the site. The site might also contain additional documents and files. Each site is owned and managed by an individual, company, or organization (Webopedia, 2005).

World Wide Web - "a loosely organized set of computer sites that publish information that anyone can read via the Internet" (Downing et al., 2000, p. 516).

Delimitations

This study examined how preservice teachers enrolled in a teacher preparation program at a major southeastern university reacted to school Web sites. Following approval from the university's Institutional Review Board, the members of the sample participated in the study between the third week of August 2005 and the third week of

October 2005. It was the semester during which they were doing their field experience. Enrollment in the field experience course was the criterion for selection. The inferences made from the findings of this study are valid only for members of this population and the variables used in the study, and the employment preferences expressed in the study are only applicable to the Web sites examined.

Assumptions

The researcher assumed that the sample had at least the same level of technology skill as the general population of teachers working in K-12 education. This assumption found its base in the requirement placed upon each member of the sample. In order to reach the final stage of the teacher preparation program at the sample university, they must have passed a technology examination, the Basic Technology Literacy Examination (Appendices A, B, C, D, and E). This test includes modules on word processing, spreadsheet creation and use, Internet navigation and searches, presentation preparation, and database creation and manipulation.

Another important assumption involved the ability to complete the questionnaire. By successfully participating in the survey, the respondents demonstrated a degree of computer literacy because the instrument was delivered via a computer connected to the Internet. In order to access and complete the survey, the participants must have possessed the ability to access an Internet address, click on a hyperlink, and select responses on an HTML document. This demonstration of skill was evidence of an understanding of technology sufficient to render a personal opinion on a school Web site. The analogy of obtaining a driver's license is appropriate in this case. Motorists who have demonstrated

enough driving skill and knowledge of traffic laws to qualify for a driver's license are not considered expert drivers but can test drive a car in order to offer a lay opinion on the characteristics of the motor vehicle and to express their willingness to own the car.

Justification

This research matters to school leaders facing the burden of fulfilling the highly-qualified teacher-in-every-classroom requirement of the *No Child Left Behind Act of 2001* (2002). This federal requirement falls at a time when state legislators, in light of stagnant or falling state tax revenues, have fewer dollars to allocate to local school districts. The cumulative state budget shortfall for fiscal 2003 and 2004 in the United States was $150 billion (McNichol, 2004). With dwindling state support, local school leaders must find lower cost methods for recruiting highly qualified teachers. The World Wide Web and the Internet allow schools and school districts to propagate an attractive image in order to help attract highly qualified applicants far beyond the geographical limits of traditional advertising methods. Online recruiting, of which a Web site is an indispensable component, has shown itself to be faster and cheaper than traditional recruiting methods. Career.com (2005) listed the cost for on-line recruiting at between 25 and 40% of traditional recruiting practices. I-Start (2005), a New Zealand-based e-business clearinghouse, described the time to hire via the Internet at 15% of traditional methods. These kinds of savings will likely attract the attention of budget-minded school administrators.

Summary

Research studies have shown the positive impact of high quality teachers upon student achievement. Research has also shown that student achievement scores increase when teachers integrate technology. The federal government enacted regulations that require local districts to have a highly qualified teacher in each classroom. In order to hire teachers of high quality, school systems must attract applicants of high quality. The Internet has changed how people, including teachers, can pursue employment opportunities. School leaders faced with the hiring of high quality teachers within the Internet's virtual environment will want to know if the school or school district's Web site is an asset or a detriment to attracting high quality teachers.

In Chapter II, the literature pertinent to the study is examined. The literature is divided into five sections: Technology and Student Achievement, Technology and Teachers, Teachers and Their Technology Integration, Technology and Employment Decisions, and Technology and Instructional Employment Decisions. In Chapter III, the survey instrument is described, the criteria for judging Web sites will be provided, and the data analysis is explained. In Chapter IV, the results of the analysis are reported. Chapter V provides an interpretation of the findings, the implications for practice, and suggestions for further study.

CHAPTER II

REVIEW OF THE LITERATURE

In the late 1950s, B. F. Skinner (1958) responded to the question whether or not teaching machines would replace teachers: "On the contrary, they are capital equipment used by teachers to save time and labor. In assigning certain mechanizable functions to machines, the teacher emerges in his proper role as an indispensable human being" (p. 976).

In this review of literature, the researcher established the importance of technology in education, the impact of the teacher in the integration of technology in education, and the integration of computer technology in teachers' personal and professional lives. The researcher also established the role of computer technology in general employment decisions, the role of technology in instructional employment decisions, how the school or school district Web presence may influence employment decisions, and the implications for meeting the accountability requirements of NCLB in terms of a highly qualified teacher in every classroom.

Technology and Student Achievement

In the mid-1980s, D. M. Adams (1985) wrote in *Computers and Teacher Training: A Practical Guide* that if educators prepare children to use computers they will be life-long learners. "Nothing in educational history, other than the printed book, has a wider range of potential applications than computers" (p. 16). While the societal impact of the digital revolution remains a matter of speculation, the impact on student achievement has been documented. Mann and Shafer (1997) reported improvement in

New York state elementary school test scores: "(T)he most significant gains were reported in sixth-grade math tests, where we found a strong relationship between increased technology and higher scores on the state's Comprehensive Assessment Report" (p. 22). The authors also reported improvement at the secondary level. "In schools that had more instructional technology and teacher training, the average increase in the percentage of high school students who took and passed the Regents (college preparatory) exam in math was 7.5" (p. 22). They also reported the increase for English was 8.8%. They went on to write that 42% of the variation in the math scores was due to technology and 12% of the variation in English was due to technology. Reporting on the results of a city-wide computer program in the public schools of Union City, New Jersey, Bitter and Pierson (2002) wrote, "writing was the area in which middle-grade students showed the greatest gains" (p. 117). Other researchers supported the positive impact of technology on student achievement. Middleton and Murray (1999) reported that the amount of technology used by the teacher positively impacts student achievement in areas such as reading and math. Page (2002) reported in *Technology-Enriched Classrooms: Effects on Students of Low Socioeconomic Status* that "participants in technology-enriched classrooms appeared to score significantly higher in mathematics achievement than their peers in the non-technology-enriched classroom" (p. 402). Diggs (1997) also reported the positive impact of computers on at-risk students "who had obviously been alienated from their peers have, after computers were introduced to the learning environment, been consistently observed interacting closely with other students in computer-aided assignments" (p. 40). Clements et al. (1993) also reported a change in

classroom dynamics. Technology-enriched classrooms were prone to produce more student-centered and individualized interactions, and nontechnological classrooms consisted of the traditional model of teacher centeredness. Page (2002) concurred. "Technology-enriched classrooms were far more likely to consist of a student-initiated environment, where students participated in not only teacher-led instruction but also in student instruction in the form of computer workshops" (p. 400).

The move from teacher-centeredness to student-centeredness can be a source of concern if it happens for the wrong reason (Adams & Fuchs, 1986). "There can also be a shift in the balance of classroom power if students have more computer knowledge and technological skills than the teacher" (p. 165). Broughton (1985) expressed concerns in *The Surrender of Control: Computer Literacy as Political Socialization of the Child* about the social implications of students teaching teachers. "What is the symbolism of sending the child to lead the technology revolution but an oblique reference to our own sense of diminution and vulnerability" (p. 116). The dynamic of the student-teacher relationship can evolve in a positive direction when teachers possess computer efficacy, allowing them "to move past that pervasive teacher-centered view of education. Students and teachers, as communities of learners, were able to benefit from the range of individual areas of expertise represented by the entire group" (p. 115). Balach (2003) wrote that technology integration takes courage and commitment. "To effectively use these tools (technology applications), educators and their students must become comfortable via an ongoing daily integration of the major instructional technology

applications in the classroom" (p. 25). These views seem to support the idea that schools should employ teachers with proven technology skills.

Technology and Teachers

Not every child, however, will be computer proficient. While 72.2% of American households with children under the age of 17 had computers and 63.8% had Internet connections (U.S. Census, 2001), the percentages have been markedly lower for minority households, lower income households, and households headed by someone without a high school diploma. Depending on the racial, socioeconomic, and educational make up of the student population, the teacher may likely be the *computer introducer* for a significant number of students who do not have computers and Internet connections at home. Researchers describe the role of *introducer* as critical in overcoming student computer anxiety. In 1998, Levine and Donitsa-Schmidt wrote that teachers must realize that the sources of computer anxiety will not be the same for every *computerphobic* student, "and different interventions might be appropriate depending upon the case" (p. 142). Weil et al. (1990) wrote in *The Etiology of Computerphobia*, "*Computerphobia* may be reduced if early computer experiences are introduced by a person who holds a positive attitude about technology and feels skilled and comfortable with computers" (p. 377). The authors reported that the feelings of the introducer and the feelings of the study subjects were significantly correlated and influence the students' feelings about themselves during the experience, their feelings about technology in general, and their feelings about their own abilities with technology. Other researchers supported the

importance of the introducer. Gardner et al. (1993) recommended that "computers be introduced by teachers who themselves are comfortable with using them" (p. 438).

The teacher must understand the varying uses of technology and varying levels of computer efficacy among students in the classroom in order to "develop instructional methods and materials that can decrease computer anxiety and other emotional responses to computer use, thereby increasing each individual's capacity for participation in instruction" (Poynton, 2004, ¶ 27). The research has indicated that the most important components for overcoming computerphobia in students were teachers and "their ability to teach and . . . to select (technology) resources that most effectively enhance student learning" (Balach, 2003, p. 26). At least one author suggested that technology represents a new domain for educators to understand.

Education textbooks regularly list the three domains as (a) cognitive, dealing with recall and recognition of knowledge, the development of intellectual abilities and problem solving; (b) affective, having to do with feelings, tone, and acceptance or rejections; and (c) psychomotor, focusing on perceptual-motor skills, bodily movements, and muscular coordination (Oliva, 2001). In his *Introduction to Technology Across the Curriculum*, Tomei (2003) described a teacher's taxonomy for a technology domain as a progressive level of complexity like the three mentioned above. The most basic was literacy, the understanding of technology and its components. The second level was collaboration, the sharing of ideas, working collaboratively, and forming relationships using technology. The third level was decision making, using technology in new and concrete situations. The fourth level was discrimination, selecting technology-based instructional materials

appropriate for individual students. The fifth level was integration, creating new instructional materials using various technology-based resources. The final level was tech-ology, studying technology and its value to society.

One descriptor for the sixth and final level, tech-ology, was "consider the consequences of inappropriate uses of technology" (Tomei, 2003, p. 12). Determining what is appropriate requires selecting technology based on what benefits individual students; discrimination and "an understanding of the academic effects of the use of technology for students should begin with an understanding of the impact of technology on the teaching profession" (Bitter & Pierson, 2002, p. 131). That impact can be value-laden and requires teacher self-reflection. Merrill et al. (1996) described technology as a powerful tool to be used wisely because "educators need to understand that technology is not necessarily neutral and that computer programs carry the biases of their authors" (p. 347).

The impact of technology on the teaching profession does not remain locked inside the classroom but will move in many directions influencing a concept known as school culture. Merrill et al. (1996), in *Computers in Education*, wrote that "technology continues to be a catalyst for school reform" (p. 351). Picciano (1998) wrote that technology was the instructional and administrative dynamic that "moves schools to become true communities of learning" (p. 263). Bitter and Pierson (2002) reported that technology users differ from nontechnology users particularly in the area of collaboration, working with team members "to develop innovative teaching methods and curricula" (p. 116). As more educators embrace technology, the school culture may change, and

"perceived collective efficacy will influence what people choose to do as a group, how much effort they put into it, and their staying power when group efforts fail to produce results" (Bandura, 1986, p. 449).

The integration of technology requires the mapping of technology and conventional literacy. Lankshear and Snyder (2000), in *Teachers and Techno-Literacy: Managing Literacy, Technology and Learning in Schools*, described the mapping as a vital part of planning each topic, subject, semester, and year. Bitter and Pierson (2002) wrote that integration can mean making room in the curriculum and time in the schedule. They said that exemplary technology-using teachers "more often than others made conscious decisions to alter existing curriculum, eliminating less important topics to allow room for more computer-related endeavors" (p. 114). The resources are available online that allow any teacher to "review all sorts of software, textbooks, pictures, magazines, videotapes and multimedia—even questions for cooperative study groups—via computer, saving themselves hundreds of hours of research" (Shanker, 1993, p. 619).

Teachers and Their Technology Integration

The teachers who integrated technology into the curriculum appear to have integrated computers into their own lives. Bitter and Pierson (2002) reported that exemplary technology-using teachers "more often than other teachers spent a great deal of their personal time working on computers" (p. 114). This translates into the classroom through their ability to model technology use. Compeau and Higgins (1995) described modeling as the second source of self-efficacy, which involves observing someone else

performing a behavior as a means of learning. The teacher who uses presentation software to deliver a content lesson will be teaching a technology lesson as well. "A behavior modeling approach to computer training can enhance self-efficacy perceptions and performance" (p. 206).

A number of studies support the idea that technology-integrating teachers believed in their ability to use technology before actual integration, at least partly because of previous success with computers (Beckers & Schmidt, 2001; Compeau & Higgins, 1995; Gardner et al., 1993; Levine & Donitsa-Schmidt, 1998; Torkzadeh & Van Dyke, 2002).

Integration begins with familiarity. Being around technology can shape attitudes about technology, as Torkzadeh and Van Dyke (2002) described in *Effects of Training on Internet Self-Efficacy and Computer User Attitudes*. "Exposure to computer-related devices may be a factor in determining one's attitude toward computers" (p. 482). Levine and Donitsa-Schmidt (1998) also supported the exposure-attitude relationship, "greater exposure to computers is linked to more positives attitudes" (p. 139). Self-confidence in general also can contribute to computer use, according to Beckers and Schmidt (2001). In *The Structures of Computer Anxiety: A Six-Factor Model,* they reported that the perception of one's ability to function in one's environment, acquire challenging skills, and apply this ability to new challenges "relates fairly strongly to computer literacy" (p. 46). Levine and Donitsa-Schmidt (1998) also described the role of a positive attitude and self-confidence as "prerequisites for achieving computer literacy" (p. 141).

Upon the foundation of attitude, character, and exposure, training adds knowledge and skills. "Training significantly influences Internet self-efficacy for individuals with

high and low attitudes toward computers" (Torkzadeh & Van Dyke, 2002, p. 491). It is important that the training go well if the trainee is to develop personal efficacy. "Repeated performance failures lower them (beliefs of personal efficacy) particularly if the failures occur early in the course of events and do not reflect lack of effort or adverse external circumstances" (Bandura, 1986, p. 81). Beckers and Schmidt (2001) described digital literacy as a step-by-step process of "accumulating rewarding experiences that can and should be managed to maximize optimal positive results" (p. 46); and success breeds success, according to Compeau and Higgins (1995) who wrote that "the more successful interactions individuals have with computers, the more likely they are to develop high self-efficacy. This has strong implications for training" (p. 206). If, however, the individual holds firm beliefs of weak efficacy, computer success will not readily change his or her opinions. "People resist changing their views of themselves if they can find grounds to discount the diagnostic value of the success experience" (Bandura, 1986, p. 83). But if the success continues, the attitudes might change. As Torkzadeh and Van Dyke (2002) described, "self-efficacy is a dynamic construct that changes over time as new information and experiences are acquired" (p. 481).

