THE NECESSARY COMPONENTS OF A STAFF DEVELOPMENT PROGRAM

TO PREPARE TEACHERS TO TEACH SECONDARY ONLINE CLASSES:

A DELPHI STUDY

by

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Abstract

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Educators are faced with the rapid influx of online courses in the K-12 educational setting. The

majority of research conducted to date has been in the area of higher education. Research and

publications suggest that many factors control the success or failure of students enrolled in online

courses. These factors include student characteristics, mentoring, and teacher/student interaction.

Other factors affect the implementation of successful online courses and virtual schools. These

factors include policies, funding, student support, technology, curriculum, access, equity, staff

development, and administration. Currently, the absence of appropriate research suggest the need

to identify the necessary components of a staff development program to prepare teachers to teach

secondary online classes in a local school system. In the development of a staff development

program, measures need to be undertaken to assess and address the individual needs of the

teachers.

This study was designed to identify the necessary components of a staff development program

for the purpose of training teachers to teach secondary online courses in a local school system

and collect recommendations for differentiating staff development to meet the individual needs

of teachers. Using a three-round Delphi technique, panelists, representing successful secondary

public and corporate online schools, developed a common consensus on the necessary

components. The panelists identified the components needed for teacher training and ways in

which a staff development program could be structured to address the individual needs of teachers. The panelists were provided an opportunity to scale the components as to their degree of importance. By working through the rounds and providing statistical feedback, a consensus was obtained. Each panelist was provided the frequency, mean, and standard deviation for each criterion. The components agreed upon by 80% of the panelists as either very important or important were used to develop an outline of a staff development program that can be used to train teachers to teach secondary online courses.

ACKNOWLEDGEMENTS

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CHAPTER 1: THE PROBLEM

As technology continues to evolve and our experience and knowledge of online learning grows, educators are faced with continual changes in policies and implementation strategies. To date, most of the research surrounds online instruction in higher education. As a result, there exists a need to examine online courses in the K-12 arena.

Historically, distance education has been thought of as a means to deliver instruction between geographically separated people (Everett, 1999). As new technologies have permeated our society, each presents a new medium for delivering education courseware. Late in the 1800's written correspondence courses became available through mail. Radio and television introduced new forms of media for delivering instruction. Cable television provided yet another means for transmitting instruction. Recently, the influx of the Internet into society has added a new medium for distance learning. The use of the Internet as a means for distance learning is increasing at a rapid rate. Schools in several states, including Florida, Kentucky, and Oregon, offer online courses through the Internet for secondary students. The University of Missouri-Columbia provides students an opportunity to receive a high school diploma completely through online coursework. Private companies have been created offering students online instruction. Former Education Secretary William Bennett has created his own online school (http://www.k12.com) (Gladfelter, 2000). Web-based courses and virtual high schools join the growing list of alternatives to the traditional classroom.

The phenomenon that distance education, typically for students separated geographically, has spread to students with limited time, busy schedules, a diverse student population with expanding needs and requirements, for students seeking courses unavailable due to a shortage of certified teachers, and students with a dislike or dissatisfaction with traditional schools. The

demand for distance learning is no longer limited to rural areas and small schools with limited resources.

Online instruction has advantages over previous forms of distance learning. Online courses offer ease of updating material and delivery (Kerka, 1996). Increased educational technology expenditures and school reform movements are fueling growth of online course opportunities. School vouchers and charter school proposals offer a haven for the rapid growth and development of virtual high schools by the private sector seeking to gain market share and profit. Educational leaders could be faced with the dilemma of students transferring from electronic schools, factoring in online course grades into the students' grade point average, and determining eligibility for extra-curricular activities. Parents could possibly demand that their children be allowed to participate in online courses and that education institutions accept online course grades.

In a report to the President and Congress from the Web Based Commission (Web-Based Education Commission, 2000), legislators and leaders are warned of the eminent need to develop policies and make informed decisions that ensure online courses will enhance education. Without such policies and decisions, greater divisions could be created between those with and without access, students could utilize online courses with substandard curriculum, or student privacy could be violated. Some states, such as Maryland, have started to examine the issues involved in web-delivered course implementation (Maryland State Department of Education, 2000). Eight of the 24 Maryland school districts utilize web-delivered courses. The survey results of the Internet-based Learning Study Group, reporting to the Maryland State Department of Education, indicate varying policies while the remaining sixteen districts have no policies regarding web-delivered courses. The warning from the Web Based Commission is for the policy makers at both the state

and local level. Elements in developing policies surrounding the use of online courses involve curriculum standards and quality, access, course methodology, assessment, staff development, technical support, online student protection and privacy, costs and funding, and intellectual property rights.

Statement of the Problem

Educators are faced with the rapid influx of online courses in the K-12 educational setting. The majority of research conducted to date has been in the area of higher education. Research suggests that many factors control the success or failure of students enrolled in web-based courses. These factors include student characteristics, mentoring, and teacher/student interaction. Other factors affect the implementation of successful online courses and virtual schools. These factors include policies, funding, student support, technology, curriculum, access, equity, staff development, and administration.

Numerous studies and publications indicate a need for the staff development of online teachers to develop high quality instructional programs for students. In the SREB publication, *Essential Principles of High-Quality Online Teaching* (Southern Regional Education Board, 2003), regarding the evaluation of online teachers it is stated that school districts and states need to make every effort to choose, train, and evaluate online teachers to assure that every student is taught by a highly qualified instructor. With the rapidly growing use of online courses in K-12 schools, school districts need research-based criteria for defining the essential components of a staff development program necessary for the development of highly qualified online teachers.

Purpose of the Study

The purpose of this study is to identify, through consensus building, the necessary components of a staff development program to prepare teachers to teach secondary online

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classes. Recommendations and suggestions will be collected for differentiating staff development to meet the individual needs of teachers.

<center>Conceptual Framework</center>

The research on effective teaching and learning has increased educators' awareness of the complexity of teaching. Teaching and learning can be broken down into three areas; input, process, and output (Steinmetz, 1983). The primary input into the education of a child starts with the teacher. Some factors affecting the input are the years of teaching experience, knowledge of the content, and personal characteristics. The process includes the implementation of instruction, the strategies used to engage students, and the management of the classroom. The output, dependent upon these factors, is the student achievement. As educators change the medium for delivering instruction to include the Internet, hardware, and delivery software, the complexity of teaching expands.

"Schools planning to deliver virtual instruction should invest considerable resources in identifying, training, and supporting online teachers" (National School Boards Association, 2002, p. 13). It is understandable that to undertake a new medium for delivering instruction, teachers need to be provided the necessary training to utilize the new opportunities to ensure student success.

Staff development is the key to increasing student achievement through the improvement of teachers' skills and abilities. A successful staff development program is cyclic in nature. This ongoing process must be collaborative in nature involving teachers, administrators and stakeholders. Schools and school districts must align their student learning goals and curriculum with state requirements and then analyze the student achievement data to determine deficiencies in student learning. Once the problem areas are identified, research should be used to determine

which effective and efficient instructional strategies would produce the desired results. A needs assessment will determine which teachers possess these skills and which do not. Staff development should be varied to meet the individual skills and readiness levels of the teachers. Using the data, a comprehensive and cohesive staff development plan can be developed, implemented, and evaluated. Schools can never be satisfied with their level of student achievement and to improve must constantly cycle through the process of evaluating goals and data, reviewing research, and modifying staff development to address needs to increase student achievement.

Staff development is also the key to improving student achievement through the improvement of the teachers' skills and abilities for online classes. Instructional strategies through this new medium are evolving and current staff development models and components vary. Therefore as online instruction grows from its infancy, educators must constantly evaluate staff development models and components seeking the most effective and efficient strategies and models that promote student success.

Develop District/school student learning goals

Determine evidence to evaluate goals

Staff development evaluation and adjustment

Determine instructional practices/policies to effectively and efficiently produce desired results

Staff Development

Cycle

Implementation

Needs Assessment – Determining which skills and practices teachers possess

Planning staff development: Content, Process, and Context

Research Questions

What are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? How can such a staff development program be structured to assess and address the individual needs of teachers?

Definitions

508 Compliance: requirement that all electronic information developed be accessible to people with disabilities in accordance with Section 508 of the Rehabilitation Act of 1973.

Asynchronous: not occurring exactly together, participant's access irrespective of time or location.

Corporate: developed by the private sector and not affiliated with a public educational agency.

Face-to-face instruction: teachers instructing students in a traditional classroom.

Online course: the majority (80% or more) of the instruction is delivered through the Internet and accessible by a computer twenty-four hours per day, seven days per week.

Secondary: Grade levels 9 through 12 (MD. CODE. ANN., 2005).

CHAPTER 2: REVIEW OF RELATED LITERATURE

Online Instruction

The research surrounding online courses has mainly focused on factors affecting student success and the factors affecting the successful implementation of online instruction. The samples utilized in the studies have primarily focused on higher education. The research of Lary, being one exception, focused on the environmental factors affecting student success with online courses in the Azalea Online School in Oregon (Lary, 2000).

Other research in higher education indicated the factors leading to student success encompass learning styles, mentoring, course startup procedures, instructional design, ability level of students, and the instructor's role and ability. Factors affecting implementation included funding, technical expertise, legal issues, professional development, policies, and administrative structures. Factors affecting implementation are often mentioned within the studies measuring student success.

Factors Affecting Student Success in Online Courses

Lary's (2000) descriptive case study of the Azalea Online School included both qualitative and quantitative data to investigate student characteristics leading to successful completion of online courses. In addition, the study examined the structural components and the school-based support of the Azalea online school. Data were collected through email and face-to-face interviews with 18 educators including online teachers, counselors, and principals, and a survey of 201 students taking 296 online courses. Eleven online instructors were also interviewed in the study. A correlational approach was utilized to determine the relationship between student characteristics and success in online courses.

Electronic interviews were conducted with the 11 online instructors in four sets with follow-up questions. Teaching experience, technical expertise, student support, and communication were the four categories of discussion. Face-to-face interviews were held with counselors and principals to identify their knowledge of the program, attitudes toward online teaching, and the support provided to students taking online courses. A document analysis was conducted to include school board documents, emails from the administration to online teachers, course documents, and newspaper articles. The qualities of the qualitative data were assessed through triangulation.

Microsoft Word and the Flesch-Kincaid Grade Level Index were used to examine the readability of both school district developed online courses and vendor supplied courses. The online survey utilized was based on self-assessment surveys for students from Kentucky Virtual High School, the Virtual High School, Florida Virtual High School, and Azalea Online School. The survey for this study focused on course need, technical skills, time management, and demographic information. Chi-square tests, t-tests, and chi-square nonparametric tests were used to analyze data.

For successful online courses, the analysis of the qualitative data indicated the need for strong student and teacher technical support and the establishment of clear and concise policies. These policies included requiring face-to-face orientation for students, the development of technical tutorials for students, the development of communication policies for teachers and students, and clearly communicating course expectations and milestones. The analysis of the data indicated a failure to identify the characteristics of successful online teachers. In the factors contributing to student success, the variables considered included grade level, gender, reading

and writing ability, reason for taking courses, overall academic achievement, technical skills, access, and extracurricular activities.

Lary's study found a significant relationship between course success and the reading ability of the student, suggesting that students with a higher reading ability have a higher course completion rate. Writing ability was not found to be a factor in student success. Reasons for taking a course provided no significant correlation with student success. The qualitative data indicated that the perception, on the part of educators, is that students need to be self-motivated to be successful in online courses. The technical skills and expertise of the students was not a significant factor in students' success. No significant relationship was found between course success and extracurricular activity; however, it was found that those students with a higher course load were more successful than those carrying a lighter load. Students with a higher Grade Point Average had a higher success rate, thus indicating a relationship between academic ability and online course success. No relationship was found between course success and computer access and the age of the computer.

Lary's recommendations for future research included the impact of courses developed by a teacher versus a corporation, the impact of assistive technology utilized in the course, and the impact of the student's learning environment. Lary indicated that additional research is necessary to determine the characteristics of quality online teachers and whether a teacher's experience in face-to-face instruction impacts student learning in online classes.

Aragon, Johnson and Shaik (2002) conducted an exploratory empirical study with 39 graduate students to determine if there were significant differences between learning style and student success in online courses. The study involved the same instructor teaching both the face-to-face and the online course for graduate students in the area of human resource development.

The same content, material, activities, and projects were used in both settings. The researchers used the Reichmann and Grasha's Student Learning Style Scale (1974), Weinstein, Palmer, and Schulte's Learning Study Inventory (1987), and the Kolb's Learning Style Inventory (1985) to assess the learning styles of the students. These instruments were used to assess motivation, maintenance, task engagement, and cognitive control functions. The researchers felt that both teaching and learning require positive motivation and the appropriate degree of task engagement. A 29-question self-assessment was administered to each student at the end of the class to determine their comfort level completing tasks from the course objectives.

The Aragon et al. (2002) study suggested that students, although differing in learning styles, could learn equally as well in either environment. The difference in learning style was not significant when all other factors were controlled. Online learners were found to be more reflective and had a higher preference for abstract conceptualization. Face-to-face learners reported a greater use of hands-on learning and the use of more study aids. To ensure a positive learning experience through online courses, the researchers indicated that efforts must be made to control the quality of online design and the delivery of online classes. The researchers felt that additional research should be conducted to explain the reasons for different learning styles and the influencing factors.

Conrad's (2002) study analyzed the ramifications of the first class in an online course. This study examined the 28 graduate students' perception of the first class and its relationship to one's sense of well being and engagement in an online course. A survey was sent to 45 students during the course with 62% responding. The survey included open-ended questions to probe the students' perception of the instructor's role and "mood for the learning experience" (Conrad, 2002, p. 207). The survey sought data on the students' expectations of the initial class,

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preference for course material before the course start date, recollection of a good or bad course beginning, opening class events, and initial communication from the instructor.

Conrad clearly indicated that the students were adults. Their involvement in the course was voluntary and driven by either financial or career goals. The results indicated that the student's sense of engagement and success was dependent on his/her connection with the learning material rather than the instructor or colleagues. Students were most comfortable when provided advanced course information allowing them to prepare for the course. Students did not feel the need to receive greeting messages and replies from the instructor. They did desire opportunities to collaborate and build connections with other students in the class. Students felt that it was crucial for the instructor to be clear and complete in the presentation of the course details. Conrad indicated the role of the instructor as crucial to the success of an online course. An online instructor needs to facilitate learner engagement and foster collaboration among students. Conrad suggested the need to examine the initial anxiety levels of students in an online course to those of students enrolled in a face-to-face course.

Meyer's (2003) meta-analysis utilized 30 different studies to compare traditional college courses to web-based courses in order to determine the impact of the Internet on learning. She found three areas worthy of mention; the role of the individual, instructional design, and specific skills enhanced by an online environment.

Meyer (2003) found that the success of students was highly dependent upon what they bring to the learning situation. Maximum learning occurred when the instructional approaches were matched to the learning styles of the students. Student success was dependent upon the degree of self-motivation, self-regulation, belief that they could learn, and the level of computer skills. Gender differences appeared in online courses as they do in the traditional classroom. One

study found that males were more likely to control online discussion whereas females tended to be more agreeable and sought to maintain relationships. Current students were found to have more technological skills than previous students. Failure to learn using online courses was more likely to be attributed to a poor match between individuals and the learning situation or inadequate instruction.

The rise in the use of the Internet for instruction has educators investigating pedagogies and instructional design. Early research focused on the technology rather than the instructional design. It is difficult to determine the effects of technology and whether they can be separated from its instructional uses. One strong area found in Meyer's review of the research was the need for making interaction a strong component within an online course to assure success. In asynchronous learning, she discovered a three-stage process was necessary for the engagement of the learners. The three stages were making friends, gaining community acceptance, and forming camaraderie.

Through her analysis of the studies, Meyer (2003) concluded that much of the research conducted thus far focused on the improvement of critical thinking skills and writing skills. Studies indicated that online discussions are more linear and less conducive for brainstorming.

Meyer suggested that additional research was needed to determine if the Internet, separate from instructional design, affects student learning. Another area suggested for additional research is to determine for which students, what purposes, and which subjects technology has the greatest potential. Answers to these issues will allow educators to determine the true effects of the Internet on learning.

Stein and Glazer (2003) conducted a case study involving 36 doctoral students using interviews, focus groups, and online document analysis to examine the effects of mentoring with

online students. The range of students involved in the study was between the first year of their doctoral studies and their doctoral dissertation proposal stage. Goal attainment was related to one's ability to be self-regulated and goal oriented. However, faculty-student contact was identified as a variable affecting the persistence of students completing a doctoral program in either a face-to-face or an online environment.

Persistence was enhanced when the mentor developed a meaningful and personal relationship with the student. Through analytic induction techniques, the researcher found three themes leading to the successful mentoring of the students. The three themes were responsiveness, reassurance, and respect. Successful mentoring requires personal and frequent contact with the learner. The learner must feel supported by the mentor and the mentor must provide respect. Mentors need to understand the necessity for flexibility in the students' schedules while they are pursuing an advanced degree and still maintaining full-time employment. As would happen in a face-to-face setting, the mentor provided a sense of belonging or connectiveness as well as resource guidance. The researchers concluded that the mentor is the vital link to the students' persistence.