While attitudes toward computers among all groups seem to have improved (Torkzadeh & Van Dyke, 2002), and gender differences have diminished (Schumacher & Morahan-Martin, 2001), the digital divide between men and women remains. Males are more likely to own computers than females, and computer ownership has been "associated with more favorable computer attitudes and greater computer experience" as well as greater online confidence (p. 107). Even when the computer and the Internet are

used for noneducational applications, these nonformal and indirect learning experiences, although not necessarily purposeful, may be equally just as beneficial to computer efficacy (Levine & Donitsa-Schmidt, 1998).

In the work *Gender, Internet and Computer Attitudes and Experiences*, Schumacher and Morahan-Martin (2001) reported that females held more negative attitudes about new technology than males, and this may play a role in lower self-reported comfort and confidence with computers and the Internet among females. This raises concerns about female teachers as *introducers* of technology because introducer attitudes have a substantial impact on students being exposed to technology for the first time (Weil et al., 1990).

As early as 1972, researchers reported that the way to overcome resistance and opposition to technology integration in content areas rested in teacher training. Anastasio and Morgan (1972), in their final report to the National Science Foundation, *Factors Inhibiting the Use of Computers in Instruction*, grouped together the following as the third most significant inhibitors: ignorance of the computer's potential, limitations, and adaptability. The authors said that only training could resolve these issues. Twelve years later, in *Computer Literacy for Teachers: Issues, Questions, and Concerns* (1984), Tashner listed computer patience as a desired trait for prospective educators. "Requirements for entering a teacher education program should include the ability to tolerate working at a computer for extended periods of time without showing excessive frustration" (p. 125).

Many teacher preparation programs now include computer and technology competency requirements. The National Council for Accreditation of Teacher Education, an accrediting agency for teacher training programs, included language in its unit standards regarding computers and technology in 1995 (Thomas, 1994). A more recent version of the standards (2002) described acceptable teacher candidate preparation as including the ability to "facilitate student learning of the subject matter through presentation of the content in clear and meaningful ways and through the integration of technology" (p. 15). The target set for teacher candidates by NCATE reads, "They present the content to students in challenging, clear, and compelling ways and integrate technology appropriately" (p. 15).

The International Society for Technology in Education (ISTE) (2002) published six performance standards that the society believed all classroom teachers should be prepared to meet:

1. Teachers demonstrate a sound understanding of technology operations and concepts.
2. Teachers plan and design effective learning environments and experiences to support diverse needs of learners.
3. Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.
4. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

5. Teachers use technology to enhance their productivity and professional practice.

6. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply that understanding in practice. (ISTE, 2002, p. 9)

On the national level, the National Education Technology Plan (2004) includes specific steps for improving teacher technology self-efficacy:

1. Improve the preparation of new teachers in the use of technology.

2. Ensure that every teacher has the opportunity to take online learning courses.

3. Improve the quality and consistency of teacher education through measurement, accountability, and increased technology resources.

4. Ensure that every teacher knows how to use data to personalize instruction.

Researchers have found support for the methodical approach to technology integration. Mills and Tincher (2003) reported that a developmental model for evaluating technology integration "using a well-defined set of pedagogical standards and indicators" produced higher levels of technology integration and the potential for student learning was increased (p. 398).

An example of technology requirements for teacher candidates can be found at the university from which the sample for this study was drawn. In order to complete the teacher preparation program, the students must have passed the Basic Technology

Literacy Examination (The University of Southern Mississippi, 2003). The test includes five modules: word processing, spreadsheet creation and use, Internet navigation and searches, presentation preparation, and database creation and manipulation.

The word processing module requires the students to open the Word processing program, create a folder, create a file, select font and size, establish margins, capitalize, center and bold a title, type content, create an adjusted header with name and title of document, create a footer with page number and date, insert a table with different characteristics than the main document, insert page breaks, save it on two diskettes, and print the document (Appendix A).

The spreadsheet creation and use module requires the students to open the Spreadsheet program, and create the spreadsheet with name, title, and date in specific boxes. The students must also make vertical and horizontal labels, adjusting the column width for the text. The students must also do the following: Save the spreadsheet in a folder, print it. Remove specific columns and replace them with others. Enter data in specific boxes, align numerical cells, insert formulas to find averages, totals, minimums, and maximums. Create pie chart with percentages and insert the chart. Print the spreadsheet twice, once in portrait and the second time in landscape orientation (Appendix B).

The Internet module requires that the student access the Internet with a browser, minimize the Internet screen and open a blank document in the word processing program, title the document, use a search engine to find specific sites on the Internet, and copy

specific information contained on a page from the site into the blank Word document. The student must then print the Word document (Appendix C).

The presentation module requires the student to open the presentation software program and create a new presentation of six pages utilizing a variety of page designs containing the information provided. The presentation should include a title slide followed by a slide with a title and single bullet list. The third slide should contain a title and two parallel column bulleted lists. The fourth slide should include a title, text box, and clip art. The fifth slide should be formatted with a title only with an unbulleted text box containing a working hyperlink. The sixth slide should be the title page again with the student's name in the subtitle space. All slides should be numbered. Slide 1 should have a sound clip, and slide 2 should have animation. The student must reorder the slides, save the presentation, and print it in the outline and handout formats (Appendix D).

The database module requires the student to open the database program and create a new database with specific field names, data types, and descriptions. The student must manipulate the field sizes in the design view. Once the design view is closed, the student must open a customer list and add information on specific individuals. After closing that file, the student must create a new form using the data for the previous file by inserting a new record. The student is then required to change the order of the field columns as well as change the look of the database by using the design functions. The student must also query the database for individuals from specific states and alphabetize those individuals. The student will have had to print the database at various steps to provide evidence of being capable of manipulating the document (Appendix E).

Students who have achieved a passing score on all five modules can proceed to student teaching. Passing scores will likely contribute to their computer self-efficacy. According to Bandura (1986), self-efficacy beliefs develop in response to four sources of information. The most powerful influence on self-efficacy is inactive experience in which self-efficacy for a behavior is increased by successfully performing the behavior. This idea received support from Gardner et al. (1993) who wrote that "individuals who consistently succeed in using computers are predicted to develop strong and stable self-perceptions of competence in using them" (p. 436). Successful computer-users will then seek out situations "in which they can re-affirm this self-belief, and this should also cause positive attitudes toward computers" (p. 426). This reaffirmation can occur when the teacher becomes employed in a school or school district that values computer skills because the image of the organization and the image of the individual are in harmony: "The similarity between the profiles for the self-description and descriptions of more preferred organizations was significantly greater than the similarity between the profiles for self-description and descriptions of least preferred organizations' (Tom, 1971, p. 573).

Technology and Employment Decisions

Many school districts have established at least a minimal Web presence. The Mississippi Department of Education (2005) Web site provides links to the 152 public school systems in the state and 46 private and parochial schools. Within these nearly 200 sites there lies a great variety of site design and level of site complexity from the (poor) nonexistent (Lamar County School District, 2005) or single-page minimal contact information (Forrest County Agricultural High School, 2005) to the (average) simplistic

site with several pages utilizing a basic design (Humphreys County School District, 2005) to the (good) extensive pages complete with course curriculum, calendars of events, student activities, teacher pages, and library links (Hattiesburg Public School District, 2005). These sites project differing virtual images of their respective school systems. An attractive, easily navigated site may be an asset to recruiting teacher applicants. At least one study has shown the negative impact of poor site quality. WetFeet (2005), a San Francisco Internet recruiting-services firm, reported that 26% of college students rejected employers from consideration because of inferior Web sites (Karr, 2000). These rejected companies failed in the first of four steps in the recruiting process, (a) attracting candidates. Before an organization can accomplish the remaining steps of the recruiting processes which are (b) sort applicants, (c) make contact, and (d) close the deal (Cappelli, 2001), the candidate must be attracted to the organization. If candidates rejected the organization because of the Web site, as reported by Karr (2000), the organization was at an online disadvantage.

The role of the organization's virtual image in recruiting needs further study. "We know that image is related to attraction to an organization, and that it therefore ought to be related to applicant pool size, although this effect has not been directly examined" (Barber, 1998, p. 50). Applicant pool size, however, has been examined. Organizations benefit from having a large number of applicants for a small number of available positions. This concept is called Selection Ratio (Handler, 2005, ¶ 9). The ratio is the number of hires divided by the number of applicants. The organizations can afford to be more selective when the ratio is low. If a school district can choose between 100 qualified

applicants for a single position, instead of five qualified applicants, the school district can increase the selection criteria. For example, instead of requiring a bachelor's degree and certification, the school district might be able to set the standard at a master's degree and 3 years' experience. In addition to degrees and years of experience, employers can require compute skills. "Along with the growing technical comfort of employers comes the desire for increased technological competence among employees" (Nesbeitt, 2003, p. 116).

Technology expectations can be a two-way street. The well-designed site can provide employers with an efficient and inexpensive recruiting tool. Prospective employees, however, can make evaluations about an organization by visiting the organization's Web site. If they do not like what they see, they probably will not apply for a position. Karr (2000) reported in *The Wall Street Journal* that nearly 26% of the 750 college students surveyed by a San Francisco Internet recruiting-service firm rejected employers because of their Web sites. The students complained about hard-to-navigate sites with slick presentations that neglected job-interview information.

Visitors to employment pages of organization and corporate Web sites frequently provide a significant amount of information that can be screened quickly by computer programs to select individuals deserving contact by recruiting personnel. iLogos reported that 88% of the 1,500 visitors to employment pages of four Fortune 500 company Web sites were willing to provide information about their skills. Apparently, the visitors to the sites viewed the technology as a means to communicate directly and quickly with possible employers (Snell, 2005). iLogos reported that more than 90% of the visitors were willing to spend more than 6 minutes providing personal and professional information to an

employer of high interest and, "Sixty percent of candidates are willing to spend more than 15 minutes applying online to a job of high interest" (¶ 10).

Once the candidate has applied online, the applicant screening program can be designed to generate an immediate response indicating that the document has been received and the approximate wait time for a detailed response. That immediate response is rewarding to the potential employee and also provides the organization with another opportunity to mention key selling points (Hornberger, 2005b). The online application by its very nature serves as an employment screening device, because "using computer-based recruitment tools not only makes your recruiting more efficient, they ensure your technology is at the same level as that of the labor pool" (¶ 26). Once again, the two-way street idea applies to the screener and the screened.

The technology provides for what can be described as nonscientific screening-out and scientific screening-in (Handler, 2005). The nonscientific screen out eliminates those applicants who do not meet basic job qualifications, such as a bachelor's degree or teacher certification. The screen-in tools include questions that are directly related "to critical aspects of job performance" (¶ 21). For example, the screen-in tools can measure such traits as situational judgment, cognitive ability, and personal motivators.

Online testing, as a function of the screening process, can be adjusted to very specific job assignments and working conditions. Riverside County, California, now uses the Internet to test applicants for positions in its 16,000 member workforce (Mooney, 2002). With tests available around the clock via the Internet, the county no longer must use large meeting halls to deliver examinations. Proctored confirmatory exams for

position finalists control for compromised test scores, and other security measures control access to the test. Mooney reported that online screening tests reduced the cost from $28 per candidate to $17 per candidate.

Researchers have found that Web site orientation had an impact on the efforts to attract applicants, especially during the initial stage of recruitment. Williamson, Lepak, and King (2003) reported that a site which was more recruiting oriented, as contrasted with a site which was more screening oriented, "was associated with significantly higher attraction by individuals to a prospective employer" (p. 258). The recruiting Web page should sell the employee on coming to work for the organization. Hornberger (2005a) reported that the posted position should be described from the job seeker's perspective and answer the question, "Why would a job seeker want to apply for this job?" (¶ 16). In addition to a recruiting orientation, Williamson et al. (2003) supported what other researchers have reported (Cyber Net Systems, 2005; Nielsen, 2003; Voss, 2000), and that is the importance of ease of navigation in site visitor satisfaction. "Increasing the Web site's ease of use might enhance organization attractiveness" (p. 259).

Judgments about the quality of a Web site are subjective in nature, but there are a number of standards against which a Web site can be judged. The relative importance of one standard compared to another will likely depend on the purpose of the Web site. For Web sites in general, the International Quality Assurance (2005) reported five key criteria: accessibility, appearance, navigation, privacy, and commitment. These elements deal with the facility in locating the site, what does it look like, how easy can a visitor

move about the site, how is privacy of the visitor assured, and how well is the site managed by those responsible for its maintenance and timeliness.

There are tools to assess a Web site's compliance with accessibility standards for people with disabilities (Flowers, Bray, & Algonzzine, 2000). There are more than 30 automated Web site evaluation tools that examine accessibility and validity issues. These tools have been shown to identify large numbers of potential problems but failed to help study subjects improve their sites measurably (Ivory & Chevalier, 2002). Zhang and von Dran (2000) described a two-actor model based on hygiene and motivator. Hygiene factors deal with function and service. The motivator deals with content. The presence or absence of hygiene and motivator is described as a source of satisfiers or dissatisfiers. Riccardi, Easton, and Small (2004) described a two-factor model using the term expectation for success to describe navigation and structural issues. They used the term value to describe content that is relevant and useful and presented in an interesting manner.

Some measures are more simplistic. Sites that are intended as a point of sale have a fairly straight forward quality measure. The formula is how many purchases per site visit. If, for every 1,000 visits, 15 sales are completed, the sales conversion rate is 1.5 (Small Business: Canada, 2005). Increasing either the visits or the conversion rate will improve revenues. This is fairly easy to quantify.

Politicians are learning to use the Internet as a fundraising tool; following the lead of major national campaigns, state and local candidates have established Web sites. To be successful, these politicians have learned that the Internet helps get out information

quickly and cheaply, provides extra information for those who want it, supplements other campaign activities, and stays connected with supporters. The money comes later. Experience has shown that first-time visitors rarely give money and most often are simply seeking information (Local Victory, 2005). With the use of site tracking software, the number of site visits, where the visitors went to the site, how long they stayed, and from what point in the site did they exit are available details that will help the political organization to determine the value of the site to the campaign.

In the field of public relations, the preferred method for gauging opinion includes a measurement before the implementation of a public relations campaign, such as a new Web site, and a measurement after the campaign (E. C. Schulman, personal communication, June 18, 2005). That will allow for some measure of the Web site's effectiveness, but other events can also influence public opinion, such as adverse news coverage. The measure of the Web site ought to be determined, to a great extent, by the area of human endeavor in which it is employed as a tool.

Ease of use and simplicity of structure and navigation are part of the broader concept of usability that is generally recognized as a key component of a good Web site. Usability means the degree to which a Web user can complete a certain task effectively, efficiently, and satisfactorily. According to Nielsen (2003), usability has five components:

- Learnability: How easy is it for the user to learn?
- Efficiency: How productive will the user become?
- Memorability: How easy is it for the user to remember?