Factors Affecting the Implementation of Online Courses

Muilenburg and Berge (2001) conducted a web survey of 2,504 individuals to examine the factors affecting the implementation of online courses. Their review of literature indicated that previous studies had focused on targeted populations or small samples. The sample in this study was comprised of individuals who had attended training conferences and were included on technology organizations' membership lists. Of the 2,504 participants, only 159 were K-12 educators. Two rounds of survey beta testing were conducted before administering the actual survey.

By using a common factor analysis, 10 factors were identified that affected the implementation of online courses or created barriers to the implementation process. The 10 factors were administrative structure, organizational change, technical expertise, social interaction, faculty compensation and time, threat of technology, legal issues, evaluation and usefulness, access, and student support services. Included under the category of technical expertise, the researchers stated that many teachers do not possess the necessary skills to teach a distance-learning course.

Muilenburg and Berge (2001) suggested that additional research is needed to analyze the demographic variables of the data, dependent and independent variables, and the comparison of the newer data to the original data. Since the data are primarily from the faculty's perspective, additional research is needed to study the barriers from the students' point of view.

Clark (2000) conducted an analysis of the characteristics of statewide virtual high schools and two highly successful initiatives for the Center for the Application of Information Technologies. He examined the characteristics from the virtual high schools in Florida, Illinois, Kentucky, Michigan, New Mexico, Concord Virtual High School, and the Independent Study High School of the University of Nebraska.

Clark (2000) found that there were three key factors driving the interest in virtual high schools. These factors were: federal, state, and local initiatives; equitable access to courses; and the desire to have advanced placement courses while lacking certified instructors. The development of virtual high schools has required considerable resources, technology access, and staff time. Some funding for virtual high school initiatives resulted from federal legislation such as the Technology Literacy Challenge Grant, while others have relied on state allocations and course fees. One of the predominant issues that have driven the development of virtual schools

has been access and equity. Some school systems have experienced difficulty employing

certified teachers for particular course offerings, thus resulting in course offering inequities in a

geographic region. Virtual high schools offered a solution to the equity problem. Still other

virtual schools have developed due to a strong commitment to offering advanced placement

courses to high school students. Barriers to establishing virtual schools included teacher

accreditation and certification, technology, and the rising influx of courses by commercial

providers.

Clark's analyses of key characteristics of statewide virtual high schools were summarized

into nine categories. His summarized categories were technology, funding, curriculum, student

services, professional development, access and equity, assessment, policy and administration,

and marketing and public relations. Under technology are included the subcategories of selecting

the online courseware and developing or purchasing courses. Purchasing courses rather than

developing courses posed problems assuring a curriculum match with state and local curriculum

standards. Funding for sustainability was needed to fit each unique circumstance and school

system or state. States and private corporations expected local schools to provide computer and

Internet access, proctoring of students, and policies for recognizing credits. Leading virtual

schools were provided professional development to staff to assure success. In several states,

governors have supported virtual schools as a means to provide equitable educational

opportunities. Schools need continuous assessments to evaluate the online course curriculum,

students' success, and implementation policies and procedures. Clear agreements and contracts

need to be developed and refined as the online program evolves. Policies need to be defined

within each local agency for the payment of courses and the awarding of credits. Lastly, all

major models had sophisticated approaches for marketing their program and communicating with the stakeholders involved.

Clark (2000) found that state virtual high schools have taken a variety of approaches to provide professional development to their teachers. Professional development strategies ranged from extensive online training to extensive face-to-face training, all appearing to be effective. He recommended considering a mix of methods based upon the availability of resources within each school district and when possible, incentives should be provided for teacher participation.

Williams (2003) used the Delphi technique, small groups, multiple rounds of surveys, and group consensus, to examine the roles and competencies needed in the development of distance education programs in higher education. This was a descriptive study that used the measure of central tendency as the median due to the small sample size. Fifteen distance education experts were chosen to participate in the study and three research questions were addressed. What are the roles and competencies necessary? How do distance-learning experts rate the importance of the competencies? How do these roles differ from those identified in 1994?

In his review of literature, Williams (2003) found a variety of studies examining competencies that led to effective and ineffective distance education programs. Mirabito (1996) noted that the lack of personal resources led to an ineffective program. Thach (1994) noted the lack of documented research in this area. Rochwell and Cookson (1997) provided the initial steps in identifying the competencies needed.

The 30 competencies agreed upon can be broken into three main areas; communication and interaction, technology, and learning and instruction. Communication included collaboration and teamwork, writing and questioning, editing, and negotiating skills. Technology consisted of

basic technology skills, technology access knowledge, software skills, and multimedia knowledge. Learning and instruction included knowledge of the distance learning field, adult learning theory, feedback, presentation, and evaluation skills.

Williams (2003) identified thirteen roles that need to be utilized in order to establish a successful distance-learning program. They were administrative manager, instructor, instructional designer, trainer, leader/change agent, technology expert, graphic designer, media publisher/editor, technician, support staff, librarian, evaluation specialist, and site facilitator/proctor. Some of the roles can be combined and handled by one person.

Williams' (2003) research recognized the emergence of two new roles since previous studies were conducted. They were the roles of leader/change agent and trainer. The leader/change agent should possess managerial, planning, and marketing skills as well as posses general education theory. The trainer should possess technology training skill, teaching strategies, ability to use Internet tools for instruction, and advisement and counseling skills. The rate of change in technology and the knowledge of distance education require these roles and competencies to be re-examined every five years. Additional research is suggested in the areas of knowledge, skill mastery, and attitude required in different roles.

The National Association of State Boards of Education released its publication, "Any Time, Any Place, Any Path, Any Pace: Taking the Lead on e-Learning Policy in 2001" (National Association of State Boards of Education, 2001). Not only did this report speak to the benefits of online learning, it also addressed the barriers for implementing such a program. It called for a reengineering of public education to maximize the learning opportunities afforded by technology. The rapid changes in technology are outpacing the ability to update educational policies. Learning standards and assessments need to be revisited in light of the opportunities

afforded by the Internet. Schools need to provide equal access for all students including after school use and assistive technology for special needs students. Policies need to be developed to assure quality online instruction and the granting of course credit.

Issues to be considered for implementation are; course development, funding and administrative policies, enrollment policies, awarding of credit, quality assurance, and support. Within each of the areas, the report supplied a list of questions to be addressed by both the state and local school systems. For example: Are school administrators and guidance counselors provided training for guiding students' choices and selection of online courses?" How will school systems evaluate the teachers of online courses? Could students be provided a computer to use at home? Should specialized training be required for teachers of online courses? Educational systems have the responsibility for being the gatekeepers of quality, providing equity of access to learning opportunities, and protecting our children. Systems need to focus on learning, not on schools defined by bricks and mortar.

"The Power of the Internet for Learning: Moving from Promise to Practice", released in 2000 by the Web-Based Commission, issues a call for action to utilize the power of the Internet for learning (Web-Based Education Commission, 2000). This bipartisan congressional report called for a national mobilization to utilize the power of the Internet to enhance education not only for the K-12 market, but also for higher education and corporate training. The report identified barriers to fully utilizing the potential of the Internet for learning.

These barriers included the affordability of access, providing training for educators and administrators, building new research on how people learn through the Internet, developing high quality online educational content, revising outdated regulations that impede innovation, protecting the online learner, and sustaining funding. The report called upon legislators,

educators, and parents to work together to address the issues in order to provide high quality continuous learning opportunities for all. Specific concerns for the K-12 schools are credit policies, financing policies, quality assurance issues, attendance policies, teacher-certification policies, teacher-student ratio requirements, staff compensation requirements, and accounting procedures.

Thomas (1999) has written several publications for the Southern Regional Educational Board (SREB) addressing issues of web-based courses. In Thomas's publication, "Electronic Delivery of High School Courses: Status, Trends and Issues", he noted that online courses are more prevalent in higher education than in high school, but interest at the high school level is increasing. Schools are seeking online instruction to provide academic courses they are unable to offer due to the lack of a certified teacher or sufficient enrollment, as an alternative to traditional education, and/or as a means of educating students with physical disabilities or long-term illnesses. Thomas stated that the issues surrounding implementing such classes are; courses are costly and time consuming to develop, technology and software are constantly changing, online courses require more independent work than students have experienced, and a full-range of courses are unavailable. He contends that policies, regulations, legal, financial, and school level management issues need to be addressed. Management issues included technical support for teachers and students, training and selection of teachers for developing and teaching online courses, and administrative policies and regulation to offer and administer online courses.

In another publication, "Funding Web-based Courses for K-12 Students to Meet State Educational Goals", Thomas (2002b) stated that over 50,000 middle and high school students were enrolled in online classes during the 2001-2002 school year. He noted the students have grown up using technology, cell phones and video games thus making them more suited for

online learning. Schools must examine which courses they could offer to support state goals and for which clients. Courses may be offered as a means of alternative education or for students at risk of not completing high school. Other courses may be offered to provide instruction to students who may only need one additional course for graduation or those unable to attend school for behavior or health reasons. He contends that schools must decide under which circumstances online courses are appropriate?

Funding, equity, and course quality are stated as issues to address during the implementation of online courses. Current funding by average daily attendance or full-time equivalency do not provide incentive for school systems to opt for online courses. He suggested that states and schools redefine textbooks to include electronically delivered material, link them to the gifted and talented budget, or utilize funds allocated for supplemental education. All students should have access to quality instruction and the opportunity to improve their academic performance. Providing equitable access and the funding of online courses can be an issue.

In another publication by Thomas (2002a), "Considerations for Planning a State Virtual School: Providing Web-based courses for K-12 students", he developed a checklist of issues that need to be addressed when establishing virtual schools or using online courses. Issues that affect implementation included; state policies, develop or leasing of courses, funding, identification of needed courses, course quality, evaluation, and access.

These issues are addressed in an SREB publication, "Essential Elements for Web-based Courses for High School" (Southern Regional Education Board, 2003). Four primary categories are listed: basic assumptions, curriculum, management, and evaluation and assessment. Noted in this publication is the need to provide both students and parents with information about the courses prior to the students' participation. The careful design of an online system is required

prior to offering courses. Courses should also be field tested and revised to assure they meet curriculum standards. Evaluation and assessment components need to be in place. Management and policy issues should be resolved and staff development and training should be provided to instructors and mentors. These factors were also included in, "Essential Principles of Quality: Guidelines for Web-based Courses for Middle and High School Students" (Southern Regional Education Board, 2001).

In the most recent publication, "Essential Principles of High-Quality Online Teaching: Guidelines for Evaluating K-12 Online Teachers" (Southern Regional Education Board, 2003), SREB looked at the qualities of an effective online instructor. Teachers, both in the online or the traditional environment, need to know their subject, recognize the pedagogies of instruction, know their students, remain current with the subject matter, and be able to manage and monitor students. This publication examines the unique features inherent in online teaching. Teachers rarely, if ever, see their students necessitating communicating through writing. Therefore, online instructors need to write and communicate well through the written word. Nuances of the written words replace the cues received from verbal tones in a face-to-face setting. Online teachers provide content through the computer rather than face-to-face, develop strategies and activities to promote student interaction to assure student participation, and develop excellent time management skills. Frequent and timely interaction with students has been linked to student success. As in traditional classes, student success depends on the quality of the instructor and the teaching methods used.

<div align="center">Summary of Online Literature</div>

The literature discusses factors affecting student success in online courses as well as factors affecting the implementation of online courses. These factors include criteria that could

be used to develop a staff development program of teachers of online courses. Throughout the literature reference is made to the quality of online courses, quality of online teachers, and pedagogies and instructional design as possible factors for students' success in online courses. Studies by Meyer (2003), Stein and Glazer (2003) have identified faculty-student contact as a variable for student success. Stein and Glazer identified three teacher characteristics contributing to student success; responsiveness, reassurance, and respect. Muilenburg and Berge (2001) identified technical expertise and social interaction as barriers affecting implementation. Clark (2000) emphasized the need for the continuous evaluation of online courses. Williams (2003) discussed the teachers' need for knowledge of distance learning, feedback, and presentation skills. The National Association of State Boards of Education (2001) declared that one of the issues that must be addressed in the implementation of online courses is staff development needed to prepare staff to teach online courses.

> Issues of teacher preparation, licensure, deployment, professional development, evaluation, and ongoing support – issues much broader than what is typically addressed in state and district education technology plans – should be considered the most important focus for assuring equity in e-learning opportunity. (p. 28)

The Southern Regional Education Board provided the most detailed list of evaluation criteria for online teachers and indicated that student success depends on the quality of the teacher and the teaching methods utilized. Possibly this list could become the elements required in an effective staff development program for online teachers. SREB contends that, only teachers trained to deliver Web-based courses should be used as instructors (Southern Regional Education Board, 2001).

Pedagogy of Online Instruction

The use of the Internet as the medium for instruction can still be considered to be in its infancy stage and a work in progress (Hase & Ellis, 2001; Ko & Rossen, 2001). Knowlton (2000) described current methodologies for online instruction as new and untested. Just as the concept of teaching is changing, so will the pedagogy of online instruction continue to change and evolve. This development in instructional practices is occurring as a result of the changes in society and the changes in technology (Mallinen, 2001). Changes in online instruction will also emerge as the Internet pipeline expands, thus allowing for more efficient use of streaming video and audio as well as the development of new delivery software (Ko & Rossen, 2001).

The origins of online instruction do not reside with educational theorists but rather the technologists (Good, 2001; Jackson & Anagnostopoulou, 2001). Since many teachers are not comfortable with technology, they have left the development of online courses to technologists that lack familiarity with the research on learning (Jackson & Anagnostopoulou, 2001). Stephenson (2001) provided another reason for not applying learning theory to online instruction. He concluded that the hardware and software utilized in online instruction are outside the control of educators, thus allowing commercial companies to dominate course design. Good (2001) sees the process changing and the emergence of "e-learning pedagogue." Palloff and Pratt (2001) described the evolving art of online teaching as "electronic pedagogy."

Since the process of using the Internet for instruction is so new, opinions varied on the pedagogy of online instruction. The most common form of online instruction involved the posting of lectures online and was highly teacher directed (Alexander & Boud, 2001; Palloff & Pratt, 2001; Whitlock, 2001). Hase and Ellis (2001) saw similar problems between face-to-face instruction and online instruction. Instruction in both areas is dominated by teacher-centered

approaches. Some teachers reject the idea of student-centered instruction in favor of the teacher-centered approach that takes less time and requires fewer resources (Knowlton, 2000). Pratt (2001) stated that online instruction "requires that we move beyond traditional models of pedagogy into new practices that are more facilitative" (p. 20). Hase and Ellis (2001) described the new practices as a shift toward learner-centered instructional approaches. Ko and Rossen (2001) recognized a need for a balance between student-centered and teacher-directed approaches for online instruction. Morrison and Guenther (2000) stated that teachers should avoid the role of a lecturer and shift to that of a facilitator. Yet another author believed it is a mistake to presume that what worked well in one medium of instruction will also work well in another medium and be easily transferred (Shaw, 2001).

Canada (2000) concluded that online courses and traditional courses have similarities. Teachers will guide students through a body of knowledge and skills and assess the students' learning. The primary difference is the medium through which the instruction occurs. Ko and Rossen (2001) stated the following:

> The same instructional strategy you've learned for a live classroom – setting course goals, describing specific objectives, defining required tasks, creating relevant assignments – applies online. Similarly, if you're converting an already-existing course into an online version, your basic approach need not change. (p. 12)

Knowlton (2000) supported the necessity of creating clear goals, objectives, and learning outcomes in online courses.

However, the tendency in the literature is to support the role of an online teacher as a facilitator. Bauer and Anderson (2001), Knowlton (2000), Mason (2001), Morrison and Guenther (2000), and Palloff and Pratt (2001) supported this tendency.

Another dominant theme for pedagogy of successful online instruction is the need to develop a community of learners through a high degree of individual interaction. Instructors can facilitate such interaction through required online discussions and small group work (Morrison & Guenther, 2000), data collection projects, research projects, and collaborative problem solving (Hacker & Neiderhauser, 2000). Requiring a high degree of interaction would result in the production of knowledge by students rather than simply the regurgitation of facts (Schlais & Davis, 2001). Weiss (2000) recommended that online instructors model appropriate interaction for their students. Bauer and Anderson (2000) maintained that instructors should develop rubrics for evaluating such interaction and familiarize online students with the terms of the evaluation rubrics. They suggested using three rubrics, one for each major aspect of writing; content, expression, and participation. Palloff and Pratt (2001) and Simonson (2000) also indicated the need for developing participation guidelines for students to be successful in an online course.

Still yet another strategy for successful online classes was prompt feedback (Palloff & Pratt, 2001). The instructor can provide such feedback or the instructor can encourage peer feedback. Too much feedback from an instructor may become a crutch, thus inhibiting the development of knowledge by the students (Hacker & Neiderhauser, 2000). Interaction without feedback, however, will result in an "empty experience" (Alexander & Boud, 2001).