- Errors: How many errors does the user commit, how minor are they, and how easy are they to recover from?
- Satisfaction: How pleasant is it for the user to use?

According to the Microsoft Usability Guide, frequently referred to by the acronym MUG, ease of use is letting people know what they should do and how to do it. "As they move around your site, they should know where they are, where they need to go, and how to return to a 'safe' home base" (Keeker, 1997, ¶ 20). Clarity is key. The structure needs to be simple with location feedback that enables the visitor to readily navigate. According to Keeker, this will greatly improve the site's appeal.

Usability judgments, however, will rely to a great extent on the individual user's Internet self-efficacy. The amount of experience an individual user possesses will likely impact judgments about a particular site's usability. This assessment of the site's usability will, in turn, influence the visitor's willingness to invest time and effort navigating the site. According to the social cognition theory that individuals are more likely to engage in behavior that they expect will be rewarded or result in favorable consequences (Compeau & Higgins, 1995), the visitor will continue probing the site if he or she thinks it will benefit him or her.

While an established model for the evaluation of a school Web site's influence on teacher employment interest does not appear to be readily available, there are tools employed for related tasks. WetFeet (2005), the corporate online recruiting consultant cited earlier, listed four key components for a recruiting site: (a) Branding is the overall employment proposition conveyed by the site, (b) Content is the recruiting-centered

detailed information, (c) Functionality concerns the online application forms and tools, and (d) Navigation concerns how a job-seeker moves around the site.

Ng, Parette, and Sterrett (2003) used a nine-factor model in their study in which graduate assistants evaluated the Web site of the graduate school they attended. The nine factors, however, can be grouped into broad categories of either content or format. The content factors were the following: content, friendliness, and organization of content by target audiences. The format factors included the remaining six items: organization, navigation, major emphasis on graphics, minor emphasis on graphics, distinctiveness, and download speed. Misic and Johnson (1999) used an instrument that included three general categories of issues. The function and navigation issues were similar to the formal, hygiene, and expectation of success descriptors in the studies previously mentioned. The content and style issues corresponded to the content, motivator, and value descriptions of the previously mentioned studies. Misic and Johnson broke out one area that might warrant inclusion in either the content or format category. This third group concerns contacts. This group has value for an interface study examining factors likely to increase employment applications. Poock and Lefond (2001, 2003), in their studies of what academic Web site qualities tend to generate applications from prospective students, divided the content category into two general areas. The first is environment which includes aspects of content providing text and graphic content about the educational institution, such as course offerings and extracurricular activities. The other general area is admissions content. This dealt with concerns such as academic requirements, admissions forms, and tuition assistance.

Just as usability will vary depending on the user, the value of a particular content will vary depending on who is viewing it. Poock and Lefond (2003) reported content as the most important factor in Web site evaluation, but they warned that "determining what is the more important content, however, is a bit more elusive and may vary by target audience" (p. 18). The school Web site has several identifiable audiences including, but limited to, students, parents, and teachers. A school system that attempts to provide locations within its Web site for these separate stakeholder audiences will be taking on a significant virtual commitment. Making the additional accommodation for prospective employees is yet another design, creation, and maintenance burden for the school system's designated Web master.

In her article *Benchmarking Excellence: Toward a Definition of Best Practice in the Design of School Web Sites*, Flodin (2004) offered the purposes and qualities of an exemplary Web site: useful and meaningful outreach; useful, accurate, and current information; promote critical thinking and doing; facilitate self-discovery; promote creativity and collaboration; encourage cross-cultural understanding; preserve tradition and carry it forward; facilitate assessment and feedback; showcases projects of the school community; facilitate positive social change; educate, inform, and entertain with accurate reliable subject content knowledge; facilitate change management and project management; and build community (¶ 14). It is certainly an ambitious list that even schools with full-time Web page designers would be hard pressed to achieve.

Without an established model, but using the components of tools used in related tasks, an instrument was developed that served this interface study. It has content as its

primary concern and uses division between environmental, employment, and contact categories. Format was a secondary concern, including issues of navigation, functionality, and design. The instrument is described in Chapter III.

Technology and Instructional Employment Decisions

The most populous of the United States has moved beyond recommendations for technology integration toward making technology expertise a teacher hiring criterion. The California Department of Education (2005) recommended in April 2005 that local school boards and school administrators "incorporate technology expertise into the teacher hiring and evaluation process" (¶ 9). The department planned to require technology competency for granting and renewing teacher credentials.

The International Society for Technology Education (2001) has also recommended that administrators include evaluations of technology knowledge, skill, and performance in "personnel decisions" (p. 7). This followed other authors, who more than a decade earlier promoted the idea that instructional and leadership hiring decisions include computer qualification. Moursund and Ricketts (1988) wrote in *Long Range Planning for Computers in School* that school districts need to select employees who already had technology skills. "It's no longer appropriate to hire a first-year teacher and then have to put that teacher into a remedial computers-in-education course" (p. 3.7.2).

In this era of accountability, the school leader cannot run the risk of hiring the computer-illiterate teacher. Daniel and Nance (2002) reported that failure to develop a sound instructional technology program could serve as legal grounds for termination. "It seems plausible that in the future, an administrator could be held professionally

responsible for failing to successfully integrate the new communications media into the curriculum" (p. 226).

The use of technology in the selection and placement of instructional personnel reflects what is happening in the rest of society. Radin and Greenberg (1983) supported this notion by stating that "schools have never and ought never to be isolated from trends and developments in society" (p. 6). As long as budgets remain tight, school leaders will likely look for ways to reduce noninstructional expenses. Reducing the cost of recruiting appears to make sense because the dollars saved can be made available to instructional programs. The cost of hiring online can be as low as 1/12th the cost of traditional means (Cappelli, 2001). "The efficiency advantages of the new technologies are simply too overwhelming to ignore and are sufficiently large to stimulate organizations to expend energy and resources needed to implement them, regardless of the potential risks" (Pogrow, 1983, p. 45).

Now that federal legislation through *No Child Left Behind* (2002) requires each teacher to have at least a bachelor's degree, certification, and a major in his or her teaching field (Galley, 2003), the competition among school systems for candidates could increase. Hiring the best teacher available for a position can be made easier when the pool of candidates no longer faces the constraints of the geographic distribution of the help wanted ads of a local newspaper or the placement office of the nearest teachers' college. The need and the demand remain great. The enrollment in U.S. high schools and elementary schools set an all-time record of 49.5 million students in 2003 (Shin, 2005). Meanwhile, the revolving door of low teacher retention continues to plague schools.

Nearly one-half of beginning teachers leave the profession within the first 5 years. Schools in high poverty areas are particularly hard hit by teacher turnover as educators leave the profession or leave for suburban school districts (Ingersoll, 2003).

In addition to teacher turnover, poverty affects student outcomes. "The percentage of students in free and reduced-priced lunch programs negatively influenced mathematics scores at a one percentage level of significance" (Okpala et al., 2001, p. 115). The individual student's previous achievement also has been a strong predictor of academic success (Iwaniota, Kaplan, & Aniloff, 1976). How much money the family earns, and what the child has accomplished in previous years have been beyond the control of the school administrator. Another factor, however, has remained within the control of the school leader: the teacher. A number of studies have indicated that there is a positive relationship between teacher quality and student achievement (Kirkpatrick, 2002; Darling-Hammond, 2000; Rugraff, 2004; Vandervoort, 2004). Teacher quality measures can include a variety of traits including verbal ability, subject matter knowledge, pedagogical training, years of experience, and state teacher certification (Darling-Hammond, 2000).

Sanders and Rivers (1996) reported the cumulative negative effects on students assigned to several ineffective teachers in a row, as well as the cumulative positive effects on students with a sequence of highly effective teachers. Ferguson (1991) reported that measures of teacher expertise accounted for more variation in student scores than student socioeconomic status. Hawk, Coble, and Swanson (1985) reported that students whose math teachers carried full certification made remarkably larger gains in achievement than

students who had teachers without math certification. According to one study, the students of National Board Certified Teachers reportedly scored higher on the Stanford Achievement Test than students with non-board certified teachers in nearly 73% of the comparisons (Vandevoort, 2004). Student achievement was higher and drop-out rates lower in a study examining the impact of teacher salaries and levels of teacher education (Rugraff, 2004). The case for teacher quality seems apparent. "It stands to reason that student learning should be enhanced by the efforts of teachers who are more knowledgeable in their field and are skillful at teaching it to others" (Darling-Hammond, 2000, p. 38). Finding the teacher who is knowledgeable in his or her field and skillful at teaching it to others seems a worthy investment of time, energy, and money. Using technology to do it by spending less time, energy, and money seems a wise investment of limited public resources.

Summary and Conclusion

There appears to be empirical support for the positive impact of computer technology on student achievement. Students score higher on standardized tests in classrooms with teachers who integrate computer technology in their professional lives to improve their professional efficiency and to deliver content lessons. The score improvement applies to disadvantaged groups of students as well. Apparently, teachers who have integrated computer technology in the classroom have also integrated technology in their personal lives. The literature indicates that classroom integration comes, at least partially, as a result of personal integration that has contributed to the teacher's computer-self-efficacy. The computer-savvy teacher will likely feel greater

comfort completing tasks in a virtual environment, such as applying for a position online, than a teacher lacking computer confidence.

The Internet has significantly changed how employees find employers and how organizations hire workers. General employment electronic bulletin boards enjoy great popularity and specialty sites for specific fields of employment are commonplace, even in education. Many firms use their Web sites as a means for attracting and screening potential employees. Sophisticated programs exist that allow employers to eliminate applicants who fail to meet basic job qualifications and test survivors for particular skills and character traits needed for specific positions. Some school districts and private schools have followed this trend and post vacancies on their sites. Some districts allow, and others require, that applicants apply online.

While a Web site can attract potential employees, it can also repel them. The Web site projects an image that may complement the applicant's self-image or may clash with it. Humans tend to seek those organizations that reinforce their self-image and avoid those that do not. Research has shown that some prospective applicants will eliminate an organization from consideration based on the Web site.

School leaders find themselves under increasing pressure to fill teaching vacancies with federally-required highly qualified instructors. Financial support for public education remains tight in most jurisdictions and has decreased in many others. Student populations have reached an all-time high while nearly half of those who enter the teaching profession leave within the first 5 years. School leaders need to find better and cheaper methods for attracting and hiring the highly-qualified applicant. Therefore, there

is reason to believe, based on what is happening in the private sector, that the school or school district Web site could play a vital role in the attraction and engagement of teachers of quality.

CHAPTER III

METHODOLOGY

This research study examined the relationship between teacher employment interest and teacher perception of a school's Web site. The study measured the influence that school Web sites have on different groups of teachers, depending on the characteristics of group members.

Research Design

This correlational study examined the dependent variables "teachers' perception" of selected schools and "employment interest" in working for those selected schools after visiting the schools' Web sites. The researcher used categorical subject variables such as gender and grade level, as well as subject variables such as self-reported computer efficacy and attitudes about computer technology integration. Because the study was conducted after most of the participants had taken a qualifying examination in instructional technology and many had completed course work in instructional technology, the study was ex post facto.

The term "teachers' perception" in the context of this study was used to identify the attitudes developed and feelings experienced by a preservice teacher in response to viewing a school Web site. "Employment interest" in the context of this study was used to identify the extent of the desire the preservice teacher expressed to go to work for a school or school district after viewing the school's Web site.

The variables include preservice teacher perception of school Web sites as well as selected participant demographic information, participant self-reported computer efficacy,

and attitudes about computers. In the context of this study, the term Web site was used to identify the display of text and graphics deployed to identify and promote a school and its activities, accessible through the World Wide Web on a computer connected to the Internet.

The first section of the questionnaire collected demographic and professional data as well as the computer efficacy and computer attitudes of the participants. The demographic and professional variables included the participant's gender, education, racial background, subject area or grade level, career plans, age, and years of experience. The perception variables were descriptive measures such as expressions of computer efficacy, attitudes about the role of technology in education, and the importance of a school's virtual image. In order to conduct statistical analyses on these descriptive measures, they were placed on a Likert scale.

Participants

With the permission of the Human Subjects Protection Review Committee of the Institutional Review Board (Appendix F) and the cooperation of the Office of Field Experiences (Appendix G), the sample for this study was comprised of approximately 140 undergraduate students completing a teacher education program at a major public university in a southern state which at the time of the study was part of a state system that included seven other institutions. The university was a comprehensive institution, home to the largest teacher training program in the state system. The Web page for the university's Institutional Research (2005) reported an annual enrollment of 11,410 full-time equivalent undergraduate students and 1,884 full-time equivalent graduate students.

The College of Education and Psychology reported 1,367.1 full-time equivalent undergraduate students; 604.8 full-time equivalent students were listed as seniors in the college.

Participants in this study were in the final year of the teacher education program. Many participated in the study prior to beginning their field experience, formerly known as student teaching. Because of travel concerns associated with Hurricane Katrina, many of the subjects participated online from their homes or other locations after the start of their field experience. It was anticipated that the sample adequately represented the demographic characteristics of individuals typically found in teacher education programs in the southern United States. Female students outnumbered male students by more than a 6 to 1 margin. Sixty eight percent of the students were listed as Caucasian and 30% were African American. Slightly more than one half of 1% were Latino or Hispanic and slightly less than one half of 1% were Asian. American Indian and other groups accounted for the remaining ethnic distribution. The specific demographic information about participants was reported by the participants in the survey instrument and included in Chapter IV of the study.

Instrumentation

The instrument, the Employment Interest School Web Site Evaluation Survey (Appendix H), used in the study was created by the researcher. It incorporated a number of qualities found in other instruments including the Website Motivational Analysis Checklist (WebMAC) and the Content Validity Scale (Small & Arnone, 1999). The Employment Interest School Web Site Evaluation Survey was conducted online. Some of

the participants completed the questionnaire in a computer classroom at the university before Hurricane Katrina disrupted most school activity while many participants completed the survey from other locations due to travel problems caused by the hurricane. The survey had two distinct parts. The first section gathered demographic, professional, computer efficacy, and computer attitude data on the participants. The demographic questions were aligned with the categories used by the Office of Field Experiences at the university.

The participant characteristics including demographic details were collected by the following survey questions:

Question 1 - gender

Question 2 - academic degree

Question 3 - age

Question 4 - racial background

All of these selected-response questions required a choice between alternatives, with the exception of question 4, which solicited a numerical response in a comment box.

Professional and career data were collected by the following survey questions:

Question 5 - years of experience

Question 6 - teaching emphasis

Question 7 - employment seeking plans

Question 8 - Internet job searching

With the exception of question 5, years of experience, which solicited a numerical response in a response box, these selected-responses questions provided choices among

alternatives. The data from the demographic questions helped determine if differences existed between categorical distinctions.