Several authors identified key features or elements for successful online courses. Pollock and Squire (2001) offered 5 key features; tutorial support, guidance, conversation, discussion, and immediate feedback. Coomey and Stephenson (2001) offered 4 features; dialogue, involvement, support, and control. Bonk, Kirkley, Hara, Dennen, (2001) defined the instructor's roles; pedagogical, social, managerial, and technological. The components under the pedagogical role included; facilitating, creating learning activities, providing feedback, fostering debate,

interaction, and reflection. The social role included creating the tone for the course by developing a friendly and nurturing community of learners. The managerial role consisted of selecting appropriate materials, managing online discussions, organizing the pace of the course, and establishing due dates. The final role as a technologist involved assisting the user with technology problems and basic technology skills. To aid students in the use of the course software, Ko and Rossen (2001) as well as Palloff and Pratt (2001) saw the necessity of an orientation program to familiarize students with the equipment and software components.

Summary of Pedagogy of Online Instruction

The literature described varying opinions for the art of online instruction. Being relatively new, the pedagogy for online instruction will continue to evolve and change. Research on instruction and learning in traditional classrooms continues to shed light on strategies for instruction, which will also be the case for the teaching of online classes. Dominant themes of the teacher as a facilitator, a high degree of student interaction, and immediate feedback have been identified as key to the success of an online course. Similarities do exist between a traditional class and online classes. Online classes still have a need for clear objectives and goals, a nurturing climate, course structure and design, and classroom management. The primary difference is the medium in which the instruction occurs.

Staff Development

Over time staff development for teachers has emerged from fragmented, one shot, large group awareness sessions, delivered to passive recipients into the primary driving force in school reform enabling students to achieve at high levels (Sparks & Hirsh, 1997). The old model of staff development, often referred to as professional development, was focused on fixing what is wrong through generic instruction to large groups, resulting in limited if any long-term transfer

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into instructional practice. Often the training provided lacked the support of research to prove its value, was determined by the school principal, and lacked continued support for implementation and evaluation (Burke, 2000; Sparks & Hirsh, 1997).

McLaughlin (1989), through his evaluation of a Rand Corporation report, provided valuable information on staff development and school reform dating back to 1965. The Rand Corporation conducted studies on various federal programs intended to introduce and support innovative practices in public schools from 1973 to 1978. The federal programs studied were Title III of the 1965 Elementary and Secondary Act (ESEA) supporting local innovative projects, Title VII of ESEA supporting bilingual efforts, 1968 Vocational Education Act supporting programs to develop new approaches to career education, and the Right-to-Read program to eliminate illiteracy. Each of the programs was a result of federal policies intended to stimulate change and improve schools. The Rand report found that the federal government policies played a major role in promoting the implementation of programs, however even successful implementation of these programs did not ensure continuation of the programs. The premise behind the federal program was that more money and better ideas would improve school practice. The Rand report examined the local factors on the implementation of the projects. School districts utilized local discretion and adapted different strategies for implementation.

Implementation strategies that relied on outside consultants, pre-packaged programs, one-shot training, pay for training, formal and summative assessments were seen as ineffective. Their ineffectiveness resulted from the incompatibilities with the districts' priorities and the needs and interests of teachers involved in the projects. "In general, these strategies were not effective because they failed to provide on-going and sometimes unpredictable support teachers needed, excluded teachers from project development and (intentionally or not) signaled a mechanistic

role for teachers." (McLaughlin, 1989, p. 7). Additionally, the study found that resources alone did not ensure successful implementation or continuation of the projects. Effective strategies included concrete and ongoing training, classroom support, the ability of teachers to observe similar projects, regular project meetings providing timely feedback, locally developed materials, administrative participation in the training, and broad-based project commitment.

McLaughlin (1989) contends, ten years later, that it is difficult for policy to change educational practice. The Rand study shows that the change in education is highly dependent on local factors beyond the control of our federal policy makers. Each local district varies even though they may share some common feature. An English class in a wealthy suburban classroom will be uniquely different from an urban, lower socioeconomic school's English classroom. Therefore in considering change and reform in education, reform will be uniquely different based upon the district's resources, tradition, and clientele. McLaughlin pointed out that the Rand study was the first to do a backward mapping looking at the changes or outcomes resulting from higher-level policies or reform efforts.

Pre-1970 reforms fell short because they ignored both the process and local factors. From the report, McLaughlin (1989) observed additional problems when attempting to implement change in education. She recognizes the impact of multiple efforts and demands affecting teachers in their day-to-day responsibilities, the need to focus and limit our improvement efforts and the need for systemic and ongoing reform. Reform strategies need "the intersection of teacher, students, and subject matter" (p. 20). Teachers, being at the heart of the instructional process and responsible for implementing new practices, need the opportunity for collegial relations, involvement in decision-making, open communication and regular feedback, supportive leadership and multiple opportunities for professional development.

Since the initial Rand study, staff development as a tool for school reform has received additional attention. In a research study by Desimone, Porter, Birman, Garet, and Suk Yoon (2002), involving a national stratified random sampling of 363 school districts receiving funding from the Eisenhower Professional Development Program as funded through Title II of the Elementary and Secondary Act, researched the policies and the processes that produce high quality professional development opportunities for teachers. In their review of literature they found previous research uncovering the qualities of highly effective professional development but only a few linked high quality staff development with student achievement and teacher instruction.

Desimone, Porter, Birman, Garet, and Suk Yoon (2002) identified three characteristics of best practices in the design and structure of professional development. These characteristics were; activity type, time devoted to the activity, and the collective participation of groups of teachers. Activity types included study groups, teacher networks, mentoring committees, internships, and individual research projects. Time for staff development included the length of the individual training activity, total hours of involvement and the entire length of the program. Collective participation included groups of teachers from the same school, department, and grade level. In addition, they identified three characteristics at the core of effective staff development. They were content focus, opportunities for active learning, and a cohesive staff development program. Each contributed to the success of the professional development to improve teachers' skills and changes in instructional practices.

Interviews were conducted during the period of July 1997 through December 1998 with the districts' professional development coordinators (Desimone, Porter, Birman, Garet, and Suk Yoon, 2002). Data, gathered through telephone interviews, were based solely on the response of

one individual from each district. The interview questions focused on the districts' professional development's alignment with standards, coordination, continuous improvement efforts, levels of planning, teacher involvement, and teacher evaluations of their professional development. The research results indicated that most districts have standards aligned to assessments for professional development but larger districts were more likely to be aligned than smaller districts. Districts offering professional development aligned to standards and assessments are more likely to offer a variety of activities, provide for active learning activities, and more continuous improvement efforts. Most districts co-funded activities with the exception of medium-poverty districts that contributed less than low-poverty districts. Districts' co-funding activities were apt to offer more reform type of activities, actively involving teachers in planning, and targeting the teachers of special needs students. The majority of districts evaluated professional development through the use of teacher satisfaction surveys rather than the use of student data. Part of this can be attributed to the fact that only 33% of the districts supplied schools with data reports.

Continuous improvement varied proportionally to the size and wealth of the districts with larger affluent districts offering more opportunities while smaller or low poverty districts offered fewer opportunities (Desimone, Porter, Birman, Garet, and Suk Yoon, 2002). Continuous improvement efforts existed where there was increased opportunity for active learning and were designed for teachers of special student populations needing additional assistance. The researchers concluded that continuous improvement efforts could be strengthened if the evaluation of professional development focused on student and teacher outcomes rather than teachers' perceptions and feelings. Sixty-five percent of the districts reported that teachers were directly involved in the planning. Teacher involvement in the planning of professional

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development helps assure that the programs address relevant areas of knowledge, skills, and classroom practice for teachers. Higher poverty districts had more teachers involved in professional development than those with lower poverty. Large districts and districts with a large proportion of high poverty students tend to manage professional development more efficiently and provided a higher quality of professional development.

Little (1993) argued that staff development for only expanding the repertoire of teachers' instructional skills is not enough for successful school reform due to the complexity of teaching and its relationship to the entire school organization. Little purported that the most promising model for staff development "engages teachers in the pursuit of genuine questions, problems, and curiosities, over time, in ways that leave a mark on perspective, policy, and practice" (p. 133). She proposed six principles for staff development. These principles included offering meaningful intellectual engagement with colleagues of the same subject matter, taking into consideration the "contexts of teaching and the experiences of teachers" (p. 138), allowing for well informed dissent that can strengthen group and individual decisions, grounding staff development in a larger perspective allowing teachers to see the connection between classroom practices and the institutional structure and culture, allowing for inquiry to expand our current limited knowledge base, and creating a balance between the individual interest of teachers and the institution in which they function.

The complexity of teaching, lack of proven staff development models, inconsistent policies, and the lack of opportunities for teachers to learn hinders the possibility of designing successful staff development programs. Short-term workshops stemming from the district level oriented toward changing observable teacher behavior dominates teacher staff development programs. Little (1993) suggested that alternatives to the current staff development models are

teacher networks, study groups, and curriculum experiments that would be intellectually motivating and thus have a greater impact on school reform.

Guskey (1995) wrote that it is impossible to improve schools without improving the skills and abilities of the teachers. He contended that teaching is a complex task and each setting in which learning occurs is unique. An instructional strategy that produced school improvement in one situation may not be effective or as effective in another situation. This complexity of education makes it difficult and maybe impossible to develop the optimal staff development program. Therefore we can only develop guidelines for effective staff development rather than producing an absolute program.

Guskey (1995) suggested that each staff development program must consider the needs of the teachers and the impact expected as a result of the staff development. Each program must take into consideration the context, the individual setting, in which the staff development is to occur. Successful staff development and school reform hinges on the teacher. Any amount of change brought about through staff development will create anxiety when teachers are trying something new and if the organization in which change is occurring is not altered, the new strategies may be squashed. Thus it is important to change both the teachers and the organization in school reform movements.

Successful staff development requires a joint effort of teachers and administrators in planning, implementation, and follow-up. Staff development should promote collegial interaction and provide ongoing opportunities for professionals "to share perspectives and seek solutions to common problems" (Guskey, 1995, p. 121).

Feedback, in a variety of forms, is critical to the success of a staff development program (Guskey, 1995). As teachers have diagnosed problems, searched for and implemented solutions,

they must be able to see the impact on the learning process if they are to continue using the new skills and strategies. This makes staff development an ongoing process, not a one-time event, in which educators continually seek solutions to problems and determine their impact.

Sparks and Hirsh (1997) emphasized that staff development plays a critical role in transforming schools if students are going to achieve at high levels. Staff development must alter the attitudes, practices, and extend the knowledge of teachers as well as altering the culture and structure of the educational institution. The net result is the acquisition of new skills and knowledge by teachers and organizational change occurring simultaneously with each supporting one another. Without the simultaneous change, gains in one area may by be offset or eliminated in another area.

Resistance to change through staff development comes as a result of fragmented staff development programs accompanied by an overload in the teachers' routine duties. Staff development plans need to be clear and coherent relating to a common set of district goals which have become school focused and should involve all individuals within the school who affect student learning. Sparks and Hirsh (1997) proposed multiple forms of job-embedded staff development that encompasses action research, study groups, peer observations, and journal writing centered around a clear and coherent plan based upon student needs and learning outcomes. Staff development should engage teachers by identifying problems, examining data, analyzing research, collaboration, reflection, and taking action. This process is cyclic in which teachers constantly reexamine the problems, data, research, and action seeking improvement in student performance.

DuFour (1999) emphasized the need for developing ongoing staff development programs in which teachers are encouraged to discuss questions, concerns, ideas, and applications in

relationship to the district's goals and vision. This is best accomplished through small collaborative support groups of eight or fewer teachers, which allow teachers to be reflective and self-directed. These programs require strong administrative support, clear goals, time, and support. In addition, these programs take into consideration the needs and readiness levels of individual teachers. New practices developed as a result of these collaborative efforts only become part of a teacher's permanent repertoire of skills through extended use. Teachers will then feel comfortable in adapting these instructional strategies to the needs of their students.

In 2001 the National Staff Development Council (NSDC) revised its original standards of 1995 (National Staff Development Council, 2004). Guiding the new principles for staff development was first identifying what students are expected to know and do and what teachers must know to ensure the success of students. The NSDC developed three standards, context, process, and content. Guskey and Sparks described these same standards in 1996 (Ganser, 2000). Each begins with the preface that, "Staff development improves the learning of all students" (National Staff Development Council, 2004, p. 1). Context standards call for the development of learning communities, aligning the learning community's goals with that of the school and district, providing leadership for continuous instructional improvement, and providing resources to support teacher learning and collaboration. Process standards require that staff development is driven by the needs found by examining a variety of student data, examining the research-based practices that would improve weaknesses. Using this information, the district or school would design staff development programs to improve student learning and provide opportunities for teacher collaboration for the purposes of learning and applying new knowledge and practices. Content standards requires teachers to receive training, applicable to their specific content, that extends their knowledge base of the content, instructional practices, and assessments. The NSDC

standards called for these specific strategies and assessments, which will be incorporated into the training, be research-based thus improving the quality of teaching (National Staff Development Council, 2004). Included in the content standards is the provision for providing teachers with the skills and knowledge of holding high expectations for all students, creating a supportive learning environment, and providing for family involvement.

Even after the advent of the new NSDC standards for staff development, Guskey (2003a) found inconsistencies and contradictions when he examined thirteen lists of the characteristics of effective staff development. The lists were derived from staff development programs of the American Federation of Teachers, Association for Supervision and Curriculum Development, Education Development Center, Educational Research Service, Educational Testing Service (ETS), Eisenhower Professional Development Program, National Governors' Association, National Institute for Science Education (NISE), National Partnership for Excellence and Accountability in Teaching, National Staff Development Council, and the Unites States Department of Education. The development of the lists was the result of the opinions of educators and researchers and only the National Institute for Science Education and the Educational Testing Service showed a direct connection between their identified characteristics and specific measures of student achievement. The most frequently sited characteristics were the enhancement of teachers' content knowledge and methods by which students learn. Most lists indicated that having sufficient time was essential but NISE and ETS showed that the amount of time spent on professional development was unrelated to improving student outcomes. Guskey (2003a) suggests that even though professional development requires time, it "must be well organized, carefully structured, and purposefully directed." (p. 749). Other frequently mentioned characteristics were collegiality and collaboration. However research shows that when teachers

collaborate they can just as easily collaborate to block or inhibit change. Therefore collaboration needs to be purposefully directed, structured, and well organized. Less than half the lists mentioned the analyses of student data as an important characteristic. Guskey (2003a) concluded that there is little agreement on the criteria for effective staff development and research-based professional development remains unfulfilled. Currently research efforts are only informative but do provide a starting point for research. He contends that the ultimate goal of professional development is to improve student-learning outcomes and that educators need to utilize a variety of indicators to assess student achievement. These indicators included standardized assessments, student portfolios, grades, students' attitudes, attendance, participation in school activities, and dropout statistics.

"Teachers plan in terms of what they are going to do instead of what they want their students to learn and achieve – and staff developers do the same" (Guskey, 2003b, p. 28). No Child Left Behind (NCLB) has created a paradigm shift. Staff developers first need to determine the student learning goals the district or school wants to obtain and plan backwards. In addition, they must determine what evidence will be used to measure the success of the professional development. Contrary to the use of high-stakes testing utilized by states and districts, Guskey indicated that to develop a complete picture schools and districts need to consider a range of measures. Different assessments paint different pictures (Guskey, 2003b).

NCLB legislation requires school districts to utilize scientific research based programs and emphasizes school accountability in terms of student performance. Guskey (2003b) indicated that staff developers will be hard pressed to find programs that have been grounded in theory, published in peer-review journals, have been evaluated by third parties, are sustainable, can be replicated in schools with diverse settings, and are able to demonstrate evidence of effectiveness.

He warns staff developers to be cautious of committing to programs without examining supportive evidence and aligning their programs to the teachers' needs and school priorities. Staff developers know that what may have worked in one district may not work in their district. The lack of administrative support, lack of resources, lack of time or technology are only a few of the barriers that may render the replication of a staff development program unsuccessful. Some unique aspects of a district may actually present barriers to success. The needed skills and knowledge of your teachers may differ greatly from the research model. "What works always depends on where, when, and with whom" (Guskey, 2003b, p.30).

In the area of providing general technology staff development, Crystal (2001) looked at the characteristics of what he considered two successful staff development models. The first is a middle school implementing a program in which laptop computers will be used throughout the school and in all content areas. Crystal concluded that the success of the staff development can be attributed to the four stages used in the staff development program; teacher buy-in, assessment of technology skills, training to teachers grouped by ability, and collaborative follow-up and support. The second model is a school district of 900 teachers that installed a district-wide network, state-of-the-art computers, and software. This district started with an assessment of the teachers' technology skills, built a staff development team, provided training at multiple sites and various times, and developed a district philosophy for integrating technology in all content areas.

Killion (2002) emphasized that staff development available through electronic means must produce the same intended results as face-to-face staff development and adhere to the new standards developed by the National Staff Development Council. The end result of staff development is to improve student achievement. This new form of electronic staff development

must support high quality learning for teachers, meet rigorous standards, be part of a comprehensive staff development plan, and be sustained and supported by ongoing learning communities. The use of electronic staff development requires "careful planning, supportive leadership, and data-driven decision making" (p. 16).

Staff members from The Journal of Staff Development met with officials in three districts; Florida, Nevada, and Wisconsin, to examine the characteristics of district technology training (Killion, 2002). Each district's staff development program for technology had three common characteristics. Each delivered training in a variety of ways to meet the various learning styles and needs of their teachers. Each used teachers within the district as trainers, thus creating a permanent infrastructure for ongoing support. Each provided concrete and exemplary ways to use technology within the teachers' specific content areas.

Bodensteiner and Pingree (2002), Southeast Kansas Education Service Center-Greenbush, provided the most extensive list of components to be included in a staff development program for online teachers. They first indicated that the key to success was the identification of teachers committed to the delivery of instruction through an alternate form rather than the traditional face-to-face setting. After identifying teachers, the key components for a staff development program included; course platform and navigation, course content, assessment strategies, additional online resources, student support, grading procedures, parent communication, and collaboration with district staff. In addition they suggested providing opportunities, prior to actually teaching a course with students, for teachers to try out course features and encouraged collaboration and sharing with other online teachers. Pape and Adams (2002), Virtual High School, Maynard, Massachusetts, conceded that not every teacher could be transformed into an online teacher. Online teachers must be risk takers, willing to pay attention

to detail, and possess a desire to succeed in an alternate form of teaching. As with a traditional teacher, online teachers must still have knowledge of content, ability to plan, and must provide timely feedback to students. Teachers of online courses must receive training in pedagogy, design, and delivery of online courses. The training must be delivered in an online situation where teachers learn by doing. The Virtual High School requires its teachers to complete and pass a 26-week online course before being allowed to teach an online class. Teachers learn to create, modify and deliver online courses. Some other online providers provide and require only minimal training for their teachers.

Ward (2002), National School Board Association, examined the staff development programs for a variety of institutions offering online courses. Wichita eSchool, Kansas, begins its training of online teachers with a two-week course on course delivery software training and creating online lessons. Teachers, of the same grade and subject, work in teams to plan the structure and content of the courses. Instructional videos are provided for ongoing support in the use of the delivery software. Georgia's eHigh School provides online teacher training on the delivery software, designing and sequencing instruction, promoting interactivity, facilitating online instruction, instructional planning, resources, and the research and theory of online instruction. A team of technology staff members updates teachers on new technologies and strategies in online instruction. Oakland Virtual Connections, Michigan, provided a staff development course, one-on-one mentoring, and formal training on the delivery software. In addition each prospective online teacher was required to participate as an online student. Partners to Access Virtual Education, Pennsylvania, provided mini-courses for its online teachers in a variety of forms. They utilized both face-to-face and computer delivered instruction to assist teachers in designing and developing online courses. Teachers learned to use the online

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communication tools, search engines to access Internet resources, components of online courses, rationales for online learning, strategies to facilitate online learning, and assessment strategies. Plano ISD eSchool, Texas, provided initial training and ongoing training in the use of the delivery software, establishing and maintaining online relationships with students, and motivating and monitoring students. SK Online, Oregon, provided training on the best practices in online teaching, course content, communication skills, and tools for teaching online courses. In addition each new teacher is assigned a mentor. Colorado Online School Consortium requires teachers to complete online coursework from Connected University in addition to individual training provided by staff.

Aronson and Timms (2004) stated that instructional practices used in a face-to-face setting are not necessarily as effective in an online environment. Therefore teachers need to become familiar with the instructional media available and must learn to use them effectively. Online instructors should be well versed in both synchronous and asynchronous modes of communication. Some school systems require special certification for teachers of online instruction. Staff development models may include mentoring arrangements or co-teaching with an experienced teacher prior to teaching by oneself. Another option for staff development is a collaborative model that brings online teachers together for face-to-face and online training. They reported that the Virtual High School uses the model-the-model strategy requiring teachers to take a training course online. Their experience has found that the actual completion of an online course provides first hand knowledge and builds online teaching skills. Florida Virtual High School requires instructors to participate in in-depth training and allows them to design an online course only after having online teaching experience.

Summary of Staff Development

Staff development is in the process of changing from fragmented, one shot, large group awareness sessions into cohesive collaborative programs designed to increase student achievement. The National Staff Development Council adoption of new standards in 2001 and the passing of the No Child Left Behind Act are forcing educators to rethink their staff development programs. Staff development can no longer be generic in nature but rather must be seen as the major instrument in school reform. The focus of staff development has shifted to increasing the achievement of all students though the improvement of the skills and abilities of teachers.

The NSDC standards for staff development revolve around context, process, and content. Context calls for the development of learning communities supported by administrative leadership and resources. Process involves identifying a problem based upon multiple sources of data, analyzing the research in the problem area or areas, designing a cohesive ongoing program to provide teachers with instructional strategies to address these areas, and assessing the impact of the staff development on student achievement. Included in the process component is the shift from top down management to a collaborative model in which both teachers and administrators collectively work together. Content addresses quality, equity, and family involvement. The new standards call for focusing on staff development, supported by research, that provides teachers with new instructional strategies by specific content areas. In addition teachers are to be prepared to understand and appreciate all students, develop high expectations for student achievement, and obtain knowledge and skills to involve all stakeholders in the education of children.

The complexity of teaching and the lack of proven staff development models were noted as problems in designing of successful staff development programs. Authors still contend that

staff development is the key to transforming schools if students are going to achieve at high levels.

Staff development programs for technology training should be carefully planned and based upon the intended result of the training, taking into consideration the needs and learning styles of the learners. Online teachers should possess excellent teaching skills and knowledge of their content areas prior to being considered as an online teacher. They should have had experience as an online student and be able to utilize the delivery software. Online teachers should be able to use instructional and assessment strategies to facilitate course delivery. They should be able to establish and maintain relationships with students and be able to motivate and monitor students online. After providing the initial staff development for online teachers, an infrastructure must be in place to provide ongoing support.

CHAPTER 3: METHODOLOGY

The purpose of this study was to identify, through consensus building, the necessary components of a staff development program to prepare teachers to teach secondary online classes. Recommendations and suggestions were collected for differentiating staff development to meet the individual needs of teachers. Using a three round Delphi technique, panelists, representing successful secondary public and corporate online schools, developed a common consensus on the criteria. The panelists responded to two open ended questions. What are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? How can such a staff development program be structured to assess and address the individual needs of teachers? The panelists identified the components of a staff development program needed for the preparation of teachers and the structures within the staff development program that allow for meeting the individual needs of teachers. The panelists then rated the results of each question as to their degree of importance. Working through the rounds and providing statistical feedback, consensus was obtained on the two research questions. Each panelist was provided the mean, standard deviation, and a percentage for each criterion. The components agreed upon by 80% of the panelists as either very important or extremely important, were used to develop the outline of a staff development program that can be utilized by local school districts in the training of staff to teach secondary online classes and for compiling the methods for varying staff development to meet the individual needs of teachers.

The Delphi Technique

"Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a

complex problem"(Linstone & Turoff, 1975, p. 3). The Delphi technique, developed by Olaf

Helmer and Norman Dalkey of the Rand Corporation, gained notable attention in the 1950's to

determine likely Soviet industrial targets within the United States and the atomic bombs

necessary to eliminate these targets (Lanford, 1996; Linstone & Turoff, 1975; Ziglio, 1996). The

Delphi technique is used to obtain individual opinions from a group of experts and systematically

obtain consensus (Isaac & Michael, 1981; Lanford, 1969; Ziglio, 1996). The Delphi has been

used to develop consensus to forecast future trends and make projections ensuring that all

possible options are considered, for estimating technical or economic impact, examining

consequences of options, or the desirability of options (Linstone & Turoff, 1975; Ziglio, 1996).

The Delphi has been used in technology forecasting and developing major policies (Linstone &

Turoff, 1975; Turoff, 1975). Other areas of use of the Delphi technique included social work,

health care, new curriculum design, and political policy development (Turoff, 1975; Ziglio,

1996).

The Delphi technique is an alternative to collecting opinions in a face-to-face setting and

allows for involvement of geographically dispersed experts (Ziglio, 1996). Therefore, the

technique allows a researcher to draw from a wide base of knowledge and experience without

incurring the cost and time limitations to gather a diverse panel of experts, thus avoiding the

limitations of relying solely on localized experts (Linstone & Turoff, 1975; Rotondi &

Gustafson, 1996; Ziglio, 1996). The Delphi process allows for the collection of expert opinions

on topics that may not be otherwise available. Contrary to face-to-face meetings, the Delphi

avoids the barriers encountered in face-to-face settings where one individual may dominate the

conversation, persons are unwilling to take a position before knowing all the facts for fear of

appearing idiotic or contradicting superiors, or the bias of the committee creates a bandwagon

effect (Isaac & Michael, 1981; Lanford, 1969; Martino, 1972; Scheibe, Skutsch, & Schofer, 1975; Turoff, 1975). By avoiding such barriers, the technique allows for focusing directly on the topic in question, bringing forth all possible options for consideration, and providing a framework and equal opportunity for each panelist to consider the impact and importance of the items (Linstone & Turoff, 1975; Ziglio, 1996).

Linstone and Turoff (1975) described the process as being useful for examining problems that have "no history of adequate communication" (p. 3) or "do not lend itself to precise analytical techniques but can benefit from subjective judgements on a collective basis" (p. 3). Scheele (1975) indicated, "A Delphi should not be undertaken to validate concepts which you already developed and refined" (p. 59).

Three features distinguishing a Delphi from other techniques are anonymity, controlled feedback, and statistical group response (Martino, 1972; Rotondi & Gustafson, 1996; Turoff & Hiltz, 1996; Ziglio, 1996). These are accomplished by the collection of opinions or responses through mail or email in which the panelists may not know each other (Ziglio, 1996).

The Delphi technique can be characterized by two phases, exploration and evaluation (Linstone & Turoff, 1975; Zigilio, 1996). In the exploration phase, panelists identify and contribute information pertinent to the issue being explored. In the second phase, the information is assessed, and consensus or disagreement may result (Linstone & Turoff, 1975; Zigilio, 1996). Issac and Michael (1981) described the typical sequence in six steps:

1. Identify group members.

2. Questionnaire One. Have members contribute pertinent information to the issue.

3. Questionnaire Two. Members rank or rate the contributed items as to their degree of importance.

4. Questionnaire Three. The results from Questionnaire Two, showing the level of consensus for each item and repeating the individual's earlier ranking or rating, are presented to the members. Members are allowed to rank or rate the items a second time or provide a brief explanation for their differing opinions.

5. Questionnaire Four. The results from Questionnaire Three are presented showing the new level of consensus, the individual's latest ranking or rating, and a listing of major reasons for dissent for each item. Members are allowed to rank or rate each item for the third time in light of the reasons for dissent.

6. The results are tabulated and presented as a statement of group consensus.

Turoff (1975) stated,

> However, in practice most Delphi on policy try to maintain a three- or four-round limit by utilizing the following procedures: (1) the monitor team devoting a considerable amount of time to carefully preformulating the obvious issues; (2) seeding the list with an initial range of options but allowing for the respondents to add to the lists; (3) asking for positions on an item and underlying assumptions in the first round. (p. 88)

Linstone and Turoff (1975) stated that you reach a point of diminishing return after a few rounds and three rounds are most often sufficient to attain stability and consensus of responses. The panelists did not favor additional rounds and results have shown that additional rounds provided very little change.

Critical to the success of the Delphi technique is the selection of the panel of experts (Turoff, 1975). Scheele, (1975) explained,

> Three kinds of panelists are ingredients for creating a successful mix: stakeholders, those who are or will be directly affected; experts, those who have an applicable specialty or

relevant experience; and facilitators, those who have skills in clarifying, organizing, synthesizing, stimulating. (p. 68)

Experts chosen to participate in the Delphi must possess knowledge and active involvement in the issues under investigation and have the willingness and capacity to participate (Zigilio, 1996). Martino (1972) remarked, "Peer judgment is usually the best criterion for identifying an expert. A good rule of thumb is to select those who have been nominated by at least two other people" (p. 53). The size of the panel may vary and Zigilio (1996) indicated that good results could be obtained from panels of 10-15 homogeneous experts.

The Delphi technique is not without limitations. Linstone and Turoff (1975) indicated that common reasons for the failure of the Delphi are: the researcher's injection of their viewpoints into the structure of the Delphi, thus preventing other perspectives; assuming that the Delphi is the best approach for human communication; utilizing poor techniques to summarize responses and to present data; ignoring or not explaining dissenting opinions; and not recognizing the demands on the panelists. Martinio (1972) added the following to the list of reasons for failure; the use of ambiguous questions, unclear explanations of the process, complex questionnaires, lengthy questionnaires, and poor turn around time between questionnaires.

Martino (1972) explained consensus gained through a Delphi is reliable and that different panels tend to produce the same results. Having a sufficiently large panel can increase the reliability of the Delphi. "The results of the experiments with 'almanac-type' data imply that a panel of fifteen members is sufficiently large to obtain a high degree of reliability" (Martinio, 1972, p. 53). Zigilio (1996) stated that clear instructions help increase the reliability of the panelists' responses to the questionnaires.

The level of consensus affects the validity of the Delphi technique. "The validity of the resulting judgement of the entire group is typically measured in terms of the explicit 'degree of consensus' among the experts" (Mitroff & Turoff, 1975, p. 22). Scheibe, Skutsch, and Schofer (1975) considered consensus to be achieved when the percentage of responses fall within a prescribed range. Eighty percent has been used in recent studies employing the Delphi research technique (Abel, 2000; Seevers, 1993; Thomas, 2002).

<center>Identification and Selection of Panel Members</center>

An internal committee was formed for the purposes of identifying nationally recognized successful schools and corporations offering online courses and for beta testing the first question developed by the researcher to be utilized in the Delphi process. This internal committee consisted of three individuals highly involved in online instruction; a local school system administrator, a state specialist, and a nationally recognized expert (See Appendix A). After gaining agreement to serve on the committee, either by telephone or in person, each internal committee member was sent, by email, the details of the research project and the directions for completing their tasks (See Appendix B). The first task was to have each committee member recommend 25 successful schools, school districts, or private organizations using online instruction to deliver full courses to secondary students (See Appendix C). The second task for the internal committee was to evaluate the researcher's first questionnaire, composed of two research questions, for clarity and to determine if the questions would provide the components to develop the outline of a staff development program that could be utilized by local school districts in the training of staff to teach secondary online classes and provide the structures within the staff development program, which would allow for meeting the individual needs of teachers (See Appendix D).

<center>49</center>

Not all members of the internal committee identified 25 schools (See Appendix E). In some cases a school district was identified but in reality the state agency was responsible for staff development, course development and delivery. In other cases committee members used different names to identify the same site. The internal committee members were contacted by email to seek clarification for six of the identified sites. Those sites recommended by at least two internal committee members were used as the population for the research project. The researcher's initial goal was to involve a total of 20 sites in the study. Using the criteria mentioned above for selecting the research population, the internal committee identified 15 sites (See Appendix F).

Using the Internet, the researcher investigated each school identifying the appropriate individual to contact for serving on the Delphi panel. If the school identified a staff development coordinator, this person was used as the initial contact rather than the school's director. Having identified the individual contacts, an email was sent explaining the purpose of the study and seeking agreement from each for participation in the study (See Appendix G). If a response was not received within two weeks, a follow-up email was sent. These emails were sent at the beginning of the summer and only six individuals agreed to participate. Some of the other contacts indicated that this was an extremely busy time for them as they were preparing online courses for the fall and they would be willing to participate after the beginning of the school year. The researcher tabled the study until the middle of September. At this time two additional contacts agreed to participate but one of the original six participants had change companies and declined to participate. Seven individuals agreed to participate as panelists (See Appendix H). Once the panelists agreed to participate, a confirmation email was sent (See Appendix I). Included in the email were the Participation Agreement and the questions for Round 1.

Round 1 Instrument

The two open-ended questions were sent in Round 1 to panelists by email (See Appendix J). Panelists were allotted two weeks for the completion of the questions. The researcher contacted the panelists not responding after the first week and again after the two-week period, if needed. All seven panelists responded to each round of the Delphi process (See Appendix K).

Question 1:

From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? List specific components and use as much space as needed.

Question 2:

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers? List specific recommendations and use as much space as needed.

Round 2 Instrument

The responses from the first round questionnaires were consolidated into categories by emerging themes and randomly listed in two Likert scale surveys, one for each question (See Appendix L). The surveys used a four point rating scale. The rating scale was as follows: 1 = not important, 2 = slightly important, 3 = very important, and 4 = extremely important. The surveys were generated using Microsoft Word and provided an option for comments on each criterion. The second round instrument, two surveys, were be emailed to all panelists a week after the deadline for the first questionnaire. Each panelist was emailed individual surveys to protect the anonymity of the panelists. Two weeks were provided for each panelist to respond to the

surveys. All panelists were contacted after one week reminding them to complete the surveys and to determine if problems existed in the delivery of the surveys.

Analysis of Round 2 Returns

Using SPSS statistical software, the responses of the individuals to each item were recorded for each criterion and general descriptive statistics were generated. The mean and standard deviation were recorded for each item. The mean identified the average response for each item and the standard deviation reflected the distribution of the responses across the continuum. Percentages were calculated for the two most favorable categories, very important or extremely important. Items not rated by 80% of the panelists as either very or extremely important were removed from further consideration.