Data about computer efficacy and attitudes about computer technology were collected by the following survey questions:

Question 9 - BTLE self-description

Question 10 - integration frequency

Question 11 - skill inventory

Question 12 - special education

Question 13 - classroom management

Question 14 - child computer exposure

Question 15 - Web site component priorities

Question 16 - subject area technology integration

Question 17 - computer skill requirements

Question 18 - computer technology over-emphasis

Question 19 - computer technology limits

Question 20 - Internet efficacy

Question 21 - Internet access

Question 22 - personal computer saturation

With the exception of question 11, skill inventory, which allowed the participant to indicate a number of computer technology skills, these questions used a five point Likert rating scale. Number 1 indicated *strongly disagree*, 2 indicated *disagree*, 3 indicated *no opinion* or *not sure*, 4 indicated *agree,* and 5 indicated *strongly agree.* The

data on computer efficacy helped determine if certain continuous measures were related to the expressed preference for employment at the three schools provided in each grade level division.

Data about the influence and importance of school Web sites were collected by the following questions:

Question 23 - Web site's image of a school

Question 24 - employment interest and sophisticated Web sites

Question 25 - absence of a Web site

Question 26 - intimidation by a Web site

Question 27 - determining employee fit from a Web site

Question 28 - judging priorities from a Web site

Question 29 - disinterest generated by a poor Web site

Question 30 - judging technology commitment from a Web site

All of the questions in this group employed a five point Likert rating scale: 1 indicated *strongly disagree*, 2 indicated *disagree*, 3 indicated *no opinion* or *not sure*, 4 indicated *agree*, and 5 indicated *strongly agree*.

Some of the questions soliciting attitudes about computers were posed in the negative. This was done in order to reduce the respondents' perceptions of questionnaire bias in favor of computers and instructional technology integration. It also helped reduce the likelihood of response sets. The data on the importance and influence of school Web sites helped to determine if certain continuous measures of attitudes about computers

were correlated to perceptions about the three school Web sites provided in each grade level division.

The second section solicited the reactions of the participants to three school Web sites provided as links on the instrument. The participants visited school Web sites appropriate for their anticipated teaching assignment: elementary, middle, or high school. The Internet addresses for the schools were included in the survey instrument. Data about the participants' general reaction to the three grade-appropriate sites were collected by the following Web site reaction questions:

Question 1 - engaging and inviting

Question 2 - uniqueness of school projected

Question 3 - ease of navigation

Question 4 - Web site as asset

Question 5 - strengths of the Web site

Employment interest reactions to the three grade-appropriate Web sites were collected by the following questions:

Question 6 - employment information

Question 7 - Web employment applications

Question 8 - nice place to learn and teach

Question 9 - strength of employment interest

Question 7, on-line application, and question 4, Web site as asset, used a yes/no format. The remaining questions used a five point Likert rating scale. Following their visits to all three grade-appropriate sites and rating the sites' qualities, participants were

asked to rank the three sites according to their employment preferences and briefly explain why in an open-ended comment box. These comments provided narrative detail but were not intended or used to provide qualitative data for analysis.

The sites evaluated by the participants were selected through an evaluation conducted by a panel of highly experienced technology users. One member of the panel held a Ph.D. and taught statistics courses at the same university. Two members of the panel were doctoral students in the college of education at the same university, and both had served on the faculties of technology-intensive high schools. The fourth and final member of the panel held a master's degree in instructional technology and worked as a placement specialist in the Office of Field Experiences at the university where the study was conducted.

Members of this group were asked to evaluate five school Web sites at each division level—elementary, middle, and high school—using an evaluation tool developed by the researcher called the *Freeman School Web Site Evaluation Instrument* (see Appendix I).

The *Freeman School Web Site Evaluation Instrument* (FSWSEI) had 25 questions covering the two broad categories of content and format. It used a Likert rating scale to achieve a score out of a possible 100 points. It borrows from the Website Motivational Analysis Checklist (WebMAC) (Small & Arnone, 1999) and the Content Validity Scale (Arnone & Small, 1999) which were designed to evaluate educational and academic sites as sources of information for classroom use by teachers. The instrument developed by the researcher, however, includes specific components addressing school Web sites. Based on

the scores reported by the panel members, the sites receiving the lowest, median, and the highest scores in each grade level division were selected to serve as the three sites which participants visited in the second section of the study.

Reliability and Validity

In order to establish some measure of control for consistency between the pools of Web sites for the three divisions evaluated by the panel of experts, an elementary school site, middle school site, and high school site were selected by the researcher from one school district in the state of Florida, from one district in Iowa, from one district in North Carolina, from one district in Utah, and from one district in West Virginia. These states were selected in order to provide some geographic distribution: West, Midwest, Mid-Atlantic, South, and Appalachia. This measure provided the sought-after control as the Web sites from the school district in Iowa were consistently among the best, earning the panel's best scores in the high school and elementary categories and second best in the middle school category. The Web sites for the district in West Virginia consistently earned low scores from the panel, including the lowest in high school for a high school site and elementary for an elementary school site and 3 out of 5 in middle school for a middle school site.

In order to determine the best (highest rating), the average (median rating), and the poorest (lowest rating) site for each grade level, two steps were taken in two grade levels, and a third step was necessary in the other grade level. First, the scores from each of the four panel members were averaged together to provide a mean score for each site: the higher the mean score, the better the site. Second, the placement within the grade category

was calculated with the best of category receiving a 1 and the worst of category receiving a 5; the lower the ranking score, the better the site. The mean scores and the placement scores from both analyses yielded the same best, average, and poorest sites in the elementary and middle school categories.

In the high school category, the means from both analyses indicated the same schools as the placement scores for the best site and the average site, but not for the poorest site. To resolve this discrepancy, a third step was used, employing an overall impression Likert-type scale in which the panel members provided either a *Very Good*, *Good*, *Average*, *Below Average*, or *Poor* rating. These descriptors were converted to numerical values: *Very Good* received 5 points, *Good* received 4 points, *Average* received 3 points, *Below Average* received 2 points, and *Poor* received 1 point. The scores from the members were compiled to generate a panel average. This measure indicated agreement with the total mean as the indicator of the poorest site.

A Web site with a FSWSEI score ranging 0 through 19 should be considered low quality. A FSWSEI score of 20 through 39 is below average quality. Forty through 59 is average quality. A good Web site has a score between 60 and 79. A very good Web site has a score of 80 or higher.

The elementary site determined by the panel of experts to be the *poor* site, Central Elementary School, Moundsville, WV, had a score of 11. The *average* site, Palm City Elementary School, Palm City, FL, had a score of 54, and the *best* site, Meeker Elementary School, Ames, IA, had a score of 84. The *poor* middle school site, Goldsboro Middle School, Wayne County, NC, had a score of 22, the *average* site, Moundsville

Junior High School, Moundsville, WV, had a score of 55, and the *best* site, Jordan Middle School, Jordan, UT, had a score of 80. The *poor* high school site, Cameron High School, Cameron, WV, had a score of 29, the *average* site, South Fork High School, Martin County, FL, had a score of 56, and the *best* site, Ames High School, Ames, IA, had a score of 90.

The four panel members were also asked to evaluate the Employment Interest School Web Site Evaluation Survey tool that the participants would later use to evaluate the three sites. The panel members were asked to identify the construct behind the questions in the first section of the survey, describing the constructs in the following terms:

- Demographic
- Professional/career
- Computer efficacy and attitude
- Web site importance and influence
- "Doesn't fit any category"

The panel members were able to describe the questions as reflecting a combination of the above-mentioned categories.

For the second part of the Employment Interest School Web Site Evaluation Survey, which solicited participant reaction to school Web sites, the panel members were asked to decide which constructs the question sought to answer:

- Teachers' perception of Web site
- Employment interest

- "Doesn't fit either category"

Again, the panel members had the option to describe the questions as reflecting a combination of the two categories. Both sections demonstrated a high degree of construct validity, as panel members were able to identify with a consistency of 70% or higher the construct behind most of the questions being asked of the participants (Appendix J).

Four questions in the survey did not achieve the 70% threshold. On the question asking participants about their highest degree earned, the panel split evenly between demographic detail and professional/career. For the question asking participants about their uses of the Internet to search for jobs in education, the panel members judged in nearly equal percentages this to be a professional/career, computer efficacy and attitude, and Web site importance and influence question. The panel members were evenly split between computer efficacy and attitude and professional/career on the question which asked participants if they would want to work for a school district that requires teachers to have advanced computer skills. The final question which did not reach the 70% threshold came from the part of the survey asking participants about their opinions of specific school Web sites. The question asked if, "After reviewing the Web site I think the school is a good place to learn and teach." The panel again split 50-50 on whether this was a Teacher perception of Web site or Employment interest question.

While the four questions did not achieve the desired 70% agreement from the panel of experts, the questions all received remarkably consistent scores from members of the panel. The researcher has decided not to exclude the four questions in the participants' survey but to include in any discussion of the findings the failure of the

questions to achieve the desired expert-panel agreement. The researcher believes the responses to the question will provide important insight into the research questions, despite the shortcoming.

Members of the Graduate Student Research Association and members of the Instructional Technology Students' Association at the same university attended by the participants served as a pilot sample to test reliability. The pilot group indicated the need for the directions to be stated more clearly in order to avoid the inadvertent closure of the survey window while the survey takers were examining the school Web sites as required by the second part of the instrument.

Procedures

In cooperation with the Office of Field Experiences (see Appendix G), the participants were directed to a computer laboratory in the university's main library during the week prior to beginning their field experience. Fifty-six participants completed the survey on the 2 days prior to the cancellation of classes due to Hurricane Katrina. The remaining participants completed the survey online from their homes or other locations.

In the laboratory or online, the participants were asked to log on to a specific site depending on the day of their pre-hurricane appointment. The schools' Web sites were presented in a different order each day to counterbalance response set and order concerns. Once the participants had successfully entered the survey site using the day-appropriate URL address, they were asked the demographic, professional, and computer efficacy questions contained in the first section of the survey. After completing the first section, the participants activated the first of three hyperlinks by clicking on a button that directed

them to the first of three school Web sites. After viewing the first Web site, participants were asked to provide subjective responses to nine questions regarding the first Web site. After answering the questions about the first school Web site, the participants were directed to activate a second hyperlink by clicking on a button that redirected them to a second school Web site. The participants were asked to provide responses to school Web site 2 using the same nine questions to which they responded for Web site 1. After providing responses to school Web site 2, they were directed via a third hyperlink to a third school Web site and again were prompted to provide responses about the site using the same questions used on the previous two sites. Upon finishing the evaluation of the third site, the participants were asked to rank the sites in order of their employment interest and provide an explanation for their choice in an open-ended comment box.

Data Analysis

A number of statistical analyses were conducted. In order to test Hypothesis 1: A school or school district's Web site will influence teachers' perception of that school or school district, a repeated measures ANOVA was conducted to determine if the participants' perception differed between the three sites. The means of the combined results for each site on the following three perception questions were used in the comparison:

Question 1 - The Web site presented an engaging and inviting image of the school.

Question 2 - The Web site was nicely designed and projected the uniqueness of the school and its students.

Question 8 - After viewing the Web site, I think the school is a good place to learn and teach.

The above analysis was repeated using the total scores of the participants on the three perception questions. The perceptions of the participants were compared to the perceptions of the expert panel that had earlier determined the relative quality of the sites used in the study.

A repeated measures ANOVA was also employed to test Hypothesis 2: A school Web site will influence teachers' interest regarding applying for employment with that school. The means of the scores for each site on the following employment interest question were used in the analysis as well as analysis of the descriptive details.

Question 9 - Based on the visit to the Web site, I would describe my employment interest in the following way.

Repeated measures ANOVA analyses were conducted to test Hypothesis 3: The application for employment interest will vary between groups of teachers. For each of the three Web sites in the study, the personal characteristic, computer efficacy, and computer attitude variables were entered to determine if statistically significant variation existed between teacher groups regarding their employment interest in the schools represented by the three sites.

CHAPTER IV

ANALYSIS OF DATA

A number of statistical analyses were conducted to determine if a school Web site would influence a teacher's perception of a school, influence a teacher's interest in seeking employment at the school, and if that employment interest varied between different groups of teachers, depending upon characteristics of group members. The participants were teacher candidates completing their student teaching or field experience portion of their training in the final year of their teacher preparation program. The participants were required as part of their field experience course to make an appointment with the researcher in order to complete the electronic questionnaire. As compensation, participants completing the questionnaire received a list of teaching job Web sites intended to help them in their search for employment after graduation. The participants had the option to withdraw at any time during the survey.

Survey participants were allowed to select one of 5 days, either in the late afternoon or early evening, on which they would answer the electronic questionnaires. All of the questionnaires were identical, but the Web sites evaluated by the participants were provided in a different, predetermined order each day in an effort to control for order effects. It was the researcher's intent that the participants would answer the electronic questionnaire in a computer classroom in the main library on the university's principal campus. The first 2 days, representing orders *one* and *two*, proceeded as planned. However, the remaining 3 days, representing orders *three*, *four*, and *five*, were impacted by Hurricane Katrina. The storm forced the university and its library to close for 3 weeks,

and after reopening, the designated computer classroom was used for hurricane recovery efforts. The questionnaire, therefore, was made available online the day after the storm and e-mail invitations were sent to the remaining participants in order for them to participate in the process. These electronic invitations included a URL for a questionnaire that displayed the Web sites in the orders corresponding to the days impacted by the storm. Despite the interference of the catastrophic storm, 128 out of the 142 teacher candidates completed the questionnaire, a response rate of 90.14%.

Prior to the participation of the teacher candidates, the relative quality of the three school Web sites was determined by a panel of experts. The panel and the process used to determine the relative quality of the sites are described in Chapter III. Site A was determined by the panel to be the *best*, Site B the *average* site, and Site C the *poor* site. Table 1 shows the order in which the participants viewed the sites.

All 128 survey participants were undergraduate level university students completing their teacher preparation program at a major southeastern university. The demographic variables collected included the following: age, gender, division level preference, and racial background. The mean age was 26.24 years (SD = 6.12) with 63% being 24 years old or younger. The minimum age was 21 years and the maximum was 51 years. The majority of participants were female (n = 113, 88.28%). The frequencies are shown in Table 2.

Another important distinction among groups of participants was their division level preference. Ninety-three participants (72.7%) indicated a preference for working in an elementary school setting. Twelve individuals (9.4%) expressed a preference for

Table 1

Web Site Viewing Order Regarding Days (N = 128)

Order	*n*	First Site	Second Site	Third Site
1	36	A	B	C
2	18	B	C	A
3	19	C	A	B
4	18	C	B	A
5	25	A	C	B

Table 2

Frequency of Gender Data Regarding Web Site Order (N = 128)

Order	Male	%	Female	%	Total	%
ABC *(1)*	2	1.56	36	28.15	38	29.67
BCA *(2)*	3	2.34	15	11.71	18	14.06
CAB *(3)*	1	0.78	20	15.62	21	16.40
CBA *(4)*	3	2.34	15	11.71	18	14.06
ACB *(5)*	6	4.68	27	21.09	33	25.78
TOTAL	15	11.71	113	88.28	128	100.00

employment in a middle school, and 23 (18%) of the respondents preferred employment in a high school setting. In this study, the participants viewed sites for their appropriate division level: elementary school, middle school, and high school.

The analysis of distribution of gender regarding setting indicated that 77% (n = 87) of the females preferred elementary school. Forty percent (n = 6) of the males preferred an elementary school setting. The Pearson chi square test for independence was significant, χ^2 (N = 128) = 10.57, P = .005, indicating a relation between gender and setting. The results of the gender distribution regarding setting are shown in Table 3.

Of the 128 participants, 105 (82%) were White, 18 (14.1%) were African American, and one individual each reported Hispanic, Native American or Alaska Native, and Asian or Pacific Islander. Two participants described themselves as individuals of mixed racial backgrounds. Because of the small numbers of the racial groups, no analysis other than descriptive was conducted on race and level.

H_1: A school's Web site is related to teachers' perceptions of that school.

Hypothesis 1 attempted to measure if a school's Web site influenced teachers' perception of that school. The means of the combined ratings for each site were based on the following three perception questions used in the comparison.

Question 1 - The Web site presented an engaging and inviting image of the school.

Question 2 - The Web site was nicely designed and projected the uniqueness of the school and its students.

Table 3

Gender Distribution Regarding Division Level Preference (N = 128)

Gender	Elementary	Middle	High	Total
Female	87	10	16	113
Male	6	2	7	15
Total	93	12	23	128

Question 8: After viewing the Web site I think the school is a good place to learn and teach.

When represented in orders *1*, *4*, and *5* (see Table 2), the perception mean for Site B, the site deemed *average* by the panel of experts, was slightly higher than for Site A, the site judged the *best* by the panel of experts. Both the perception means for Site B and Site A were markedly higher than the perception mean for Site C. When presented in orders *2* and *3*, the perception mean for Site A was slightly higher than the perception mean for Site B. Again in orders *2* and *3* the perception means for Site A and Site B were markedly higher than Site C. The means for the perception for each site in each order are shown in Table 4.

A one-way ANOVA using *order* as the factor and *perception of the individual sites* as the dependent variables indicated no significant difference in the perception of Site A, $F(4, 115) = 2.25, p = .068$, and no significant difference in the perception of Site B, $F(4,114) = 1.33, p = .262$. Order effects were significant for Site C, $F(4,116) = 4.72, p = .001$.

Whereas there was no significant difference between the perception of Site A and Site B, $t(113) = -.032, p = .975$, paired-sample t tests showed that there was a significant difference between the perception means for Site A and Site C, $t(116) = 9.08, p < .001$. There was also a significant difference between the perception means for Site B and Site C, $t(115) = 9.87, p < .001$.

When the participants answered the perception questions for Site C without having seen the other sites, the responses were more favorable toward Site C. The

Table 4

Perception Means Regarding Web Site Order (n = 115, 116, 117)

Order	Perception Site A	Perception Site B	Perception Site C
ABC *(1)*	3.81	3.99	2.42
BCA *(2)*	4.18	3.63	2.67
CAB *(3)*	3.95	3.80	3.44
CBA *(4)*	3.85	3.90	3.13
ACB *(5)*	3.67	3.85	3.15
TOTAL	3.85 (N = 116)	3.86 (N = 115)	2.92 (N = 117)
SD	.73	.68	.82

difference between how respondents perceived Site C in the middle position following either Site A (order 5) or Site B (order 2) was not significantly different ($p = .699$). The results of the one-way ANOVA with Tukey HSD post hoc multiple comparisons are shown in Table 5.

A second analysis using rating totals rather than means confirmed the findings of the perception means. Again, the perception of Site C was significantly different, and the perception was influenced by whether or not the participants had viewed other sites prior to viewing Site C. The simple perception totals for Site C are the highest (orders *3* and *4*) when the site is viewed first. The differences in the perception totals were significantly different, $F(4, 114) = 7.73, p < .001$, and indicated that Site C was different from both Site A and Site B; however, Site A and Site B were not significantly different from each other.

H_2: A school's Web site is related to teachers' interest regarding employment with that school.

Hypothesis 2 attempted to measure if a school Web site influences teachers' interest regarding applying for employment with that school. The responses to the following employment interest question were used in the descriptive analysis: "Based on the visit to the Web site I would describe my employment interest in the following way." A Likert scale was used with 1 indicating *no employment interest whatsoever*, 2 indicating *below average interest*, 3 indicating *average employment interest*, 4 indicating *strong employment interest*, and 5 indicating *very strong employment interest*. The results indicated a preference for Site A. The means for the Employment Interest question were

Table 5

Impact of Order on the Perception of Site C

Order Comparison	Mean Difference	Std. Error	Sig.
3 (C first) - *1* (C last)	.63	.21	$p = .028$
3 (C first) - *2* (C middle)	.29	.25	$p = .764$
4 (C first) - *1* (C last)	.78	.22	$p = .005$
5 (C middle) - *1* (C last)	.65	.21	$p = .017$
5 (C middle) - *2* (C middle)	.31	.24	$p = .699$

3.4882 for Site A, 3.4567 for Site B, and 2.5748 for Site C. The results are shown in Table 6.

A one-way ANOVA using *order* as the factor and *employment interest* in the three sites as the dependent variable indicated that there was no significant difference for Site A, $F(4, 126) = 1.62, p = .173$. *Order* was not significant for *employment interest* for Site B, $F(4, 126) = .155, p = .961$. *Order* was, however, significant for Site C *employment interest*, $F(4, 126) = 2.88, p = .025$.

Paired-sample *t* tests showed no significant difference between the employment interest in Site A and Site B, $t(126) = .309, p = .758$. There was, however, a significant difference in the employment interest in Site A and Site C, $t(126) = 7.89, p < .001$. There was also a significant difference in the employment interest in Site B and Site C, $t(126) = 7.68, p < .001$.

There was a statistically significant difference between some of those participants who viewed Site C first and some of those who viewed Site C last. The results of the one-way ANOVA with a Tukey HSD post hoc are shown in Table 7.

H_3: The employment interest will vary between groups of teachers based on personal characteristics, grade levels, attitudes about computers, and computer efficacy.

Hypothesis 3 attempted to measure if the application for employment interest experienced following a visit to a school Web site would vary between groups of teachers with different demographic characteristics and different computer efficacy and interest levels. Following their visit to all three sites, the participants were asked to list their employment choice in order of preference. The results for all participants indicated a

Table 6

Employment Interest Regarding Web Site Order (N = 127)

Order	A	B	C	D
ABC *(1)*	3.53	3.47	2.24	38
BCA *(2)*	3.83	3.33	2.39	18
CAB *(3)*	3.57	3.42	2.95	21
CBA *(4)*	3.50	3.44	2.55	18
ACB *(5)*	3.18	3.53	2.84	32
Total	3.48	3.46	2.57	127

Table 7

Impact of Order on the Employment Interest in Site C

Order Comparison	Mean Difference	Std. Error	Sig.
3 (C first) - *1* (C last)	.72	.25	$p = .048$
3 (C first) - *2* (C middle)	.56	.30	$p = .346$
4 (C first) - *1* (C last)	.32	.27	$p = .763$
5 (C middle) - *1* (C last)	.61	.23	$p = .063$
5 (C middle) - *2* (C middle)	.45	.28	$p = .478$

preference for Site A, the *best* site as determined by the panel of experts. Of the 115 participants who expressed a preference, 62 (53.9%) selected Site A as their first choice. Figure 1 shows the preferences of all participants.

Site A was the first choice of the majority of participants who viewed the sites in orders *1* (ABC), *2* (BCA), and *4* (CBA). More participants who viewed the sites in orders *3* (CAB) and 5 (ACB) selected Site B as their first choice.

When the gender of the participant was used as the factor in the analysis, the results indicated that while female participants selected Site A as their first choice 51.96% of the time, males selected Site A 69.23% of the time. Women selected Site B as their first employment choice 41.17% of the time while men selected Site B 23.0% of the time. Women selected Site C as their first choice for employment 6.86% of the time and men chose Site C 7.69% of the time. Although the percentages were different, the chi square test for independence was not significant, χ^2 (N = 115) = 1.62, p = .446, indicating no relationship between preferred site and gender. The results of gender analysis are shown in Table 8.

When the participants' division level preference was used as the factor in the analysis, the results indicated a significant difference in the strength of their employment preferences. Ninety percent of the participants who indicated a preference for working in a high school setting selected Site A as their first choice. Forty-nine percent of the participants who indicated a preference for working in an elementary school setting selected Site A. Twenty percent of the participants who indicated a preference for working in a middle school setting selected Site A. The results for the Pearson chi square

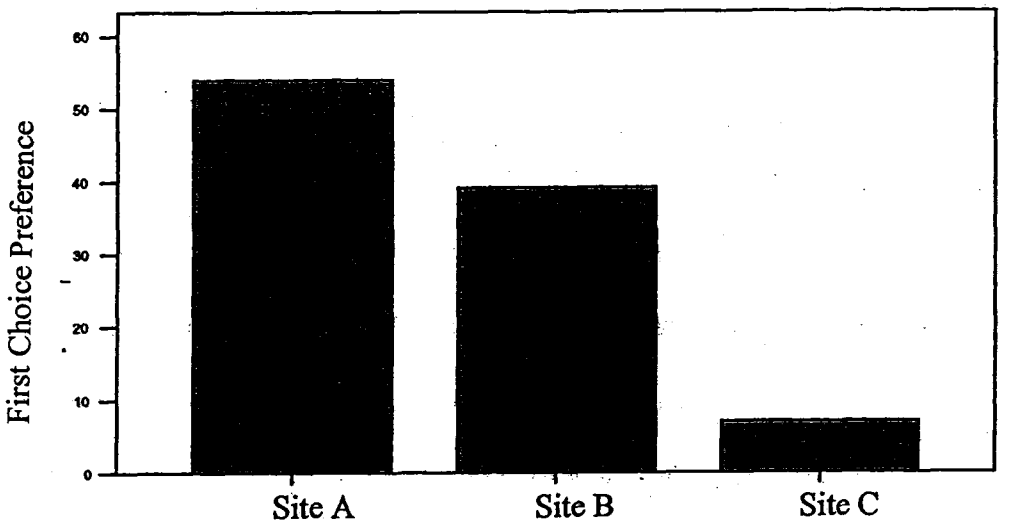


Fig. 1. First Choice

Table 8

Gender Analysis and Employment Preference (N = 115)

	Site A	Site B	Site C	Total
Female	53	42	7	102
Male	9	3	1	13

test for independence showed a significant relationship between level preference and site preference, χ^2 (N = 11 5) = 20.67, p = .001, and for the second choice p = .002. It was not significant for the third choice (p = .104). The results of division preference are shown in Table 9.

There was also a significant relationship between *race* and most site preferences as 25% ,or 4 out of 16, African American participants selected Site C as their employment preference compared with just 4.2%, or 4 out of 96, of the White participants. The Pearson chi square test of independence was significant, χ^2 (N = 112) = 15.25, p = .004. The results of the Chi square tests for second and third choice were not significant. The results of *race* analysis are shown in Table 10.

When the participants' *age* was used as a factor in the analysis, respondents aged 30 through 39 indicated a slight employment preference for Site B over Site A. The Pearson chi square tests for independence for first choice, second choice, and third choice were not significant. The results for participants' *age* on employment preference are shown in Table 11.

When *technology skill level* was used as a factor, respondents in the highest grouping indicated a marked preference for Site A. Respondents were asked to indicate which of the following skills they could perform comfortably:

Word processing to produce new materials

Access, navigate, and search the Internet to find materials

Use e-mail to communicate with colleagues and parents

Use presentation programs such as PowerPoint for teaching

Table 9

Employment Preference by Division Level (N = 115)

	Site A	Site B	Site C	Total
Elementary	42	37	6	85
Middle	2	8	0	10
High	18	0	2	20

Table 10

Employment Preference by Race (N = 112)

	First Choice			
	Site A	Site B	Site C	Total
White	50	42	4	96
African American	11	1	4	16

Table 11

Employment Preference by Participants' Age (N = 115)

Age	Site A	Site B	Site C	Total
20-29	48	34	7	89
30-39	8	9	1	18
40-49	6	1	0	7
50-59	0	1	0	1

Create class Web sites

Create video and audio for use in class

Use desktop publishing to create materials

Write computer programs

Record student progress in an electronic grade book

Each affirmative response was recorded as a 1. The totals for each participant were added to produce a Technology Skill Inventory (TSI) score with a possible range of 0 through 9. The frequency distribution is shown in Table 12.

The measures of central tendency indicate a mean of 5.73 and a median and mode of 6. Of those 14 participants who scored an 8 or a 9 on the TSI, 11 (79%) selected Site A as their first employment choice. Three (21%) selected Site B as their first employment choice. No one scoring 8 or 9 on the TSI selected Site C as their first choice. Of the 37 respondents who scored 6 on the TSI, 20 (54%) selected Site B, 14 (38%) selected Site A, and 3 (8%) selected Site C as their first employment choice. While the percentages differ, the one-way ANOVA using employment first choice as the factor and *technology skill* as the dependent variable indicated no significant difference.

When the importance the participant placed on a quality Web site was used as a factor, there appears to be little difference between Site A and Site B but a marked difference for Site C. In order to determine their Web Site Importance (WSI), the participants were asked to provide their responses to the following questions on a Likert scale with 1 indicating *strong disagreement*, 2 indicating *disagreement*, 3 indicating *unsure or no opinion*, 4 indicating *agreement,* and 5 indicating *strong agreement.*

Table 12

Frequency Distribution of Technology Skill Inventory (N = 128)

TSI	Frequency	Percent	Cumulative Percent
1	1	.8	.8
2	0	0	.8
3	4	3.1	3.9
4	16	12.5	16.4
5	34	26.6	43
6	40	31.3	74.2
7	19	14.8	89.1
8	12	9.4	98.4
9	2	1.6	100
Total	128	100	

Question 23 - I believe a school's Web site makes an important statement about the school.

Question 28 - I can determine the priorities of a school by visiting its Web site.

Question 29 - I believe a poorly functioning and/or unattractive Web site adversely reflects the school.

Question 30 - I believe a school with a poorly functioning and/or unattractive Web site has not made a serious commitment to technology integration in the curriculum.

The scores of these questions from each participant were added together producing a possible range from 4 (all 1's) to 20 (all 5's). The measures of central tendency were a mean of 14.23, a median of 15, and a mode of 16. A one-way ANOVA using employment *first choice*, *second choice*, and *third choice* as the factor and Web Site Importance (WSI) as the dependent variable indicated no significant difference. The results of the analysis of the Web Site Importance are shown in Table 13.

Finally, the participants' expressed interest in working for a school with high technology standards was analyzed regarding school preference. The participants were asked to provide their responses to the following questions on a Likert scale with 1 indicating *strong disagreement*, 2 indicating *disagreement*, 3 indicating *unsure or no opinion*, 4 indicating *agreement*, and 5 indicating *strong agreement.*

Question 17 - I want to work in a school or school district that requires teachers have advanced computer skills.

Question 24 - I am more likely to apply to a school or school district with a technically advanced Web site.