Round 3 Instrument

The mean, standard deviation, percentage, and the panelists' rating were used to develop the instrument for the Round 3 surveys, one for each research question (See Appendix M). Items not receiving an 80% response rate were included in the surveys but had a line drawn through them and all comments were included in bold print. The instrument used in this round allowed panelists to provide reasons for dissent or provide comments on each criterion. The surveys were emailed to the panelists a week after the deadline for Round 2. Panelists were provided a two-week period to respond to the third round. Again each panelist was emailed individual surveys to protect the anonymity of the panelists. The surveys included the panelist's prior response to each item. Emails were sent after the first week reminding the panelists to respond or identify problems obtaining the surveys if they had not responded.

Analysis of Round 3 Returns

Individual responses for each item were once again entered into SPSS statistical software for each research question. The mean, standard deviation, and percentages were calculated. The final results were shared with all the panelists one week after the responses were received. Those items not receiving an 80% response rate in the third round were eliminated and indicated by drawing double lines through them. Only one additional item was eliminated from the surveys. Comments were included in italics to differentiate comments from the second and third rounds. Those items receiving an 80% response rate in the third round were used to identify the necessary components of a staff development program to prepare teachers to teach secondary online courses and the means by which the staff development can be structured to address the individual needs of the teachers.

CHAPTER 4: RESEARCH FINDINGS

This chapter is intended to report the research findings for Rounds 1, 2, and 3 of this Delphi study. The findings for Round 1 include the responses received from the participating seven panelists for each research question. The research findings for Round 2 include the data received from the panelists, a frequency distribution of their ratings, and a rating summary. Included in findings for Round 3 is the data received from the panelists with the items eliminated that were not rated by 80% of the panelists as either very or extremely important.

Round 1 Responses

Two open-ended questions were emailed to the seven panelists. The panelists were allowed to provide an unlimited number of responses for each question. All seven panelists responded to each round of the Delphi process. Panelists' responses ranged from 4 to 21 for Question 1. The total number of responses to Question 1 totaled 83. For Question 2 the range of responses was 2 to 12. The total number of responses to Question 2 totaled 34. Table 1 contains all of the responses for the first question and Table 2 contains all of the responses for the second question.

Question 1:

From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? List specific components and use as much space as needed.

Question 2:

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers? List specific recommendations and use as much space as needed.

Table 1

Responses to Question 1(Round 1): From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system?

1. Training committee

2. Life of an online educator

3. Student communications

4. Internal communications

5. Course navigation

6. Troubleshooting and technology tips

7. Assessments

8. Student assignments

9. Learning management system

10. Expectations of an instructor

11. Funding for online courses

12. Expectations of students

13. Daily student assignments

14. Policies, procedures, and beliefs

15. Post training

16. Ongoing mentoring

17. Extensive individual support

(table continued)

Table 1 (continued)

18.   Knowledge of use of online course platform and delivery system

        Writing course documents

        Revising course documents

        Building online assessments within course platform

        Using course platform grade book

        Using features and functionality of the online platform

19.   Online pedagogy

        Facilitating online discussions

        Online assessments

        Netiquette

        Facilitating online collaboration, including team and group activities and projects

        Building online community

20.   Opportunity to be an online learner

21.   Learn the course management system infrastructure

22.   Follow-up training as they work with students

23.   Online facilitation strategies

24.   Online course delivery techniques

25.   Opportunities to practice facilitation and delivery strategies

26.   Preview of existing online courses for design and function

27.   Time management

28.   Technology management

Table 1 (continued)

29. Institution policies and procedures

30. Training teachers on the platform to be used

31. Shifting the paradigm from traditional teaching to the virtual classroom

32. Training teachers to address the individual student's needs

33. Understanding the importance of clearly communicating in written word

34. Introduction and experience with the tools that will be employed in teaching an online course, i.e course management system, discussion boards, virtual classroom, grade book, etc.

35. Understanding the mechanics and process of delivering and supporting an online course

36. Understanding the technical requirements of an online course

37. Understanding the policies and procedures associated with an online course

38. Familiarity with course content

39. Familiarity with online pedagogy

40. Instructional philosophy and design of online instruction

41. Communicating frequently and with clarity

42. Developing a sense of an online community

43. Employing one face-to-face session to develop a common vision and to share successes and failures

44. Requiring prospective online teachers to shadow a mentor teacher

45. Delivery of training using online media

46. Staff development should model a variety of activities and assessments

Table 1 (continued)

47. Requiring college courses in the teaching and development of online classes

48. Model best online teaching; delivery, methods, and best practices

49. Technical skills; course software, file management, graphics, assessments

50. Learning styles and online learning

51. Developing course standards, syllabus, and schedules

52. Accessibility and 508 compliance

53. Delivery of formative and summative assessments online

54. Instructional design

55. What it takes to be an online student

56. Facilitating online discussion

57. Instructional design

58. Incorporating advanced graphics and video

59. Course revision and reflection

60. Data driven decision-making

61. Assessment and standards

62. Addressing the at-risk learner

63. Administrative issues

64. Basic software management skills

65. Understanding of email

66. Application skills in software programs

67. Interactive skills

(table continued)

Table 1 (continued)

68. Modeling skills

69. Communication skills

70. Instructional design

71. Understanding learning styles

72. Time on task and time management strategies

73. Administrative logistics

74. Basic learning theories

75. Student management

76. Evaluation and assessment strategies

77. Local policies and procedures

78. Copyright

79. Student motivational strategies

80. Training with the platform components

81. Offering experience as an online student in the training

82. Offer experience in developing online components

83. Strategies for successful online teaching

Table 2

Responses to Question 2 (Round 1): How can a staff development program for teaching online be structured to assess and address the individual needs of teachers?

1. Monthly feedback on successes, challenges, and roadblocks from instructional leader and mentors

2. Evaluation of training after three months of online teaching experience

3. Evaluation meeting at the end of the contract year to assess student success, teacher success, and training

4. Delivery of training online

5. Practice the skills they will be teaching their online students

6. Pre-assessment of teachers' needs

7. Is online teaching for me as a teacher?

8. Utilizing new techniques to create a part of a lesson

9. Posting a lesson online

10. Journaling during the program to assist teachers in the assessment of their development and formulate questions

11. Willingness to explore teaching in a new frontier

12. Pre-assessment of abilities: word processing, creating HTML documents, scanning, uploading documents from different formats

13. Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class

Table 2 (continued)

14. Ability to work with students of various technological abilities

15. Experiencing online learning from a student's perspective

16. Utilizing discussion boards for ongoing discussion and collaboration

17. Offered several times throughout the year – scheduled and asynchronous

18. Ability to take courses for credit and recertification

19. Self assessment of own teaching, technology skills, and learning styles

20. Include a variety of activities to meet diverse learning styles

21. Provide prompt feedback and explicit grading criteria

22. Include team-building approach to courses and delivery to insure multiple teachers can teach the curriculum

23. Include collaborative opportunities for cross-curricular as well as curricular teams

24. Opportunity to meet content specific needs including available technology, software, texts, and curriculum

25. Evaluative feedback instruments to revise online instruction

26. Activities should be relevant and include the ability to create new online curriculum or adapt/revise existing online curriculum

27. Opportunity to air concerns and understanding of online learning including differences and similarities with face-to-face instruction

28. Determine whether the faculty are best served by teaching online. Will they be an effective online instructor?

Table 2 (continued)

29. Recognize some aspects of the training will be needed by all individuals

30. Individualized training by having each teacher develop an online module

31. Include multiple models, activities, and examples

32. Utilize both formative and summative assessments to make timely adjustments and
    correction in the training. Don't wait until the end of the training

33. Provide areas for content specific questions and discussions

34. Provide content specific chat/discussions

_____

After receiving the responses, it was found that the panelists used different terminology for the same components. For example, one panelist indicated a component for staff development would be to have teachers 'learn the course management system infrastructure'. Another panelist described the same component as 'course navigation'. Another panelist called the same training component, 'delivery of training using online media'.

The responses were placed in categories and compiled for similarity, clarity, and lack of repetition. A total of 43 components for staff development were ultimately identified and used in the following rounds of the Delphi for question 1. Following the same process 30 recommendations were identified as means to assess and address the individual needs of teachers in a staff development program for online teachers. Using a random number table, the responses were randomly listed for use in the subsequent rounds. Table 3 indicates the components and Table 4 indicates recommendations in the order that they appeared for Rounds 2 and 3 surveys.

Round 2 Responses

The responses from the first round questionnaires were consolidated into categories by emerging themes and randomly listed in two Likert scale surveys, one for each question (See survey instrument in Appendix L). The surveys used a four point rating scale. The rating scale was as follows: 1 = not important, 2 = slightly important, 3 = very important, and 4 = extremely important. Each panelist's response was recorded and the frequency distribution for each task was determined. Using the SPSS 12.0 statistical software package the mean, standard deviation, and the percentage of agreement was calculated. Panelists rating an item as either a 3 or 4 were used to determine the percentage of agreement.

Table 3

Final list of the staff development components for Question 1 survey

_____

1. Understanding learning styles

2. Introduction, training, and experience with the tools that will be employed in teaching an

    online course (course navigation, course management infrastructure, course management

    system, discussion boards, virtual classroom, grade book)

3. Shifting the paradigm from traditional teaching to the virtual classroom

4. Developing a sense of an online community

5. Understanding the technical requirements of an online course

6. Requiring college courses in the teaching and development of online classes

7. Addressing the at-risk learner

8. Understanding institutional policies, procedures, and funding associated with an online

    course

9. Opportunities to practice facilitation and delivery strategies

10. Life of an online educator

11. Netiquette

12. Extensive individual support as the online teacher works with students (follow-up training)

13. Student motivational strategies

14. Model best online teaching: delivery, methods, best practices, and strategies for successful

    online teaching

15. Developing course standards, syllabus, and schedules

16. Expectations of students

_____

(table continued)

Table 3 (continued)

17. Daily student assignments

18. Training teachers to address the needs of individual students

19. Delivery of formative and summative assessments online

20. Requiring prospective online teachers to shadow a mentor teacher

21. Expectations of an instructor

22. Preview of existing online courses for design and function

23. What it takes to be an online student

24. Understanding the importance of clearly communicating with clarity and frequently in written word

25. Model a variety of activities and assessments

26. Accessibility and 508 compliance

27. Familiarity with online pedagogy

28. Technology management: troubleshooting and technology tips

29. Employing one face-to-face session to develop a common vision and to share successes and failures

30. Online facilitation strategies/facilitating online collaboration

31. Familiarity with course content

32. Data driven decision-making

33. Instructional philosophy and design of online courses

34. Incorporating advanced graphics and video

35. Course standards

Table 3 (continued)

36. Experience in developing and revising online components

37. Time on task and time management strategies

38. Basic learning theories

39. Post training: ongoing mentoring

40. Understanding the mechanics and process of delivering and supporting an online course

41. Copyright

42. Training committee

43. Student management strategies

Table 4

Final list of the staff development components for Question 2 survey
_____

1.   Ability to take courses for credit or recertification

2.   Experiencing online learning from a student's perspective

3.   Activities should be relevant and include the ability to create online curriculum or

      adapt/revise existing online curriculum

4.   Include a variety of activities to meet diverse learning needs

5.   Individualized training by having each teacher develop and post an online module

6.   Provide prompt feedback and explicit grading criteria

7.   Pre-assessment of abilities: word processing, creating HTML documents, scanning,

      uploading documents from different formats

8.   Evaluation of training after three months of online teaching experience

9.   Assessing whether the teacher is a good candidate for being an online teacher

10.   Include multiple models, activities, and examples in training

11.   Practice the skills they will be teaching their online students

12.   Utilizing discussion boards for ongoing discussion, collaboration, and virtual classroom

      sessions as a forum

13.   Provide content specific questions and discussions

14.   Will the teacher be an effective online instructor?

15.   Evaluation meeting at the end of the contract year to assess student success, teacher

      success, and training

16.   Online training must be delivered on time
_____

                                                            (table continued)

Table 4 (continued)

17. Recognize some aspects of the training will be needed by all individuals

18. Include collaborative opportunities for cross-curricular as well as curricular teams

19. Ability to work with students of various technological abilities

20. Monthly feedback on successes, challenges, and roadblocks from instructional leader and mentors

21. Journaling during the program to assist teachers in the assessment of their development and formulate questions

22. Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class

23. Offered several times throughout the year scheduled and asynchronous

24. Include team-building approach to courses and delivery to insure multiple teachers can teach the curriculum

25. Opportunity to meet content specific needs including available technology, software, texts, and curriculum

26. Opportunities to air concerns and understanding of online learning including differences and similarities with face to face instruction

27. Utilize both formative and summative assessments to make timely adjustments and corrections in the training

28. Provide areas for content specific questions and discussions

29. Self assessment of one's own teaching style and knowledge of students' learning styles

30. Willingness to explore teaching in a new frontier

All seven panelists returned responses for both questions in Round 2 representing a 100% return rate. Each panelist was provided an opportunity to comment on any component or recommendation. Three of the seven panelists provided comments. These comments can be found in Appendix M. Two panelists omitted responses to two different items on Question 1, items 10 and 20, accounting for the difference in the frequency distribution summary. Table 5 indicates the data summary for Round 2, Question 1 and Table 6 indicates the data summary for Round 2, Question 2.

<div align="center">Round 3 Responses</div>

Using the data from Round 2 and the rule of 80% or better agreement for a response to be considered as a component of a staff development program for online teachers, 21 of the 43 components were eliminated for the third round of the Delphi process. These components were included in the third round survey with the data summary but had a line drawn through them denoting elimination. Using the 80% for agreement, 13 of the 30 proposed recommendations for structuring a staff development program to assess and address the individual needs of teachers were eliminated.

Using the same four point Likert scale rating, 1 = not important, 2 = slightly important, 3 = very important, and 4 = extremely important, the panelists were asked again to rate the responses from each question and provide any comments they deemed necessary (See survey instrument in Appendix M). Comments received from the panelists in Round 2 were included in the surveys and represented by bold print.

Table 5

Round 2 Responses – Question 1

Component	Frequency Distribution				Mean	Standard Deviation	Percentage of Agreement
	1	2	3	4			(Rating of 3 – 4)
1	0	0	4	3	3.43	.535	100%
2	0	0	2	5	3.71	.488	100%
3	0	1	4	2	3.14	.690	86%
4	0	2	3	2	3.00	.816	71%
5	0	4	2	1	2.57	.787	57%
6	4	1	2	0	1.71	.951	29%
7	0	3	4	0	2.57	.535	57%
8	0	2	4	1	2.86	.690	71%
9	0	0	5	2	3.29	.488	100%
10	1	3	2	0	2.17	.753	33%
11	0	1	5	1	3.00	.577	86%
12	0	0	5	2	3.29	.488	100%
13	0	0	6	1	3.14	.378	100%
14	0	0	4	3	3.43	.535	100%
15	0	1	6	0	2.86	.378	86%
16	0	0	6	1	3.14	.378	100%
17	0	4	3	0	2.43	.535	43%

Table 5 (continued)

18	0	1	4	2	3.14	.690	86%
19	0	1	4	2	3.14	.690	86%
20	0	3	2	1	2.67	.816	50%
21	0	1	4	2	3.14	.690	86%
22	0	3	4	0	2.57	.535	57%
23	0	2	5	0	2.71	.488	71%
24	0	0	5	2	3.29	.488	100%
25	0	2	4	1	2.86	.690	71%
26	0	1	5	1	3.00	.577	86%
27	0	1	6	0	2.86	.378	86%
28	0	3	4	0	2.57	.535	57%
29	1	3	1	2	2.57	1.134	43%
30	0	0	4	3	3.43	.535	100%
31	0	0	3	4	3.57	.535	100%
32	0	4	2	1	2.57	.787	43%
33	0	2	5	0	2.71	.488	71%
34	2	3	1	1	2.14	1.069	29%
35	0	1	4	2	3.14	.690	86%
36	1	1	5	0	2.57	.787	71%
37	0	2	4	1	2.86	.690	71%
38	0	3	4	0	2.57	.535	57%

Table 5 (continued)

39	0	1	5	1	3.00	.577	86%
40	0	4	3	0	2.43	.535	43%
41	0	0	5	2	3.29	.488	100%
42	3	3	1	0	1.71	.756	14%
43	0	0	7	0	3.00	.000	100%

Table 6

Round 2 Responses – Question 2

Recommendation	Frequency Distribution				Mean	Standard Deviation	Percentage of Agreement (Rating of 3 – 4)
	1	2	3	4			
1	0	3	3	1	2.71	.756	57%
2	0	0	3	4	3.57	.535	100%
3	0	0	5	2	3.29	.488	100%
4	0	0	7	0	3.00	.000	100%
5	1	1	3	2	2.86	1.069	71%
6	0	0	4	3	3.43	.535	100%
7	0	3	4	0	2.57	.535	57%
8	0	2	4	1	2.86	.690	71%
9	0	3	3	1	2.71	.756	57%
10	0	0	6	1	3.14	.378	100%
11	0	0	4	3	3.43	.535	100%
12	0	1	2	4	3.43	.787	86%
13	0	2	4	1	2.86	.690	71%
14	0	1	5	1	3.00	.577	86%
15	0	1	4	2	3.14	.690	86%
16	0	2	3	2	3.00	.816	71%
17	0	1	5	1	3.00	.577	86%

(table continued)

Table 6 (continued)

18	0	1	5	1	3.00	.577	86%
19	0	1	4	2	3.14	.690	86%
20	0	3	3	1	2.71	.756	57%
21	0	3	4	0	2.57	.535	57%
22	0	0	6	1	3.14	.378	100%
23	1	2	4	0	2.43	.787	57%
24	0	2	5	0	2.71	.488	71%
25	0	1	4	2	3.14	.690	86%
26	0	2	5	0	2.71	.488	71%
27	0	0	6	1	3.14	.378	100%
28	0	1	4	2	3.14	.690	86%
29	1	3	4	0	2.57	.535	57%
30	0	1	5	1	3.00	.577	86%

All seven panelists returned responses for both questions in Round 3 representing a 100% return rate. Each panelist's response was recorded and the frequency distribution for each task was tabulated. Using the SPSS 12.0 statistical software package, the mean, standard deviation, and the percentage of agreement was calculated. The percentage agreement is determined by what percentage of panelists rated the response either a 3 or 4. Three of the seven panelists provided comments. These comments, recorded in italics, can be found in Appendix N. Three panelists omitted responses to 5 different items. Responses were omitted on Question 1, items 3 and 31, and Question 2, items 14, 19, and 30, accounting for the difference in the frequency distribution summary. Tables 7 and 8 indicate the data summary for Round 3.