Table 13

Frequency Distribution of Web Site Importance Regarding Choice (N = 113)

WSI	Site A	Site B	Site C	Total
8	1	0	0	1
9	1	1	0	2
10	2	1	0	3
11	4	1	1	6
12	7	2	1	10
13	8	10	2	20
14	9	2	2	13
15	8	10	0	18
16	12	10	1	23
17	6	6	0	12
18	1	1	1	3
19	1	0	0	1
20	0	1	0	1
Total	65	45	8	113

The totals for the two questions, the *Expressed Technology Interest* (ETI), produced a possible range of 2 (all 1's) to 10 (all 5's). The median and mode were 6 and the mean was 6.32 (SD = 1.49). Those participants who made Site A their first employment choice had an ETI mean of 6.45 (SD = 1.43) which was slightly higher than the ETI mean for those who selected Site B as their first choice, 6.42 (SD = 1.41). Those participants who selected Site C as their first choice had an ETI mean of 6.13 (SD = 1.25). There was, however, no significant difference in the results of a one-way ANOVA using the *Expressed Technology Interest* score as the dependent variable and employment first choice as the factor (p = .827). The results of the analysis of expressed technology interest on first choice are shown in Table 14.

Table 14

First Choice Frequency Regarding Expressed Technology Interest (N = 115)

WSI	Site A	Site B	Site C	Total
3	0	2	0	2
4	6	1	0	7
5	10	8	3	21
6	15	12	3	30
7	18	11	0	29
8	9	9	2	20
9	2	2	0	4
10	2	0	0	2
Total	62	45	8	115

CHAPTER V

SUMMARY AND CONCLUSIONS

The World Wide Web has changed how people find jobs. Interested job-seekers once relied upon the help-wanted section of the local newspaper, the list of openings at the college placement office, or the casual comments of friends and relatives to learn about available positions. The Internet, however, has become an effective and popular way for job-seekers to make contact with employers far beyond the reach of the aforementioned methods (Shaw, 2005). Many entities, both public and private, now use their Web sites as a method to attract and screen applicants (Hornberger, 2005b). The information, however, travels both directions. Job-seekers looking to find a position can use the Internet to form opinions about prospective employers and reject those they do not find attractive (Karr, 2000).

Whether one is an administrator looking to fill a position or a candidate looking to find a position, an educator can use the Internet for employment research. Positions in education can be found through individual State Department of Education Web sites, regional consortium Web sites, public school district Web sites, private school Web sites, and specialty area Web sites. Because of the easy Internet access from virtually anywhere there is telephone service, a cable connection, or satellite link, schools are no longer in competition with just neighboring school systems.

If, as Karr (2000) reported, some candidates will reject an employer based on what they see during a visit to the organization's Web site, it is important to know why a teaching candidate might be repulsed by or attracted by a school Web site. This present

research is an attempt to begin that process in order to help school administrators develop sites that help and not hinder their school's recruiting efforts.

This study asked the participants to evaluate three school Web sites. The participants reported their perceptions of the schools based on the visits to the sites, expressed their employment interest in the schools based on their visits to the sites, and finally declared an employment preference among the three schools based on their visits to the Web sites.

A School Web Site's Influence on Teachers' Perception

The perception of the site was influenced by the order in which the participants viewed the sites. The opinions that study participants expressed about the site which was determined by the panel of experts to be the poorest of the three were higher if the participants had not viewed the *average* site and *best* site prior to evaluating the *poor* site. Having viewed either the *average* site or the *best* site, as determined by the panel of experts, before the *poor* site resulted in a lower reported perception of the *poor* site. It appears that a *poor* site suffers from comparison with better sites. The perceptions of the *average* site and the *best* site were not influenced by the order in which they were viewed in respect to each other. There was a slight, nonstatistically significant edge for the *average* site over the *best* site in three of the five viewing orders.

A School Web Site's Influence on Teachers' Employment Interest

With regards to a Web site influencing the participants' interest in applying for employment with the school, the *best* site was favored over the *average* site in four of the five viewing orders and by a nonstatistically significant margin by all of the participants.

While the *poor* site was consistently the lowest ranked school for employment interest, viewing order was again important. The difference between viewing the *poor* site first and last was statistically significant in one comparison with the site receiving more employment interest when viewed before the *average* and *best* sites. Again, the *poor* site suffers from comparison with the *average* and *best* sites.

Employment Interest Varies Between Groups of Teachers

Following their visit to all three sites, the participants were asked to list their employment choices in order of preference. The results indicated a strong preference for Site A, the *best* site as determined by the panel of experts. The strength of that interest was not the same, however, among all groups of participants. Male participants indicated a stronger preference for Site A than did female participants, but the results were not statistically significant. This finds support in the literature. Males historically have had greater exposure and thus greater confidence with computer technology than females; but while the gender gap in computer literacy and technology interest still exists, it is decreasing (Schumaher & Morahan-Martin, 2001). The opinions of the male participants who reported greater exposure and greater confidence appeared to be more closely aligned with the opinions of the panel of experts.

Participants stating a preference for a teaching position in a high school division also indicated a stronger preference for Site A than did those participants stating a preference for a teaching position in an elementary school. This does not appear to be gender dominated. While the vast majority of women (77%) stated a preference for elementary school, the total number of women stating a preference for high school was

larger than the total number of men indicating a preference for high school. The number of men stating a preference for elementary or high school was nearly even with just one more preferring high school. There is a statistically significant relationship between the self-reported *Technology Skill Inventory* (TSI) and preference for teaching at the high school division. These participants' opinions appear to be more closely aligned with the opinions of the panel of experts. Participants stating a preference for a teaching position in a middle school overwhelmingly chose Site B as their employment preference, in sharp contrast with the panel of experts.

Race appears to matter in employment preference generated by visits to the sites. Twenty-five percent of the African American participants chose Site C, the *poor* site as determined by the panel of experts, as their first choice while just over 4% of the White participants selected Site C as their employment first choice. Although decreasing, the digital divide exists among racial groups (Torkzadeh & Van Dyke, 2002). With the historic tie between race and income, and the link between income and computer ownership, many of the African American participants may not have grown up with a computer in the household. A follow-up study to determine home computer ownership by African American teachers, both when they were children and now as adults, would be useful.

The vast majority of the participants in the study reported ages between 20 and 29. This group selected Site A as its first choice by nearly a 3 to 2 margin. However, the next age division, those reporting ages 30 to 39, indicated a slight preference for Site B. The younger participants may have spent more time using computers for personal use and

recreation and their level of computer sophistication may more closely reflect that of the panel of experts. Compeau and Higgins (1995) reported that increased computer exposure influenced computer efficacy and sophistication. This might imply that a more experienced teacher might be attracted by a less sophisticated Web site. A follow-up study on older and more experienced teachers would be useful.

The higher the score from the self-reported *Technology Skill Inventory* (TSI) of the participant, the more likely he or she was to select Site A as the first employment preference, although the difference between selecting Site A and Site B was not statistically significant. There was, however, no indication of a link between those who stated a preference for a school with a sophisticated Web site and a preference between Site A or Site B. As well, it was not clear if there was a connection between those teachers who expressed an interest in working for a school with high technology expectations and a preference for Site A over Site B. What remains clear is the distinct disadvantage that Site C, the *poor* site, has when compared with Site A and Site B and those two sites' ability to generate employment interest.

Implications for Practice

In order to be competitive in the recruitment of highly qualified teachers, schools and school districts need to keep pace with current trends in hiring. As more educators turn to the Internet in their search for employment opportunities (Cappelli, 2001), educational organizations must have a Web presence that at a minimum does not project a negative image of the school and hopefully projects a positive image that invites interested teachers to seek employment at the individual school or with the school district.

The results of this study suggest that the subjective difference between an *average* and a *best* Web site is often a matter of personal taste. There is, however, an objective and significant difference between sites that do not, by comparison, project a standard of quality (the *poor* site) and those that do, by comparison, project a standard of quality (the *average* and the *best* sites).

In order for an administrator to judge the relative quality of a planned or existing school Web site, he or she might want to have criteria for such an evaluation. In addition to the basic aesthetic components of contrast, repetition, alignment, and proximity, a Web site must be easy to navigate (Nielsen, 2003). A school Web site ought to have features of particular interest to a variety of audiences that include students, parents, teachers, and community members (Flodin, 2004). The *Freeman School Web Site Evaluation Instrument* (FSWSEI), developed for this study, provides the school administrator with a tool to evaluate a planned or existing site, as well as a scale to determine a site's relative strength (see Appendix I).

A Web site with an FSWSEI score ranging from 0 to 19 should be considered low quality. An FSWSEI score of 20 through 39 is below average quality. Forty through 59 is average quality. A good quality Web site has a score between 60 and 79. A very good quality Web site has a score of 80 or higher.

It appears that having an *average* site may be adequate for an elementary school. The slightly higher but not statistically significant number of elementary teacher candidates who expressed a preference for the *average* site over the *best* site in the study may indicate the need to be competitive but not necessarily exemplary. This trend,

however, may change as the digital divide among genders and races closes and the technology skills of preservice teachers increase.

The participants interested in seeking employment at a middle school division indicated a strong preference for Site B, the site judged to be *average* by the panel of experts. This might indicate the highly subjective aspects of Web site appeal and the particular interests of educators seeking employment at that division level. A follow-up study of the unique needs of children in that age group which led educational reformers to create middle schools from the earlier junior high school model might reveal the cause for the discrepancy between the opinion of the panel of experts and the teachers seeking employment in middle schools.

The results depicted a slightly different situation for the preservice teachers hoping to work at the high school division. These participants were more likely to pick Site A, expressing a preference for the *best* site, as determined by the panel of experts, over the *average* and *poor* sites. This may be accounted for by the higher percentage within the group of male teacher candidates indicating a preference for high school, but the gender preference for Site A over Site B was not statistically significant. This would be consistent with the historical but decreasing gender trend which showed males having a greater comfort level with, and interest in, computers (Schumaher & Morahan-Martin, 2001). The implication of the findings indicate that the high school Web site must be more sophisticated than the elementary school Web site in order to attract teacher applicants.

The one group that did indicate a preference (by nearly a 4 to 1 margin) for the *best* site over the *average* site was made up of those participants with the highest self-reported *Technology Skill Inventory* (TSI). None of the participants among the highest self-reported *Technology Skill Inventory* selected the poorest site. The majority of teacher candidates who had average self-reported technology skill levels selected the *average* site over the *best* site, as determined by the panel of experts. While the results were not significant for the entire sample, this finding is important. A number of studies have shown that teachers who integrate technology believe in their ability to use technology before actual integration. This is at least partly because of previous success with computers (Beckers & Schmidt, 2001; Compeau & Higgins, 1995; Gardner et al., 1993; Levine & Donitsa-Schmidt, 1998; Torkzadeh & Van Dyke, 2002). This has implications for improving student achievement. Technology integration has been shown to improve achievement scores in general population groups for reading and math (Middleton & Murray, 1999), low socioeconomic groups (Page, 2002), and at-risk students (Diggs, 1997). Technology integration can also produce changes in classroom dynamics as technology enriched classrooms have been shown to produce more student-centered interactions (Clements et al., 1993).

Teachers who believe in their ability to use technology preferred the school with the *best* Web site. Teachers who believe in their ability to integrate technology into the classroom are more likely to do so, and that integration increases student achievement.

Trends

The findings of this study indicated certain noteworthy trends. The male preservice teachers who participated in this study indicated a preference for the *best* site, as did those participants who favored working at the high school division level. The participants in the youngest age grouping indicated a preference for the *best* site, as did those who described themselves as White in response to the racial demographic question. The respondents with the highest reported technology skills also picked the *best* site. The implication for practice appears to be that if one needs to attract the younger, computer-savvy White male to a high school division level setting, one needs to develop a sophisticated Web site. If, however, one wants to attract a teacher applicant who does not fit the aforementioned categories, the sophisticated Web site might not be the desired approach. More traditional methods such as print advertising and college placement offices might be more effective for these populations.

Limitations

One primary limitation of this study was the participant population. The findings were confined to a specific population of students finishing a teacher preparation program. Most of these participants indicated that they planned to search for employment in the year following the completion of the program, so the data were limited to a somewhat hypothetical job-search scenario. The results do not report that the school Web site played a role in the actual application for a position and/or the actual securing of a position. This participant population was predominately female and the findings have limited application to male.

The participants were allowed to select the days on which they would participate in the study. Those who selected the first day and therefore the first site viewing order might have had different personality traits and different response patterns than those who selected the last day of the study and its corresponding viewing order. Had the researcher randomly assigned the participants to the 5 days which represented the five different viewing orders of the Web sites, the experimental quality of the study would have increased.

The catastrophic impact of Hurricane Katrina on the region and many of the study participants living on or near the Mississippi Gulf Coast could have had an impact on the responses provided by some of the participants. It must be noted, however, that the nature of the online delivery of the questionnaire allowed many of the participants to complete the instrument prior to the reopening of the university. Some of the participants left the region because of the storm but were able to complete the online questionnaire from various locations around the United States.

There were limits as well on the findings regarding perception of the schools based on Web site visitations. The perception questions were later determined to be "double-barreled" in that they each can appear to ask two things. Question 1 asked if the site presented both "an engaging and inviting image." A respondent might have considered a site engaging but not inviting. Question 2 asked if the site was "nicely designed" and "projected the uniqueness of the school and its students." A respondent might have considered a site nicely designed but it failed to project the uniqueness of the school or the uniqueness of its students. Question 8 asked if the school is a good place to

"learn" and to "teach." A respondent might have considered the school a good place to learn but not a good place to teach.

Future Directions for Research

In order to examine the relationship between school Web sites and employment interest more closely, researchers need to question newly hired faculty regarding the influence school Web sites had in their initial interest in working for their current employer. In addition to the role of the Web site as perceived by the newly hired teacher, researchers need to examine the virtual perception of the school, as generated in the minds of the teacher candidate prior to employment, and the actual perception of the school as generated in the minds of the newly-hired teacher following an interval of employment. This would help determine if the school lived up to its virtual image. This follow-up study might be of use to those researchers studying why large numbers of new teachers leave the profession. Teacher recruitment and retention are related concerns.

A number of additional studies should be conducted to examine more closely some of the issues raised in this study. As mentioned earlier in this chapter, childhood computer ownership among teachers, especially African American teachers, might explain some of the preferences expressed by this population. Another population which warrants further study is the older, more experienced teacher. This group might have valuable skills to offer an employer but may lack in computer skills. A study which examined the unique needs and preferences of the middle school teacher might be useful for administrators struggling to fill positions in this division level. A study targeted at the

elementary school level might reveal why the preservice teachers at this level differed from the high school level preservice teachers and panel of experts.

The panel of experts raises another area of possible further study. The results of this study indicated that the elementary teachers to some extent, and the middle school teachers to a much greater extent, disagreed with the panel of experts. A follow-up study that compared how lay or noneducators rate school Web sites with the judgments of educators could be useful.

Because the role of the school Web site is not limited to its faculty recruitment function, future studies on different audiences should be conducted. The school Web site also serves as a tool for projecting the school's image to a wide audience. Prospective parents of school age children who need to make enrollment decisions and related housing decisions make up one segment of this audience. The role that the school Web site plays in influencing enrollment decisions needs to be examined for a variety of demographic subdivision. Parents relocating to a new community, planning to enroll children in a public school district with specific attendance boundaries, will want to be able to examine schools near their preferred neighborhoods. Parents planning to enroll children in private schools may also want to "virtually" examine schools to assess their compatibility with family value preferences and scholastic criteria.

In addition to parents, community members at large have a stake in the perception of the schools in their area. Knowing how business leaders and other key decision makers view an area's schools would be useful information.

The Internet has changed the way many organizations, including public and private schools, recruit and select employees. Because of the increasing pressure on school leaders to find a highly qualified teacher for every classroom, administrators will want to attract as many qualified applicants as possible. The engaging Web site that promotes a positive image of the school appears to be one important and widely visible tool at the recruiter's disposal.

APPENDIX A

BTLE MODULE 1

ENTRY TECHNOLOGY STANDARDS FOR PROFESSIONAL EDUCATION
BASIC TECHNOLOGY LITERACY EXAM

MODULE 1: WORD PROCESSING

1. Open the Word Processing program.
2. Set the font style and size to Times New Roman, 12 point.
3. Set margins. Top and bottom to 1.00" and Left and Right to 1.25".
4. Key the material that appears between the horizontal lines below (do not insert the horizontal lines). Double space after the capitalized, bolded, and centered title **JASPER PRINTING COMPANY.**
5. Create a header that includes: your name – left adjusted; the date – center adjusted; and the page number – right adjusted from the Header/Footer menu.
6. Save the material with the filename **JASPER** within the **WORD PROCESSING** folder on your *student diskette.*
7. Print the document. Every time during the exam you are to told to "print document," you will be required to give that document to the test monitor at the end of the exam.

JASPER PRINTING COMPANY

Confirming our telephone conversation earlier today, we are quoting you a price of $4,295 for printing 500, 50-page manuals. The $4,295 total includes scanning the photographs and artwork that you will supply.

You will receive a draft to approve approximately two weeks after you send the needed information and photographs. This material represents types of photographs in the manuals:

- Still life
- Children at Play

---

8. Double space and create the following single-spaced table using the Table menu found on the menu line of the Word Processing program. Center the table **horizontally** and place it after the last paragraph of the previously keyed material saved as **JASPER. Bold** the table headings. Decrease the size of the second column to 1.50" (do this after horizontally centering the table). Your table should look like this example.

Description of Work	Cost of Work
Scanning Photographs and Artwork	$1,500
Proofreading (8 hours at $15 hour)	120
Design & Page layout (10 hours at $80/hr)	800
Printing (500 copies at $3.75 per copy)	$1,875

9. Resave the file as **JASPER** and close the file and Word Processing program.

Time Period	Description	Cost
8 hours	Proofreading	hours x $15
10 hours	Design	hours x $80

12. Select the entire document.
    - Change line spacing to double
    - Change the font size to 10 point
    - Reset all margins to 1.0
    - Underline the title Jasper Printing Company
    - Spell-check the document and make needed corrections.

13. Place a page break directly after the table.

14. Create a footer. Insert the date and time center aligned from the footer menu.

15. Save the completed material to the file **JASPER.**

16. Print the file.

17. Compare your final product with the directions given above.

18. Place your printed material in the order in which it was completed and move on to Module 2.

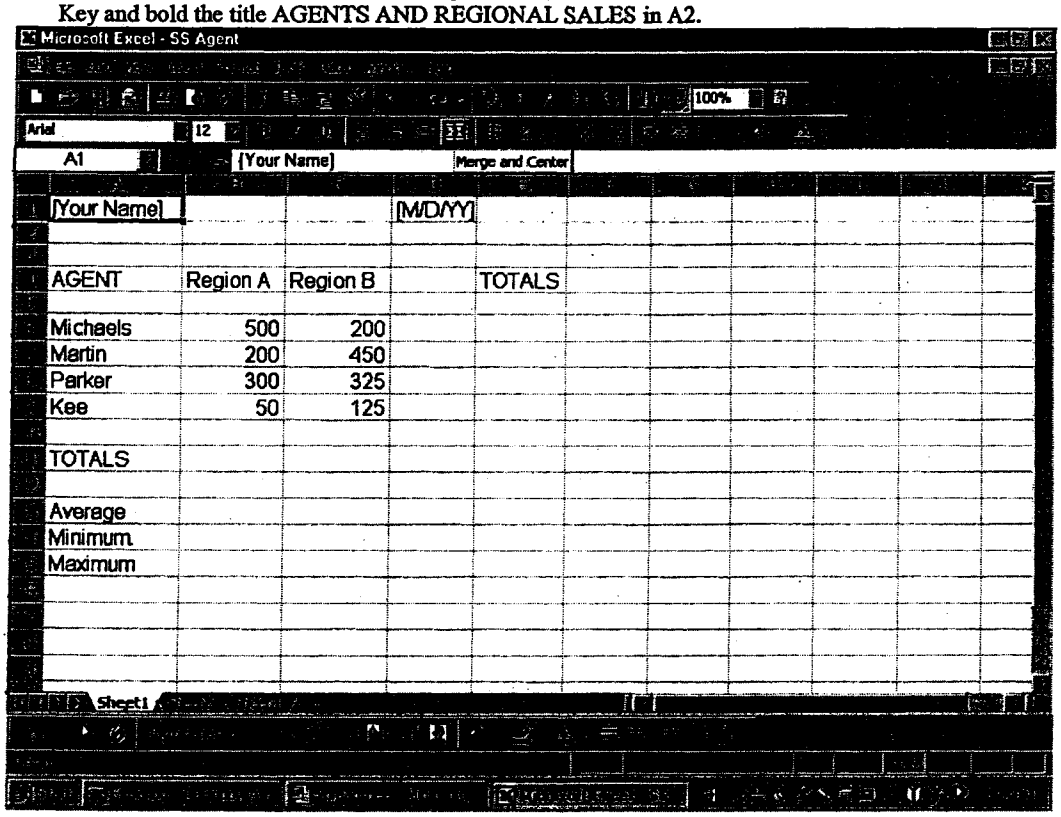
APPENDIX B

BTLE MODULE 2

ENTRY TECHNOLOGY STANDARDS FOR PROFESSIONAL EDUCATION
BASIC TECHNOLOGY LITERACY EXAM

MODULE 2: SPREADSHEET

1. Open the Spreadsheet program.
2. Create the spreadsheet shown below. Place your name in A1 [Your Name]
3. Key and bold the Month Date and Year [M/D/YY] in D1.
4. Key and bold the title AGENTS AND REGIONAL SALES in A2.



5. Key and bold the following according to the sample above: Your **name, the month/date/year** and the vertical and horizontal labels, which include: **AGENT, Region A, Region B, Totals, Average, Minimum and Maximum.**
6. Using the Header/Footer menu, create a custom header placing your name as left aligned and the date as right aligned.
7. Adjust column widths so that all text is visible.
8. Save the spreadsheet in the SPREADSHEET folder on the *student diskette* in A Drive as **AGENT.**
9. Print the **Agent** Spreadsheet.
10. Cut the contents of Column E and move to column F.
11. Insert the following in Column E: (note: bold **Region C**)

    Region C
    650
    552
    240
    125
12. Delete Column B.

13. Move the M/D/YY to Cell A19.
14. Insert a row between Average and Minimum and another row between Minimum and Maximum.
15. Bold and center the title across columns A through E.
16. Align all numeric cells to center horizontally.
17. Insert formulas to find the **Totals for Regions B and C** and the **Totals for the Agents in Column E.**
18. Insert formulas to create the: **Average in B13 and D13 for Region B and Region C.**
19. Insert formulas to create the: **Minimum in B15 and D15 for Region B and Region C.**
20. Insert formulas to create the: **Maximum in B17 and D17 for Region B and Region C.**
21. Format all Totals for Currency, no decimals.
22. Create a pie chart (your choice of type) from the contents of **Agent** (A6:A9) and **Region B** (B6:B9). **Title** = Agents and Regions.
23. Place left corner of pie chart in D13. (Note: chart will be in a graphics window)
24. Show percent on the pie graph.
25. Save spreadsheet – **AGENT.**
26. Print Spreadsheet.
27. Print spreadsheet again. Only, this time print formulas. Tools, Options, Check formula box. (You will need to change your printing option to landscape.)
28. Close Spreadsheet.
29. Compare your final product with the directions given above.
30. Place your printed material in the order in which it was completed and move on to Module 3.

APPENDIX C

BTLE MODULE 3

ENTRY TECHNOLOGY STANDARDS FOR PROFESSIONAL EDUCATION
BASIC TECHNOLOGY LITERACY EXAM

MODULE 3: TELECOMMUNICATIONS

I. Accessing, navigating, and searching the Internet.

1. Access the Internet with a browser.
2. Minimize the Internet screen and open a blank document in the Word Processing program.
3. Place your name and date in a header.
4. Center and bold the heading: **INTERNET**
5. Save the Document to the TELECOMMUNICATIONS folder on the *student diskette* in your Drive A as INTERNET.
6. Minimize the Document.
7. Maximize the Internet screen.
8. Go to the Google search engine (www.google.com).
9. Use the search engine to find the Gulfcoast On-Line Development web page.
10. Find the Acceptable Use Policy link within the Gulfcoast On-Line Development Web Page.
11. Highlight the title and the first two paragraphs of this document and copy it, using the menu bar of your browser.
12. Return to the **INTERNET** document and paste the copied Acceptable Use Policy title and paragraphs into your document. Double-space after the last line of the copied document.
13. While still in the document, insert a hyperlink that will allow the reader of this document to access the Gulfcoast On-Line Development Web Page.
14. Save the document and print. Close the document. Leave the Word Processing program open.
15. Maximize the Internet Browser. Go to the Help menu. If using *Netscape*, request information about bookmark. If using *Internet Explorer*, request information for favorite web pages – adding to favorite list.
16. Create a new Word Document. Create the header with your name and date. Save the document to the TELECOMMUNICATIONS folder on the *student diskette* on your A Drive as **BOOKMARK**.
17. Center, capitalize, and bold the title: **BOOKMARK**. Space four times beneath the title.
18. Four spaces beneath the title **BOOKMARK**, briefly restate the three steps to create the bookmark/favorites. Number the sentences and double space between them.
19. Save. Close the Document.

II. E-Mail

1. Access your e-mail account. Prepare a new message, addressed as follows:

TO: Yourself (place your e-mail address here)
FROM: Yourself (only your full name)
SUBJECT: E-Mail Module

2. Click in the message block and type several numbered sentences briefly explaining how to maintain designated space quota within an e-mail account. (Such as Deleting sent and received e-mail.)
3. Attach the document **BOOKMARK** from Drive A to this e-mail.
4. Send the e-mail.
5. Recover the e-mail from your account. Print the e-mail message as it appears on the screen.
6. Open the attachment in the e-mail. Print. Close the attachment.
7. forward this e-mail to yourself. Add a sentence in the message area naming your major area of study and the degree you will receive.
8. Recover and open this forwarded e-mail and print.
9. Close your e-mail account.
10. Close all other open screens.
11. Compare your final product with the directions given above.
12. Place your printed material in the order in which it was completed and move on to Module 4.

APPENDIX D

BTLE MODULE 4

ENTRY TECHNOLOGY STANDARDS FOR PROFESSIONAL EDUCATION
BASIC TECHNOLOGY LITERACY EXAM

MODULE 4: PRESENTATION SOFTWARE

1. Open the presentation software program.
2. Create a new presentation, using the design template of your choice.
3. Save the presentation in the PRESENTATION folder on the *student diskette* on Drive A as **Slide Show.**
4. Use the information in the sample slides on the attached page to create your presentation. The example was created from a blank presentation, but you can use any design template you choose; the important thing is to create 6 slides containing the supplied information and formatted in the prescribed manner:
   a. Slide one should be a title slide.
   b. Slide two should be formatted to contain a title and a single bulleted list.
   c. Slide three should be formatted to contain a title and two parallel column bulleted lists.
   d. Slide four should be formatted for a title, a text box on the left, and clip art on the right. You may use any clip art you choose; the one in the example was downloaded from the web.
   e. Slide five should be formatted for a title only, with an unbulleted text box inserted beneath the title and containing a *working* hyperlink to the URL that is provided in the example.
   f. Slide six should use the title slide formatting again. Place your name in the subtitle space.
   g. Insert numbers on all slides.
   h. Place sound on Slide 1 by inserting a Sound Clip (your choice).
   i. Animate Slide 2 (your choice of animation).
5. Save the slide show and print the OUTLINE view ONLY.
6. Go to the Slide Sorter and move the last slide (#6) to the second position, right behind the title slide. Save changes.
7. Print the slides as a handout (6-to-a-page).
8. Close the presentation software program.
9. Compare your final product with the directions given above.
10. Place your printed material in the order in which it was completed and move on to Module 5.

APPENDIX E

BTLE MODULE 5

ENTRY TECHNOLOGY STANDARDS FOR PROFESSIONAL EDUCATION
BASIC TECHNOLOGY LITERACY EXAM

MODULE 5: DATABASE

1. Open Microsoft Access, the Database Program. Click Create a new database using Blank Access Database.
2. With your STUDENT DISKETTE inserted, go to Drive A. Double click on the Database folder. Key the name **CUSTOMER** and click Create.
3. Create a table in design view with the following field names, data types, and descriptions, etc. Follow these steps:

a. Double click Create table in Design view.
b. Key the following: (Note: read steps c and d before keying)

Field Name	Data	Description	Field Size
Customer Number	Number	ID for customer	Integer
Last	Text	Customer's last name	15
First	Text	Customer's first name	10
City	Text	Customer's city	20
State	Text	Customer's state	2
Zip	Number	Customer's zip	Long Integer

c. In order to change the **Data** type, use the drop down menu in the field.
d. The **Field Size** is located in the bottom window. Key in the corresponding field size if the data is text. If the data is a number, choose the correct type from the drop down menu.
e. Identify your primary key by selecting the **Customer Number** field. Click on the Edit menu and choose Primary Key.
f. Save the table as **Customer List <your name>**. Close the table design view.

4. Open Customer List. Add the following records to the file: (Begin first with your personal information)

Customer Number	Last	First	City	State	Zip
100	Yours	Yours	Yours	Yours	Yours
670	Parker	Charles	Santa Fe NM	87051	
109	Burstein Jerome		San Jose CA	95120	
449	Kee	Charles	New York NY	10003	
754	Martin	Edward	New York NY	10001	
389	Martin	Arthur	Flushing NY	11367	

5. Save the file. Close this window.
6. Create a New Form, using the data from the Customer List table and using Autoform: Columnar. Name the new form "Customer Form <your last name>." Insert New Records.

Customer Number	Last	First	City	State	Zip
176	West	Rita	Chicago IL	60601	
067	Williams	DeVilla	Chicago IL	60601	
111	Hill	Karen	Chicago IL	60605	

7. Print the updated Customer List table in the datasheet view.
8. In the city field, find New York and replace all with Brooklyn. Print.
9. Change the order of the field columns in the datasheet view. Move the Last and First field columns so that they occur before the Customer Number column. Print.