Final Analysis

The analysis of Round 3 data resulted in the deletion of one additional component for a staff development program to prepare teachers to teach secondary online classes. This was component identified as 35, course structure. Using the Round 3 data, 21 staff development components met the criteria for 80% agreement. Seventeen recommendations met the 80% agreement criteria for structuring a staff development program that assesses and addresses the individual needs of teachers. After analyzing the data for Round 3, each panelist received a summary of the data, including the comments received. Tables 9 and 10 represent those responses for both questions that were agreed upon by the panelists through the Delphi process.

Table 7

Round 3 Responses – Question 1

Component	Frequency Distribution				Mean	Standard Deviation	Percentage of Agreement (Rating of 3 – 4)
	1	2	3	4			
1	0	0	5	2	3.29	.488	100%
2	0	0	1	6	3.86	.378	100%
3	0	0	5	1	3.17	.408	100%
4 – 8	Eliminated in Round 2						
9	0	0	4	3	3.43	.535	100%
10	Eliminated in Round 2						
11	0	0	6	1	3.14	.378	100%
12	0	0	5	2	3.29	.488	100%
13	0	0	6	1	3.14	.378	100%
14	0	0	4	3	3.43	.535	100%
15	0	1	6	0	2.86	.378	86%
16	0	0	7	0	3.00	.000	100%
17	Eliminated in Round 2						
18	0	1	3	3	3.29	.756	86%
19	0	0	6	1	3.14	.378	100%
20	Eliminated in Round 2						
21	0	0	5	2	3.29	.488	100%

(table continued)

Table 7 (continued)

22 & 23	Eliminated in Round 2						
24	0	0	5	2	3.29	.488	100%
25	Eliminated in Round 2						
26	0	1	6	0	2.86	.378	86%
27	0	1	5	1	3.00	.577	86%
28 &29	Eliminated in Round 2						
30	0	0	3	4	3.57	.535	100%
31	0	0	4	2	3.33	.516	100%
32 – 34	Eliminated in Round 2						
35	0	2	4	1	2.86	.690	71%
36 – 38	Eliminated in Round 2						
39	0	1	5	1	3.00	.577	86%
40	Eliminated in Round 2						
41	0	0	5	2	3.29	.488	100%
42	Eliminated in Round 2						
43	0	1	6	0	2.86	.378	86%

Table 8

Round 3 Responses – Question 2

Recommendation	Frequency Distribution				Mean	Standard Deviation	Percentage of Agreement (Rating of 3 – 4)
	1	2	3	4			
1	Eliminated in Round 2						
2	0	1	1	5	3.57	.787	86%
3	0	0	5	2	3.29	.488	100%
4	0	0	6	1	3.14	.378	100%
5	Eliminated in Round 2						
6	0	0	4	2	3.43	.535	100%
7 – 9	Eliminated in Round 2						
10	0	0	6	1	3.14	.378	100%
11	0	0	4	3	3.43	.535	100%
12	0	1	1	5	3.57	.787	86%
13	Eliminated in Round 2						
14	0	0	4	1	3.20	.447	100%
15	0	0	4	3	3.43	.535	100%
16	Eliminated in Round 2						
17	0	0	6	1	3.14	.378	100%
18	0	1	5	1	3.00	.577	86%
19	0	0	4	2	3.33	.516	100%

Table 8 (continued)

20 & 21	Eliminated in Round 2						
22	0	0	6	1	3.14	.378	100%
23 & 24	Eliminated in Round 2						
25	0	1	6	0	2.86	.378	100%
26	Eliminated in Round 2						
27	0	0	5	2	3.29	.488	100
28	0	1	4	2	4.14	.690	86%
29	Eliminated in Round 2						
30	0	0	4	2	3.33	.516	100%

Table 9

What are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system?

1.	Understanding learning styles
2.	Introduction, training, and experience with the tools that will be employed in teaching an online course (course navigation, course management infrastructure, course management system, discussion boards, virtual classroom, grade book)
3.	Shifting the paradigms from traditional teaching to the virtual classroom
9.	Opportunities to practice facilitation and delivery strategies
11.	Netiquette
12.	Extensive individual support as the online teacher works with students (follow-up training)
13.	Student motivational strategies
14.	Model best online teaching: delivery, methods, best practices, and strategies for successful online teaching
15.	Developing course standards, syllabus, and schedules
16.	Expectations of students
18.	Training teachers to address the needs of individual students
19.	Delivery of formative and summative assessments online
21.	Expectations of an instructor
24.	Understanding the importance of clearly communicating with clarity and frequency in written word
26.	Accessibility and 508 compliance

(table continued)

Table 9 (continued)

27.   Familiarity with online pedagogy

30.   Online facilitation strategies/facilitating online collaboration

31.   Familiarity with course content

39.   Post training: ongoing mentoring

41.   Copyright

43.   Student management strategies

Table 10

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers?

2.	Experiencing online learning from a student's perspective
3.	Activities should be relevant and include the ability to create online curriculum or adapt/revise existing online curriculum
4.	Include a variety of activities to meet diverse learning needs
6.	Provide prompt feedback and explicit grading criteria
10.	Include multiple models, activities, and examples in training
11.	Practice the skills they will be teaching their online students
12.	Utilizing discussion boards for ongoing discussion, collaboration, and virtual classroom sessions as a forum
14.	Will the teacher be an effective online instructor?
15.	Evaluation meeting at the end of the contract year to assess student success, teacher success, and training
17.	Recognize some aspects of the training will be needed by all individuals
18.	Include collaborative opportunities for cross-curricular as well as curricular teams
19.	Ability to work with students of various technological abilities
22.	Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class
25.	Opportunity to meet content specific needs including available technology, software, texts, and curriculum

(table continued)

Table 10 (continued)

27.   Utilize both formative and summative assessments to make timely adjustments and

corrections in the training

28.   Provide areas for content specific questions and discussions

30.   Willingness to explore teaching in a new frontier
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CHAPTER 5: CONCLUSIONS

The intent of this three-round Delphi study was to identify the necessary components of a staff development program for the purpose of training teachers to teach secondary online courses in a local school system and to collect recommendations for differentiating staff development to meet the individual needs of teachers. The study was not meant to prioritize the importance of the staff development components or recommendations.

Using the Delphi approach, the thoughts and opinions of key players in the development and delivery of secondary online courses were collected. Of the 43 staff development components collected for Question 1, 21 components were ultimately determined as those necessary to prepare teachers to teach secondary online classes. Of the 30 recommendations for Question 2, the panelist in the Delphi process filtered the recommendations to the 17 recommendations that would address and assess the individual needs of the teachers to be trained. In this chapter those components and recommendations will be analyzed and compared with the findings from the literature review.

Question 1

What are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? Table 11 summarizes the components agreed upon by the panelists into four possible categories for a staff development program to train teachers to teach secondary online classes. The categories are teaching online pedagogy, training and navigation in the delivery software, teaching an online course, and follow-up and ongoing support.

Table 11

Categories and topics for a staff development program to train secondary teachers to teach online classes

Teaching Online Pedagogy

Familiarity with online pedagogy

Shifting the paradigms from traditional teaching to the virtual classroom

Training and navigation in the delivery software

Introduction, training, and experience with the tools that will be employed in teaching an online

course (course navigation, course management infrastructure, course management

system, discussion boards, virtual classroom, grade book)

Teaching an online course

Expectations of an instructor

Familiarity with course content

Training teachers to address the needs of individual students

Understanding learning styles

Developing course standards, syllabus, and schedules

Model best online teaching: delivery, methods, best practices, and strategies for successful online

teaching

Opportunities to practice facilitation and delivery strategies

Student management strategies

Student motivational strategies

Delivery of formative and summative assessments online

Table 11 (continued)

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Teaching an online course (continued**)**

Expectations of students

Online facilitation strategies/facilitating online collaboration

    Netiquette

    Understanding the importance of clearly communicating with clarity and frequency in

    written word

Accessibility and 508 compliance

Copyright

Follow-up and ongoing support

Extensive individual support as the online teacher works with students

Post training: ongoing mentoring

___

It should be noted that components referenced in the review of literature such as parent communication, updating teachers on new technologies, timely feedback for students, collaboration with district staff, college training, developing a community of learners, and providing students with technical support are absent from the components agreed upon by the panelists. Timely feedback and developing a community of learners for students could be considered necessary under the topics of facilitating online collaboration. Developing a sense of community, training on advanced graphics and video, understanding institutional policies, trouble shooting and technology tips, data driven decision-making, and the development of a training committee were suggested as staff development components in the initial Delphi round but did not achieve an 80% agreement rating.

The comments in Appendix N provide additional information for the lack of inclusion of some components. One panelist commented that the development of a sense of community would come in time as a teacher works in the online environment. Another comment addressed the need for training teachers on new technologies by stating that new technologies demand additional bandwidth and we should use the lowest level of technology to assure successful assess to the content. Data driven decision making, important by NSDC standards, was addressed by the comment that most decisions were based on the district needs. These comments provide equally important information for districts developing a staff development program to train teachers to teach secondary online classes.

Question 2

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers?

Table 12 summarizes the final recommendations agreed upon by the panelists into three possible categories. In analyzing these staff development recommendations for assessing and addressing the individual needs of the teachers, some of the recommendations were not deemed by this researcher appropriate to what was being asked by the question. The categories are recommendations to assess the individual needs of teachers, recommendations to address the individual needs of teachers, and items that do not address the question.

It should be noted that the review of literature indicated that teachers should be trained on the basis of their needs and abilities. Pre-assessment of abilities and a self assessment of one's own teaching style and knowledge of student learning styles were suggested as staff development components in the initial Delphi round but did not achieve an 80% agreement rating. Another item that could address the individual needs, but was eliminated was to offer training several times throughout the year.

Recommendations for Further Research

The use of online classes to deliver instruction still remains in the stages of infancy. As educators gain experience and knowledge of online learning, educators will be more enlightened as to the exact components to include in a staff development program to prepare teachers to teach online classes. Educators will also be faced with the changes in technology that will impact teaching strategies and the delivery of courseware.

Most of the research in the area of online education has been limited to higher education. This has created a void in the availability of research in K-12 online education leaving many opportunities for additional research. As educators grow in knowledge and experience, future research should be explored to investigate the various components of a staff development program for training teachers to teach online classes in greater detail.

Table 12

Recommendations for assessing and addressing the teachers' individual needs in a staff

development program

Recommendations to assess the individual needs of teachers

Will the teacher be an effective online instructor?

Determining the teacher's level of knowledge and what is needed to meet the appropriate level of

      expertise required to teach an online class

Willingness to explore teaching in a new frontier

Recommendations to address the individual needs of teachers

Activities should be relevant and include the ability to create online curriculum or adapt/revise

      existing online curriculum

Include a variety of activities to meet diverse learning needs

Include multiple models, activities, and examples in training

Utilizing discussion boards for ongoing discussion, collaboration, and virtual classroom sessions

      as a forum

Evaluation meeting at the end of the contract year to assess student success, teacher success, and

      training

Recognize some aspects of the training will be needed by all individuals

Include collaborative opportunities for cross-curricular as well as curricular teams

Opportunity to meet content specific needs including available technology, software, texts, and

      curriculum

(table continued)

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Table 12 (continued)

<u>Recommendations to address the individual needs of teachers</u>

Utilize both formative and summative assessments to make timely adjustments and corrections in

     the training

Provide areas for content specific questions and discussions

<u>Items that do not address the question</u>

Experiencing online learning from a student's perspective

Provide prompt feedback and explicit grading criteria

Practice the skills they will be teaching their online students

Ability to work with students of various technological abilities

What are the successful motivational strategies an online teacher should employ? Do these strategies differ according to the various ages or ability levels of students? The comments of one panelist suggest that motivational strategies utilized in online instruction are unique but important for keeping students interested, on task, and moving toward successful completion of an online course. There is a need to examine and determine which motivational strategies used in face-to-face instruction could be used in online instruction.

What are the best practices in online teaching? Educators are constantly looking for the instructional practices that have proven successful for student learning. With the advent of No Child Left Behind, educators are searching for successful practices in the area of staff development. One panelist commented that modeling best practices and behavior is an important way to demonstrate and influence new teacher behavior. Following the National Staff Development Council guidelines, staff development programs should be modeling research proven best practices that improve student learning.

How will staff development change within the next five years? As noted earlier, online instruction is in an infant stage and change is inevitable. Courseware is constantly being upgraded. Network infrastructure is being designed with greater delivery speed and capability. As these upgrades are implemented, streaming video will become more popular within online instruction. These advances in technology and courseware will undoubtedly add new components to existing staff development programs.

Additional and ongoing research is needed to address and assess the individual training needs of teachers. Research and literature reviews indicate that staff development is changing from large group awareness sessions that were generic in nature to programs specify designed to address the skills and abilities of individual teachers. If staff development is to become the key

ingredient in school reform, educators need to continue the exploration to determine the most efficient and practical means of addressing individual teachers needs.

One of the limitations of this study is the small number of participating panelists. In carrying out a similar study, it would be beneficial to expand the number of panelists. The problem researchers will encounter is creating a larger panel of qualified knowledgeable educators that can commit to the time required to complete a Delphi study. Possibly the information obtained through this research project could be used in the development of a survey document to reach a broader audience.

<div align="center">Implications for Practice</div>

As indicated in the review of literature, there are many factors that affect the implementation of online courses within a school system. Staff development is only one of those implementation factors. First and foremost the system must understand that online courses provide an alternate mode for the delivery of instruction. Therefore instructional needs, not technology, should be the driving force when considering implementing online courses.

The primary reason discussed for offering online classes is the inability of schools to offer certain courses. This may be a result of schedule conflicts, lack of highly qualified teachers, or an opportunity to provide expanded course offerings. Other reasons for utilizing online instruction may be the inability for students to attend a brick and mortar school due to illness or disciplinary reasons. Most recently educators are looking at using online classes for credit recovery. Each district must evaluate their needs and determine if online instruction is a possible solution for their needs.

Before making the decision to venture into the online arena, school systems must consider a variety of implementation factors to assure a successful program. These

implementation factors include the development of policies and regulations; funding sources and cost; acquisition or development of online courses; course delivery; staff development for teachers, mentors, and site coordinators; and program evaluation. Careful examination of these factors should be considered when developing a comprehensive plan and timetable for implementation of an online program.

After determining the mission of your online program a school system must consider the needed policies and regulations under which the online courses will operate. These policies and regulations should govern the awarding of high school credits, standards and procedures for selecting or developing courses, required staffing, funding, and program evaluation. Rather than start from scratch, existing policies and regulations may be acquired from various states and school systems currently utilizing online instruction. School systems will need to update and revise these policies and regulations as their program develops or readjust their policies and regulations to conform to state standards.

Having policies and regulations in place in the beginning will eliminate controversy that will inevitably occur. For example, under what conditions are you willing to award credit for an online course? Students may be taking an online course at home and expect to be awarded credit. The online course may be an area that requires state assessment but the course taken may not be compatible in content with the state assessment. The course may not have the same rigor required of the state or local curricula or a highly qualified instructor may not have taught the course. If credit is awarded, does the school or school system become responsible for the course cost?

Funding issues include the cost of purchasing or developing courses, course charges, staffing, staff development, technology needs, program implementation and evaluation costs. In

some school systems students are assessed a fee for taking an online course but in others students may take online courses at no charge. In the development of a comprehensive plan, school systems must consider course charges, program costs, and the funding sources.

School systems need to compare the cost of developing and ownership of their own online courses as opposed to the purchasing of existing courses. In some cases the mission and timetable of the online program or the lack of qualified personnel may dictate the need to purchase existing online course time. Online course time may be purchased with or without an instructor and the cost will vary accordingly. Even if the course time is purchased with an instructor, the school or school system should have a person prepared to mentor the student through the course. If the school is offering and signing multiple students to classes, they should consider a site coordinator to manage the process.