10. Change the database structure by following these steps:
a. Open the Customer List table.
b. Change to Design View by clicking on View, Design View.
c. Add these fields:

Field Name	Data	Description	Field Size
*(this field should be inserted between the First and City fields)	Street	Text	Customer's street 25
*(this field should be placed at the end after the Zip field)	Paid	Currency	Customer paid Currency

d. Save the Customer List table. Change to Datasheet View by clicking on View, Datasheet View.
11. Insert the following information into the existing records in the Customer List table.

Existing Field:	New Field	New Field
Last Name	**Street**	**Paid**
Williams	One Dryden Way	500.00
Burstein	100 N. 1st Street	100.00
Hill	1500 Michigan Ave.	456.66

12. Change the width of the Street field to fit the size of the inserted street names.
13. Delete record for Arthur Martin.
14. Print datasheet.
15. Query the database for complete records of all customers from either NY or IL then sort the results in ascending alphabetical order of the last name. Save the Query as Customer Query <your name>, then print it.
16. Create a report of the information in Customer Query. Organize your report information in this order:
    First, Last, Street, City, State, Zip
    Sort by Zip in ascending order.
    Justified layout, and portrait
    Style of your choosing
    Title: Customer List and your name
    Print. Close.
17. Close the entire database.
18. Collect printed documents from this module and organize in order in which you printed them.
19. Compare your final product with the directions given above.
20. Return both the TEST DISKETTE and your STUDENT DISKETTE to the monitor, along with all printed documents in the order in which you created them, beginning with module 1.

APPENDIX F

INSTITUTIONAL REVIEW BOARD PERMISSION LETTER

The University of Southern Mississippi

Institutional Review Board

118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **25072701**
PROJECT TITLE: **School Websites and Teacher Employment Interest**
PROPOSED PROJECT DATES: **08/01/05 to 04/30/06**
PROJECT TYPE: **Dissertation or Thesis**
PRINCIPAL INVESTIGATORS: **David Freeman**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Educational Leadership & Research**
FUNDING AGENCY: **N/A**
HSPRC COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **07/27/05 t o 07/26/06**

Lawrence A. Hosman
Lawrence A. Hosman, Ph.D.
HSPRC Chair

8-01-05
Date

APPENDIX G

LETTER OF COOPERATION, OFFICE OF FIELD EXPERIENCES

The University of Southern Mississippi

College of Education and Psychology
Educational Field Experiences

118 College Dr. #5028
Hattiesburg, MS
39406
Tel: 601.266.4571
Fax: 601.266.4427
www.usm.edu/oefe

To Whom It May Concern:

David Freeman, a graduate student in Educational Leadership and Research in the College of Education and Psychology, has received permission from the Office of Educational Field Experience to survey students enrolled in field experience courses during the term Fall 2005.

The title of Mr. Freeman's doctoral study is School Web Sites and Teacher Employment Interest. The purpose of the survey is to determine the relationship between school Web Sites and teacher employment interest. As a benefit for participating in the survey, the students will receive a list of teacher placement Web sites. Those students who choose not to participate will be given an alternative assignment in order to receive the same amount of credit as those participating in the survey.

Sincerely,

Janice P. Thompson, Ph.D.
Director

APPENDIX H

EMPLOYMENT INTEREST SCHOOL WEB SITE EVALUATION SURVEY

TEXT ON VERSION

1. What is your gender?
   Male Female

2. What is the highest degree you hold or will have completed in a year from now?

   High school diploma
   Associate of Arts
   Associate of Science
   Bachelor of Arts
   Bachelor of Science
   Master of Arts
   Master of Science
   Specialist
   Ph. D.
   Ed. D.
   Other, please specify.

3. How old are you?

4. What is your racial background?

   White, non-Hispanic
   Black or African American, non-Hispanic
   Hispanic or Latino
   American Indian or Alaskan Native
   Asian/Pacific Islander
   Other, please specify.

5. How many years of teaching experience do you have?

6. What is your main teaching emphasis? Pick only one.

   Art
   Business Technology
   Family and Consumer Science
   Dance
   Elementary Child Development P-K
   Elementary K-4
   Elementary K-8
   Elementary/SPED K-8
   English
   Foreign Language
   General Science
   Biology
   Chemistry
   Physics
   Hearing Impaired
   Health
   Library Science
   Math

Music
Physical Education K-12
Speech Communication
Special Education K-12
Social Studies
Other, please specify

7. Within the next year I intend to activity seek employment in the field of education?

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

8. I have used or will use the Internet in the pursuit of a job in education. Select all that apply.

No, I have not/will not use the Internet
I have/will use the Internet to search for openings.
I have/will use the Internet to assess a district's technology level.
I have/will use the Internet to form opinions about a school district.
I have/will use the Internet to initiate contact with a school district.
I have/will use the Internet to apply for a position online.
Other, please specify.

9. How did you do on the Basic Technology Literacy Exam? Select the answer that best fits your experience.

I did very well, it was easy.
I did pretty well, but it was a challenge.
I barely passed all components the first time.
I had to retake some parts of it.
I had to retake most or all of it.

10. I plan to integrate c omputer technology into my classroom teaching on the following basis.

Everyday
Every week
Once per unit
Irregularly or infrequently
Never

11. I can co mfortably use the following computer technology to enhance my professional productivity and classroom teaching: Check all that apply.

Use word processing to produce new materials.
Access, navigate, and search the Internet to find materials.
Use email to communicate with colleagues and parents.
Use presentation programs such as PowerPoint for teaching.
Create class Web sites.
Create video and audio.
Use desktop publishing to create materials.
Write computer programs.
Record student progress in electronic grade books.

12. Stude nts with learning disabilities cannot benefit from the integration of computer technology in the classroom.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

13. The integration o f technology will not help me with classroom management issues.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

14. Most children spend enough time on computers at home and should spend school time on other activities.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

15. I believe the most important aspect of a Web site is

Site design
Usability
Graphics
Content
Loading speed
Ease of navigation
Personal relevance
Other, please specify

16. I do not believe I am prepared to integrate technology in my subject area or grade level.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

17. I want to work in a school or school district that requires teachers have advanced computer skills.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

18. I believe tech nology education is overrated and receives too much attention and funding at the expense of other programs.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

19. I believe that technology integration is only important in some subjects and is not applicable to all curriculum areas.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

20. I nor mally have little or no problem finding what I need on the Internet.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

21. If I want to, I can access the Internet everyday.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

22. I wish I spent less time working on a computer or on the Internet.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

23. I believe a school or a school district' s Web site makes an important statement about the school or district.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

24. I am more likely to apply to a school or school district with a technically advanced Web site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

25. If a school district does not ha ve a Web site, I would probably not apply for a position there.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

26. I am le ss likely to apply to a school or a school district with a technically advanced Web site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

27. I can deter mine, to some extent, if I'd be a good fit with the school or school district after visiting the school or district's Web site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

28. I can determ ine the priorities of a school or school district by visiting its Web site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

29. I believe a poorly f unctioning and/or unattractive Web site adversely reflects upon the school or school district.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

30. I believe a school or school district with a poorly functioning and/or unattractive Web site has not made a serious commitment to technology integration in the curriculum

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

31. M y primary teaching responsibilities will take place in the following setting:

Elementary school, including K-8 configurations.
Middle or Junior High school
High School

32. WEB SI TE 1. The Web site presented an engaging and inviting image of the school.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

33. WEB SI TE 1 The Web site was nicely designed and projected the uniqueness of the school and its students.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

34. WEB SI TE 1 I was able to navigate the Web site easily, visiting several different pages within the site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

35. WEB SI TE 1 This Web site is an asset to the school.

Yes No

36. WEB SI TE 1 The following was the strength of this Web site.

Ease of use
Site design
School Image
Content
Graphics
There was no apparent strength to this Web site.
There were many strengths, so it is hard to single out one.
Other, please specify.

37. WEB SI TE 1 The Web site provided adequate employment information about the school or school district.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

38. WEB SI TE 1 The Web site provided an online application or a download application.

Yes No

39. WEB SITE 1 After viewing the Web site I think the school is a good place to learn and teach.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

40. WEB SITE 1 Based on the visit to the Web site, I would describe my employment interest in the following way.

Very strong
Strong
Average
Below average
No interest whatsoever
Other, please specify

41. WEB SI TE 2. The Web site presented an engaging and inviting image of the school.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

42. WEB SI TE 2 The Web site was nicely designed and projected the uniqueness of the school and its students.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

43. WEB SI TE 2 I was able to navigate the Web site easily, visiting several different pages within the site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

44. WEB SI TE 2 This Web site is an asset to the school.

Yes No

45. WEB SI TE 2 The following was the strength of this Web site.

Ease of use

Site design
School Image
Content
Graphics
There was no apparent strength to this Web site.
There were many strengths, so it is hard to single out one.
Other, please specify.

46. WEB SI TE 2 The Web site provided adequate employment information about the school or school district.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

47. WEB SI TE 2 The Web site provided an online application or a download application.

Yes No

48. WEB SITE 2 After viewing the Web site I think the school is a good place to learn and teach.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

49. WEB SI TE 2 Based on the visit to the Web site, I would describe my employment interest in the following way.

Very strong
Strong
Average
Below average
No interest whatsoever
Other, please specify

50. WEB SI TE 3. The Web site presented an engaging and inviting image of the school.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

51. WEB SI TE 3 The Web site was nicely designed and projected the uniqueness of the school and its students.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

52. WEB SI TE 3 I was able to navigate the Web site easily, visiting several different pages within the site.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

53. WEB SI TE 3 This Web site is an asset to the school.

Yes No

54. WEB SI TE 3 The following was the strength of this Web site.

Ease of use
Site design
School Image
Content

Graphics
There was no apparent strength to this Web site.
There were many strengths, so it is hard to single out one.
Other, please specify.

55. WEB SI TE 3 The Web site provided adequate employment information about the school or school district.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

56. WEB SI TE 3 The Web site provided an online application or a download application.

Yes No

57. WEB SITE 3 After viewing the Web site I think the school is a good place to learn and teach.

Strongly agree Agree No opinion or not sure Disagree Strongly disagree

58. WEB SI TE 3 Based on the visit to the Web site, I would describe my employment interest in the following way.

Very strong
Strong
Average
Below average
No interest whatsoever
Other, please specify

59. Based on what I saw during the visits to the three sites, my employment choices would be

First choice:
Second choice:
Third choice:

60. In the space below, briefly state your reason for choice.

APPENDIX I

FREEMAN SCHOOL WEB SITE EVALUATION INSTRUMENT

Your name _____

Web Site URL_____

Directions: Place the appropriate number about this Web site on the line preceding each item

4 Strongly agree
3 Agree
2 No opinion or not sure
1 Disagree
0 Strongly disagree

_____ 1. The screen layout of this Web site is attractive.

_____ 2. There is a menu or site map at the beginning that describes content.

_____ 3. Navigating this Web site does not require any special skills or experience.

_____ 4. Audio information and visuals graphics support the written information.

_____ 5. The home page is "eye-catching" and will attract interest in the school.

_____ 6. The Web site's graphics are crisp and clearly visible.

_____ 7. The directions for using the Web site are simple and clear.

_____ 8. The web site has a help function that I can access at any time.

_____ 9. The buttons, links and other navigation tools work as they should.

_____ 10. No matter where I am in the site, I can also return to the home page.

_____ 11. The amount of time it takes for images and forms to appear is reasonable.

_____ 12. The Web site presents the school in an interesting and unique manner.

_____ 13. The Web site provides information for students, parents, and teachers.

_____ 14. The Web site provides means to contact teachers and administrators.

_____ 15. The Web site provides the school's philosophy and mission statements.

_____ 16. The Web site shows children involved in a variety of activities.

_____ 17. The Web site details academic programs and grade level benchmarks.

_____ 18. The Web site includes separate pages for specific classes or teachers.

_____ 19. The Web site includes separate pages for athletics and clubs.

_____ 20. Scores of recent standardized tests are posted on the Web site.

_____ 21. Academic achievement is celebrated on the Web site.

_____ 22. Homework help and/or extra practice are available on the site.

_____ 23. Parents can log in and access their child' grades and attendance.

_____ 24. Calendars including menus and sporting events are posted on the Web site.

_____ 25. The Web site projects the school as a great place to learn and teach.

Overall impression of the Web site: put a check in front of the appropriate description.

_____ Very Good _____ Good _____ Average _____ Below Average _____ Poor

APPENDIX J

EXPERT PANEL SURVEY EVALUATION LETTER AND INSTRUMENT

Dear Panel Member,
Thank you again for serving as an expert on the panel. In this first of two tasks I need you to help determine the validity of my questionnaires. You will be receiving two surveys from a commercial online survey company called Zoomerang. They might show up in your bulk folder, so please look for them. One is called "School Web Site Survey" and the other is called "Web Site Reaction." Eventually the two surveys will be merged into one for the study.

The "School Web Site Survey" has 30 questions and you'll need to evaluate all 30. The "Web Site Reaction" has 28 questions and you'll only need to evaluate 1 through 9, and 28. Numbers 10 through 27 are repeats, as the participants will be visiting three separate sites in their evaluation.

On "School Web Site Survey" you'll be deciding if the questions seek the following information:

Demographic Details	code: DD
Professional/Career	code: PC
Computer efficacy (skills and knowledge) and Attitude	code: CEA
Web site Importance and Influence	code: WII
Doesn't Fit Any Category	code: DFA

For example, question two asks for gender identification. This question is clearly DD, as it asks for a demographic detail.

If you believe the question seeks a mixture, please provide the code and approximate percentage. For example is you think the question is more DD and less PC you can write DD/PC -- 75/25. Please keep it to 25%, 50%, and 75% splits.

On "Web Site Reaction" survey you'll be deciding if the questions seek the following information:

Teacher Perception of Web Site	code: TPW
Employment Interest	code: EI
Doesn't Fit Either Category	code: DFE

Again, if you believe the question seeks a mixture of information between the two, please provide the approximate percentages using 25%, 50%, and 75% splits.

Please return the completed evaluation via email attachment. The second part of your expert task will arrive via email in a few days.

Thank you again,

David Freeman
Dtf3356@yahoo.com 601 579-9529 601 310-3271

School Web Site Survey Evaluation tally

Code		
	DD	Demographic Detail
	PC	Professional/Career
	CEA	Computer efficacy and attitude
	WII	Web site importance and influence

Question

1._____ 2.__DD____3._____4._____5._____

6._____ 7._____ 8._____ 9._____10._____

11._____ 12._____ 13._____ 14._____ 15._____

16._____ 17._____ 18._____19._____20._____

21._____ 22._____23._____24._____25._____

26._____ 27._____28._____29._____30._____

Web Site Reaction Survey evaluation tally:

Code		
	TPW	Teacher perception of Web site
	EI	Employment Interest

Questions

1._____ 2._____ 3._____ 4._____ 5._____

6._____ 7._____ 8._____ 9._____28._____

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