The policies and regulations developed should include guidelines for selecting appropriate online courses. Not all online courses are developed by the same standards. Online courses can be truly interactive or can just be a posting of lesson notes online. As within a face-to-face setting, an online instructor can produce an extremely interactive educational environment or an environment that contains no student interaction and is relatively passive. If purchasing online course time, schools and school systems need to seek references for the online providers and request the opportunity to examine a course actually being taught. If the school is purchasing online course time with an instructor, it is extremely important to know the selection process and credentials of the course instructor. If the school chooses to develop their own course or purchase course time, standards need to be established. If the school is going to have their own staff providing the instruction or supporting online students, staff development needs to be provided.

Purchasing online course time eliminates the issue of housing the course on a local computer file server. Student access and the speed at which a student can access the course are critical. Some courses will require minimum computer requirements for access. On the other hand, if the school elects to purchase a course and utilize an existing teacher the issue arises as to where the course and courseware will be stored and maintained.

Finally, how will a school or school system determine if the use of this alternative mode of instructional delivery is successful in meeting the mission of the program? The evaluation criteria should be developed as part of the comprehensive planning process. The implementation of online courses, whether purchased or locally developed should not happen without a great deal of preparation and planning. This brief description of a process for implementing online courses should not be considered all-inclusive but rather a starting point.

Final Thoughts

The Delphi technique provided an efficient and effective means for gathering experts from around the country to develop consensus in dealing with a complex problem having limited or no prior research. To obtain the same information through face-to face meetings would have been cost prohibitive and with the busy schedules of the experts involved in online education it is doubtful if the experts would have been able to participate in face-to-face meetings for gathering research data.

Although additional research is inevitable, the findings of this study did in fact support the major components discussed in the literature review. This study should be replicated using a larger sample to confirm reliability of the research findings.

REFERENCES

Abel, A. T. (2000). *The characteristics, behaviors, and effective work environment of servant leaders: A Delphi study*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Alexander, S. & Boud, D. (2001). Learners still learn from experience when online. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 3-15). London: Kogan Page.

Aragon, S. R., Johnson, S. D., & Shaik, N. (2002). The influences of learning style preferences on student success in online versus face-to-face environments. *The American Journal of Distance Education, 16*(4), 227-244.

Aronson, J. Z. & Timms, M.J. (2004). Net choices, net gains: Supplementing high school curriculum with online courses. *WestEd*. Retrieved February 11, 2004, from http://www.wested.org/online_pubs/KN-03-02.pdf

Bauer, J. F. & Anderson, R. S. (2000). Evaluating students' written performance in the online classroom. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 65-71). San Francisco: Jossey-Bass.

Bodensteiner, M. & Pingree, K. (2002). Implementing high school online learning programs. In I. Abdal-Haqq (Ed.), *Virtual realities: A school leader's guide to online education* (pp. 1-16). Alexandria, VA: National School Boards Association.

Bonk, C. J., Kirkley, J., Hara, N., & Dennen, V. P. (2001). Finding the instructor in post-secondary online learning: pedagogical, social, managerial and technological locations. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 76-97). London: Kogan Page.

Burke, K. (October, 2000). Results-based professional development. *National Association of Secondary School Principals Bulletin,* 84(618), 29-37.

Canada, M. (2000). Students as seekers in online courses. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 35-40). San Francisco: Jossey-Bass.

Chmielewski, C. M. (2000). Protecting your intellectual property rights online. *NEA Today*, *19*(2), 20. Retrieved March 7, 2001, from

http://proquest.umi.com/pqdweb?TS=...&Sid=1&Idx=46&deli=1&rqt=309&dtp=1

Clark, T. (2000). *Virtual high schools: State of the states*. Springfield, IL: Center for the Application of Information Technologies.

Conrad, D. L. (2002). Engagement, anxiety, and fear: Learners' experiences of starting an online course. *The American Journal of Distance Education, 16*(4), 205-226.

Coomey, M. & Stephenson, J. (2001). Online learning: It is all about dialogue, involvement, support and control – according to the research. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 37-52). London: Kogan Page.

Crystal, J. (September, 2001). Building from within: Two professional development models that work. *Technology & Learning*, 22(2), 62-70.

Desimone, L., Porter, A. C., Birman, F., Garet, M. S., & Suk Yoon, K. (October, 2002). How do district management and implementation strategies relate to the quality of the professional development that districts provide to teachers? *Teacher College Record*, 104(7), 1265-1312.

DuFour, R. P. (1991). *The principal as staff developer*. Bloomington, ID: National Educational Service.

97

Everett, F. L. (1999). *Motivational needs of on-line learners at Virginia Tech.* Unpublished

master's thesis, Virginia Polytechnic Institute State University, Blacksburg, Virginia.

Ganser, T. (October, 2000). An ambitious vision of professional development for teachers.

National Association of Secondary School Principals Bulletin, 84(618), 6-12.

Gladfelter, H. R. (2000). Internet-based K-12 school set to open next fall. *Education Daily*,

33(245), 1-2. Retrieved March 7, 2001, from

http:proquest.umi.com/pqdweb?TS=...&Sid=2&Idx=18&Deli=1&RQT=309&Dtp=1

Good, M. (2001). On the way to online pedagogy. In J. Stephenson (Ed.), *Teaching & learning*

online: Pedagogies for new technologies (pp. 166-174). London: Kogan Page.

Guskey, T. R. (1995). Professional development in education: In search of the optimal mix. In T.

R. Guskey & M. Huberman (Eds.), *Professional development in education: New*

paradigms and practices (pp. 114-131). New York, NY: Teachers College Press.

Guskey, T. R. (June, 2003a). Professional development that works. *Phi Delta Kappan*, 84(10),

748-767.

Guskey, T. R. (Fall, 2003b). Scooping up meaningful evidence. *The Journal of the Staff*

Development Council, 24(4), 27-30.

Hacker, D. J. & Niederhauser, D. S. (2000). Promoting deep and durable learning in the online

classroom. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective*

teaching in the online classroom (pp. 53-63). San Francisco: Jossey-Bass.

Hase, S. & Ellis, A. (2001). Problems with online learning are systemic, not technical. In J.

Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 27-

34). London: Kogan Page.

Isaac, S. & Michael, W. B. (1981). *Handbook in research and evaluation* (2nd ed.). San Diego, CA: EdITS.

Jackson, B. & Anagnostopoulou, K. (2001). Making the right connections: improving quality in online learning. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 53-64). London: Kogan Page.

Kerka, S. (1996). *Distance learning, the Internet, and the World Wide Web* (CE 071 753). Washington, DC.: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 395 214).

Kerka, S. (2000). *Virtual learning: The good, the bad, and the ugly. Trends and Issues Alert No. 12* (CE 079 637). Washington, DC.: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 437 554).

Killion, J. (Winter, 2002). Loading the e-learning shopping cart. *Journal of Staff Development*, 23(1), 12-16.

Knowlton, D. S. (2000). A theoretical framework for the online classroom: A defense and delineation of a student-centered pedagogy. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 5-14). San Francisco: Jossey-Bass.

Ko, S., & Rossen, S. (2001). *Teaching online: A practical guide*. New York: Houghton Mifflin.

Lanford, H. W. (1969). *Technological forecasting methodologies: A synthesis*. New York: American Management Association.

Lary, L. M. (2000). Online learning: Student and environmental factors and their relationship to secondary school student success in online courses. *Dissertation Abstracts International*, 63 (06), 2210A. (UMI No. 3055697).

Little, J. W. (Summer, 1993). Teachers' professional development in a climate of educational

    reform. *Educational Evaluation and Policy Analysis,* 15(2), 129-151.

Linstone, H. A., & Turoff, M. (Eds.). (1975). *The Delphi method: Techniques and application*s.

    Reading, Massachusetts: Addison Wesley.

Mallinen, S. (2001). Teacher effectiveness and online learning. In J. Stephenson (Ed.), *Teaching*

    & learning online: Pedagogies for new technologies (pp. 139-149). London: Kogan Page.

Mason, R. (2001). Effective facilitation of online learning: the Open University experience. In J.

    Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 67-

    75). London: Kogan Page.

Martino, J. P. (1972). *Technological forecasting for decisionmaking*. New York: American

    Elsevier.

Maryland State Department of Education. (2000). *Internet-based learning study group:*

    Expanding the high school classroom through Web-delivered courses. Annapolis, MD:

    Author.

McLaughlin, M. W. (1989). *The RAND change agent study ten years later: Macro perspectives*

    and micro realities (CRC No. P89-108). Stanford, CA.: Center for Research on the

    Context of Secondary School Teaching.

MD. CODE. ANN., Education §13A.09.09.02 (2005). Retrieved February 28, 2005, from

    http://www.dsd.state.md.us/comar/

Meyer, K. A. (May, 2003). The Web's impact on student learning. *Technological Horizons In*

    Education Journal, 30(10), 14-24.

Mitroff, I. & Turoff, M. (1975). Philosophical and methodological foundations of Delphi. In

Linstone, H. A. & Turoff, M. (Eds), *The Delphi method: Techniques and application* (pp. 17-36). Reading, Massachusetts: Addison Wesley.

Morrison G. R. & Guenther, P. F., (2000). Designing instruction for learning in electronic

classrooms. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 15-22). San Francisco: Jossey-Bass.

Muilenburg, L., & Berge, Z. L. (2001). Barriers to distance education: A factor-analytic study.

The American Journal of Distance Learning, 15(2), 7-22.

National Association of State Boards of Education. (2001). *Any time, any place, any path, any

pace: Taking the lead on e-learning policy*. Alexandria: Author.

National Association of State Boards of Education. (2002). *Virtual realities: A school leader's

guide to online education.* Alexandria: Author.

National Staff Development Council (2003). *NSDC standards for staff development (Revised

2001).* Retrieved January 15, 2004, from http://www.nsdc.org/standards/index.cfm.

Palloff, R. M., & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of

online teaching*. San Francisco: Jossey-Bass.

Pape, E. & Adams, R. (2002). Teaching methods and staff development for online classes. In I.

Abdal-Haqq (Ed.), *Virtual realities: A school leader's guide to online education* (pp. 17-24). Alexandria, VA: National School Boards Association.

Pollock, S. & Squire, D. (2001). Television and learning: Ways of connecting media and

learning. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 207-218). London: Kogan Page.

Rotondi, A. & Gustafson (1996). Theoretical, methodological and practical issues arising out of

the Delphi method. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi*

method and its application to social policy and public health (pp. 34-55). London: Jessica

Kingsley.

Scheele, S. (1975). Reality construction as a product of Delphi Interaction. In Linstone, H. A. &

Turoff, M. (Eds), *The Delphi method: Techniques and application* (pp. 37-71). Reading,

Massachusetts: Addison Wesley.

Scheibe, M., Skutsch, M. & Schofer, J. (1975). Experiments in Delphi methodology. In Linstone,

H. A. & Turoff, M. (Eds), *The Delphi method: Techniques and application* (pp. 262 -

287). Reading, Massachusetts: Addison Wesley.

Schlais, D. & Davis, R. (2001). Distance learning through educational networks: The global view

experience. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new*

technologies (pp. 112-126). London: Kogan Page.

Schrum, L. M. (2000). Guarding the promise of online learning. *The Education Digest*, *66*(4),

43-47. Retrieved February, 2001, from

http://proquest.umi.com/pqweb?TS=...&Sid=1&Idx=50&deli=1&RQT=309&Dtp=1

Seevers, G. L., Jr. (1993). *Identification of criteria for delivery of theological education through*

distance education: An international Delphi study. Unpublished doctoral dissertation,

Virginia Polytechnic Institute and State University.

Shaw, K. (2001). Designing online learning opportunities, orchestrating experiences and

managing learning. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for*

new technologies (pp. 175-181). London: Kogan Page.

Simonson, M. (2000). Making decisions: The use of electronic technology in online classrooms. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 29-34). San Francisco: Jossey-Bass.

Southern Regional Education Board. (1999). *Essential elements for Web-based courses for high school students* (99T03). Atlanta, GA: Author.

Southern Regional Education Board. (2000). *Essential principles of quality: Guidelines for Web-based courses for middle grades and high school students* (00T04). Atlanta, GA: Author.

Southern Regional Education Board. (2003). *Essential principles of high-quality online teaching: Guidelines for evaluating K-12 online teachers* (03T02). Atlanta, GA: Author.

Sparks, D. & Hirsh, S. (1997). *A new vision for staff development*. Alexandria, VA: Association for Supervision and Curriculum Development.

Stein, D. & Glazer, H. R. (2003). Mentoring the adult learner in academic midlife at a distance learning university. *The American Journal of Distance Education, 17*(1), 7-23.

Stephenson, J. (2001). Learner-managed learning – an emerging pedagogy for learning online. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 219-224). London: Kogan Page.

Thomas, C. K. (2002). *The role of the public school superintendent in local economic development*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Thomas, W. R. (1999). *Electronic delivery of high school courses: Status, trends and issues* (99T06). Atlanta, GA: Southern Regional Education Board.

Thomas, W. R. (2002a). *Considerations for planning a state virtual school: Providing Web-based courses for K-12 students* (02T01). Atlanta, GA: Southern Regional Education Board.

Thomas, W. R. (2002b). *Funding Web-based courses for K-12 students to meet State educational goals* (02T02). Atlanta, GA: Southern Regional Education Board.

Trotter, A. (2001). Cyber learning at Online High. *Education Week*, 20(19), 28-33. Retrieved January, 2001, from http://www.edweek.com/ew/ewstory.cfm?slug=19online.h20

Turoff, M. (1975). The Policy Delphi. In Linstone, H. A. & Turoff, M. (Eds), *The Delphi method: Techniques and application* (pp. 84-101). Reading, Massachusetts: Addison Wesley.

Turoff, M. & Hiltz, S. R. (1996). Computer-based Delphi processes. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 56-85). London: Jessica Kingsley.

Ward, A. (2002). Profiles of online education: Programs in technology leadership network districts. In I. Abdal-Haqq (Ed.), *Virtual realities: A school leader's guide to online education* (pp. 25-55). Alexandria, VA: National School Boards Association.

Web-Based Education Commission. (2000). *The power of the Internet for learning*. Retrieved May 24, 2003, from http://www.ed.gov/offices/AC/WBEC/Final Report.

Weiss, R. E. (2000). Humanizing the online classroom. In R. E. Weiss, D. S. Knowlton & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom* (pp. 47-51). San Francisco: Jossey-Bass.

Whitlock, Q. (2001). Course design for online learning – what's gone wrong?. In J. Stephenson (Ed.), *Teaching & learning online: Pedagogies for new technologies* (pp. 182-191). London: Kogan Page.

Williams, P. E. (2003). Roles and competencies for distance education programs in higher education institutions. *The American Journal of Distance Education, 17*(1), 45-57.

Ziglio, E. (1996). The Delphi method and its contribution to decision-making. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 3-33). London: Jessica Kingsley.

Appendix A

Internal Committee Members

National Representative:

William R. Thomas
Director, Educational Technology
Southern Regional Education Board
592 Tenth Street, N.W.
Atlanta, Georgia 30318-5790

State Representative:

Dr. Liz Glowa
Coordinator, Maryland Virtual Learning Opportunities
Maryland State Department of Education
200 West Baltimore Street
Baltimore, Maryland 21201

Local Representative:

Ryan Imbriale
Facilitator, Maryland Students Online Consortium
Baltimore County Public Schools
Office of Instructional Technology
1946-O Greenspring Drive
Timonium, Maryland 21093

Appendix B

Internal Committee Letter

Date: April 13, 2004

Dear

      Thank you for agreeing to serve as a member of the internal committee for this study. Educators are faced with the rapid influx of online courses in the K-12 educational setting. As a result, school districts and administrators are faced with multiple issues new to the educational environment. The purpose of this study is to determine, through consensus building using the Delphi technique, the necessary components of a staff development program to prepare teachers to teach secondary online classes for a local school district. Recommendations and suggestions will be collected for differentiating staff development to meet the individual needs of teachers. For the purpose of this study an online course is one in which the majority (80% or more) of the instruction is delivered through the Internet and accessible by a computer twenty-four hours per day, seven days per week.

      Using a three-round Delphi technique panelists, representing successful secondary public and corporate online schools, will develop a common consensus on the criteria. The panelists will identify the components of a staff development program and propose recommendations for differentiating the staff development to meet the individual needs of teachers. The panelists will then scale the criteria as to their degree of importance. By working through the rounds and providing statistical feedback, consensus may be obtained. Each panelist will be provided the frequency, mean, and standard deviation for each criterion. The components agreed upon by 80% of the panelists as either very important or important will be used to develop an evaluation instrument.

      Virginia Tech's Internal Review Board requires that each subject involved in any phase of the research read the *Informed Consent* document and sign in area X, subject signature. This document will also provide additional information on the research methodology to be employed by the researcher. Please fax page 3 with your signature to me at 301-223-9610. You may wish to retain a copy of this page in the event you have questions or concerns.

      The internal committee will serve to determine clarity of the initial questions for round one of the study and identify 25 nationally recognized successful schools and corporations offering secondary online courses from which a randomized sample will be drawn. Please open the file *Initial Questions*, read each question and make any comments or suggestions that will clarify the questions. Please open the file *Successful Online Schools* and add successful, public or private, online schools. Each internal committee member will use his/her own judgment to determine the success of online schools. Please return each file to me via email within two weeks.

      Thank you in advance for your time and willingness to serve on the internal committee. Do not hesitate to email or call if you have any questions.

Appendix C

Initial Form Requesting Successful Online Schools

Please identify 25 nationally recognized successful schools and corporations offering secondary online courses from which a randomized sample will be drawn. Each internal committee member will use his/her own judgment to determine the success of an online school. The researcher will then contact each site in order to solicit the appropriate individual to serve on the Delphi panel. Having received the individual contacts, an email will be sent explaining the purpose and timeline of the study and seeking agreement from each for participation in the study. If you wish to identify or recommend a contact within a school, please feel free to do so. Please return each file to me via email.

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Appendix D

Initial Questions With Revisions

The following questions will be used with the panelists in round one of the study. Please read each question and make any comments or suggestions that will clarify the questions. Do not hesitate to email or call if you have any questions.

Question 1:

From your experiences and observations, what are the necessary components of a staff

development program to prepare teachers to teach secondary online classes in a local school

system? List specific components and use as much space as needed.

Question 2:

How can a staff development program for teaching online be structured to assess and address the

individual needs of teachers? List specific recommendations and use as much space as needed.

Appendix E

Online Schools Selected by the Internal Committee

Please identify 25 nationally recognized successful schools and corporations offering secondary online courses from which a randomized sample will be drawn. Each internal committee member will use his/her own judgment to determine the success of an online school. The researcher will then contact each site in order to solicit the appropriate individual to serve on the Delphi panel. Having received the individual contacts, an email will be sent explaining the purpose and timeline of the study and seeking agreement from each for participation in the study. If you wish to identify or recommend a contact within a school, please feel free to do so. Please return each file to me via email.

Local Member May 5, 2004	State Member May 4, 2004	National Member May 14, 2004
1. Apex Learning	Kentucky Virtual	Florida Virtual School
2. Class.com	Florida Virtual	West Virginia Dept. of Education
3. MVLO (Maryland)	West Virginia Virtual	Louisiana Department of Education
4. Florida Virtual School	Greenbush Virtual	Virtual High School
5. Intelligent Education	Illinois Virtual	Kentucky Virtual High School
6. Michigan Virtual H.S.	Georgia e-learning	Gwinnett County Public Schools, GA
7. Kentucky Virtual H.S.	Idaho Distance Learning	Cobb County Schools, GA
8. Montgomery CPS, MD	Utah	Fairfax County Public Schools, VA
9. EPGY at Stanford University	Washington State	Apex Learning
10. VHS (Virtual High School)	Arizona	Mississippi Dept. of Education
11. California Virtual H.S.	California AP Project	Alabama Online High School
12. Illinois Virtual H.S.	Michigan	Arkansas Virtual High School
13.	Virtual High School	Illinois Virtual High School
14.	Hawaii Dist. Learn. Program	Michigan Virtual University
15.	Alabama	UCCP
16.	Arkansas	Idaho Digital Learning Academy
17.	Louisiana	Houston City Schools, TX
18.	Mississippi	Los Angeles Public Schools
19.	New Mexico	Online Latin School, CO
20.	Oklahoma	Colorado Cyberschool Association
21.	North Dakota	Prince William Co. Schools, VA
22.	Texas	
23.	**http://www.doe.mass.edu** Massachusetts	
24.	EDC's Center for Online Professional Education	
25.	SREB Electronic Campus	

Appendix F

Online Schools Chosen for Research Population

Schools selected by two or more members of the Internal Committee:

1. Apex Learning
2. Florida Virtual School
3. Michigan Virtual High School
4. Kentucky Virtual High School
5. Virtual High School
6. Illinois Virtual High School
7. West Virginia Virtual High School
8. Louisiana Department of Education
9. Mississippi Department of Education
10. Alabama Online School
11. Arkansas Virtual High School
12. California Virtual High School
13. Idaho Digital Learning
14. Texas Education Agency
15. Georgia eLearning

Appendix G

First Panelist Letter

Date

Dear

       I am a principal of a high school in western Maryland and co-chairing a committee for implementing online courses within our district. One of the dilemmas facing our district is developing a staff development program to train teachers to be instructors of online classes. Your virtual school is one of fifteen selected by two or more members of an internal committee. The internal committee consisted of a district, state, and national person involved in online education.

       The purpose of the study is to determine, through consensus building using the Delphi technique, the necessary components of a staff development program to prepare teachers to teach secondary online classes for a local school district. Recommendations and suggestions will be collected for differentiating staff development to meet the individual needs of teachers. For the purpose of this study an online course is one in which the majority (80% or more) of the instruction is delivered through the Internet and accessible by a computer twenty-four hours per day, seven days per week.

       The study will use three-rounds to develop consensus. Each round should take no longer than 30 minutes. Each panelist will receive the results of each round.

Round 1	In this first round, panelists will be asked to respond to two initial questions and complete a participation agreement.
Round 2	Panelists will rate each staff development component as to its importance in the preparation of teachers to teach secondary online classes in a local school system. Panelists will rate the recommendations for structuring the staff development to assess and address the individual needs of teachers.
Round 3	Panelists will be provided statistical feedback from Round 2 and asked to re-evaluate the items receiving favorable ratings. Panelists will be allowed to provide comments for dissenting opinions.

       The results will provide the basis for developing an outline of a staff development program to prepare staff to teach secondary online classes. Recommendations will be compiled for differentiating the staff development to meet the individual needs of teachers.
Please email me at jodavid1.vt.edu if you are willing to serve as a panelist in this study. If there is another person more directly involved in the training of online teachers, please forward this email to that individual.

Appendix H

Panelists

Dr. Cliff Blackerby
Director Distance Education Services
Texas Education Agency
7145 West Tidwell
Houston, TX 77092-2096

Ken Bradford
Program Coordinator
Louisiana Virtual School
Louisiana Department of Education
2758-D Brightside Drive
Baton Rouge, LA 70820

Lisa Ciardulli
High School eLearning Coordinator
Georgia Department of Education
1970 Twin Towers East
Atlanta, GA 30334

Sandy O'Reilly
Academic Director
Arkansas Virtual School
P.O. Box 665
Dardanelle, AR 72834

Liz Papa, CEO
Virtual High School
3 Clock Tower Place, Suite 100A
Maynard, MA 01754

Felicia Ryerson
Director of Training and Development
Florida Virtual School
445 West Amelis Street, Suite 301
Orlando, FL 32801

Dr. Donna Vakili
Director
Idaho Learning Academy
777 South Latah
Boise, ID 83706

Appendix I

Second Panelist Letter

Date

Dear

       Thank you for agreeing to participate in this study. Educators are faced with the rapid influx of online courses in the K-12 educational setting. As a result school districts and administrators are faced with multiple issues new to the educational environment. The purpose of the study is to determine, through consensus building using the Delphi technique, the necessary components of a staff development program to prepare teachers to teach secondary online classes for a local school district. Recommendations and suggestions will be collected for differentiating staff development to meet the individual needs of teachers. For the purpose of this study an online course is one in which the majority (80% or more) of the instruction is delivered through the Internet and accessible by a computer twenty-four hours per day, seven days per week.

       The study will use three-rounds to develop consensus. Each round should take no longer than 30 minutes. Each panelist will receive the results of each round.

Round 1	In this first round, panelists will be asked to respond to two initial questions and complete a participation agreement.
Round 2	Panelists will rate each staff development component as to its importance in the preparation of teachers to teach secondary online classes in a local school system. Panelists will rate the recommendations for structuring the staff development to assess and address the individual needs of teachers.
Round 3	Panelists will be provided statistical feedback from Round 2 and asked to re-evaluate the items receiving favorable ratings. Panelists will be allowed to provide comments for dissenting opinions.

       The results will provide the basis for developing an outline of a staff development program to prepare staff to teach secondary online classes. Recommendations will be compiled for differentiating the staff development to meet the individual needs of teachers. Thank you in advance for providing your expertise, time, and willingness to participate in this study.

Respectfully,

John Davidson   Stephen R. Parson, Ed.D.
Doctoral Candidate   Faculty Advisor

Appendix J

Round 1 Questions

Round 1 Questions:
Please read each question and use as much space as needed to respond. After all sites have responded I will compile the results in a Likert scale survey in which you will see all the results and be able to rate each item as to its degree of importance. Please return your responses via email no later than September 27th. The projected date for Round 2 (your opportunity to rate each item) is September 30th.

Question 1:

From your experiences and observations, what are the necessary components of a staff

development program to prepare teachers to teach secondary online classes in a local school

system? List specific components and use as much space as needed.

Question 2:

How can a staff development program for teaching online be structured to assess and address the

individual needs of teachers? List specific recommendations and use as much space as needed.

Appendix K

Round 1 Responses

Responses to Question 1:

Training committee

Life of an online educator

Student communications

Internal communications

Course navigation

Troubleshooting and technology tips

Assessments

Student assignments

Learning management system

Expectations of an instructor

Funding for online courses

Expectations of students

Daily student assignments

Policies, procedures, and beliefs

Post training

Ongoing mentoring

Extensive individual support

Knowledge of use of online course platform and delivery system

        Writing course documents

        Revising course documents

        Building online assessments within course platform

        Using course platform grade book

        Using features and functionality of the online platform

Online pedagogy

        Facilitating online discussions

        Online assessments

        Netiquette

        Facilitating online collaboration, including team and group activities and projects

        Building online community

Opportunity to be an online learner

Learn the course management system infrastructure

Follow-up training as they work with students

Online facilitation strategies

Online course delivery techniques

Opportunities to practice facilitation and delivery strategies

Preview of existing online courses for design and function

Time management

Technology management

Institution policies and procedures

Training teachers on the platform to be used

Shifting the paradigms from traditional teaching to the virtual classroom

Training teachers to address the individual student's needs

Understanding the importance of clearly communicating in written word

Introduction and experience with the tools that will be employed in teaching an online course, i.e

course management system, discussion boards, virtual classroom, gradebook, etc.

Understanding the mechanics and process of delivering and supporting an online course

Understanding the technical requirements of an online course

Understanding the policies and procedures associated with an online course

Familiarity with course content

Familiarity with online pedagogy

Instructional philosophy and design of online instruction

Communicating frequently and with clarity

Developing a sense of an online community

Employing one face-to-face session to develop a common vision and to share successes and failures

Requiring prospective online teachers to shadow a mentor teacher

Delivery of training using online media

Staff development should model a variety of activities and assessments

Requiring college courses in the teaching and development of online classes

Model best online teaching; delivery, methods, and best practices

Technical skills; course software, file management, graphics, assessments

Learning styles and online learning

Developing course standards, syllabus, and schedules

Accessibility and 508 compliance

Delivery formative and summative assessments online

Instructional design

What it takes to be an online student

Facilitating online discussion

Instructional design

Incorporating advanced graphics and video

Course revision and reflection

Data driven decision-making

Assessment and standards

Addressing the at-risk learner

Administrative issues

Basic software management skills

Understanding of email

Application skills in software programs

Interactive skills

Modeling skills

Communication skills

Instructional design

Understanding learning styles

Time on task and time management strategies

Administrative logistics

Basic learning theories

Student management

Evaluation and assessment strategies

Local policies and procedures

Copyright

Student motivational strategies

Training with the platform components

Offering experience as an online student in the training

Offer experience in developing online components

Strategies for successful online teaching

Responses to Question 2:

Monthly feedback on successes, challenges, and roadblocks from instructional leader and mentors

Evaluation of training after three months of online teaching experience

Evaluation meeting at the end of the contract year to assess student success, teacher success, and training

Delivery of training online

Practice the skills they will be teaching their online students

Pre-assessment of teachers needs

Is online teaching for me as a teacher?

Utilizing new techniques to create a part of a lesson

Posting a lesson

Journaling during the program to assist teachers in the assessment of their development and formulate questions

Willingness to explore teaching in a new frontier

Pre-assessment of abilities: word processing, creating HTML documents, scanning, uploading documents from different formats

Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class

Ability to work with students of various technological abilities

Experiencing online learning from a student's perspective

Utilizing discussion boards for ongoing discussion and collaboration

Offered several times throughout the year – scheduled and asynchronous

Ability to take courses for credit and recertification

Self-assessment of own teaching, technology skills, and learning styles

Include a variety of activities to meet diverse learning styles

Provide prompt feedback and explicit grading criteria

Include team building approach to courses and delivery to insure multiple teachers can teach the curriculum

Include collaborative opportunities for cross-curricular as well as curricular teams

Opportunity to meet content specific needs including available technology, software, texts, and curriculum

Evaluative feedback instruments to revise online instruction

Activities should be relevant and include the ability to create new online curriculum or adapt/revise existing online curriculum

Opportunity to air concerns and understanding of online learning include differences and similarities with face to face instruction

Determine whether the faculty are best served by teaching online. Will they be an effective online instructor?

Recognize some aspects of the training will be needed by all individuals

Individualized training by having each teacher develop an online module

Include multiple models, activities, and examples

Utilize both formative and summative assessments to make timely adjustments and correction in the training. Don't wait until the end of the training

Provide areas for content specific questions and discussions

Provide content specific chat/discussions

Appendix L

Round 2 Survey: Components of a staff development program (Question 1)

From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? List specific components and use as much space as needed.

Round 2 represents a compilation of all staff development components submitted. A rating scale accompanies each component. Please consider the importance of each component in a staff development program to prepare teachers to teach secondary online classes in a local school system.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	1 not important	2 slightly important	3 very important	4 extremely important	Comments
1. Understanding learning styles	☐	☐	☐	☐	
2. Introduction, training, and experience with the tools that will be employed in teaching an online course (course navigation, course management infrastructure, course management system, discussion boards, virtual classroom, grade book)	☐	☐	☐	☐	
3. Shifting the paradigms from traditional teaching to the virtual classroom	☐	☐	☐	☐	
4. Developing a sense of an online community	☐	☐	☐	☐	
5. Understanding the technical requirements of an online course	☐	☐	☐	☐	
6. Requiring college courses in the teaching and development of online classes	☐	☐	☐	☐	
7. Addressing the at-risk learner	☐	☐	☐	☐	

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	1 not important	2 slightly important	3 very important	4 extremely important	Comments
8. Understanding institutional policies, procedures, and funding associated with an online course	☐	☐	☐	☐	
9. Opportunities to practice facilitation and delivery strategies	☐	☐	☐	☐	
10. Life of an online educator	☐	☐	☐	☐	
11. Netiquette	☐	☐	☐	☐	
12. Extensive individual support as the online teacher works with students (follow-up training)	☐	☐	☐	☐	
13. Student motivational strategies	☐	☐	☐	☐	
14. Model best online teaching: delivery, methods, best practices, and strategies for successful online teaching	☐	☐	☐	☐	
15. Developing course standards, syllabus, and schedules	☐	☐	☐	☐	
16. Expectations of students	☐	☐	☐	☐	
17. Daily student assignments	☐	☐	☐	☐	
18. Training teachers to address the needs of individual students	☐	☐	☐	☐	
19. Delivery of formative and summative assessments online	☐	☐	☐	☐	
20. Requiring prospective online teachers to shadow a mentor teacher	☐	☐	☐	☐	
21. Expectations of an instructor	☐	☐	☐	☐	
22. Preview of existing online courses for design and function	☐	☐	☐	☐	
23. What it takes to be an online student	☐	☐	☐	☐	
24. Understanding the importance of clearly communicating with clarity and frequently in written word	☐	☐	☐	☐	
25. Model a variety of activities and assessments	☐	☐	☐	☐	
26. Accessibility and 508 compliance	☐	☐	☐	☐	

	1 not important	2 slightly important	3 very important	4 extremely important	Comments
27. Familiarity with online pedagogy	☐	☐	☐	☐	
28. Technology management: troubleshooting and technology tips	☐	☐	☐	☐	
29. Employing one face-to-face session to develop a common vision and to share successes and failures	☐	☐	☐	☐	
30. Online facilitation strategies/facilitating online collaboration	☐	☐	☐	☐	
31. Familiarity with course content	☐	☐	☐	☐	
32. Data driven decision-making	☐	☐	☐	☐	
33. Instructional philosophy and design of online courses	☐	☐	☐	☐	
34. Incorporating advanced graphics and video	☐	☐	☐	☐	
35. Course standards	☐	☐	☐	☐	
36. Experience in developing and revising online components	☐	☐	☐	☐	
37. Time on task and time management strategies	☐	☐	☐	☐	
38. Basic learning theories	☐	☐	☐	☐	
39. Post training: ongoing mentoring	☐	☐	☐	☐	
40. Understanding the mechanics and process of delivering and supporting an online course	☐	☐	☐	☐	
41. Copyright	☐	☐	☐	☐	
42. Training committee	☐	☐	☐	☐	
43. Student management strategies	☐	☐	☐	☐	

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Round 2 Survey: Addressing Individual Needs in a Staff Development Program (Question 2)
How can a staff development program for teaching online be structured to assess and address the individual needs of teachers? List specific recommendations and use as much space as needed.

Round 2 represents a compilation of all ideas submitted for individualizing a staff development program. A rating scale accompanies each component. Please consider the importance of each component in a staff development program to prepare teachers to teach secondary online classes in a local school system.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	1 not important	2 slightly important	3 very important	4 extremely important	Comments
1. Ability to take courses for credit or recertification	☐	☐	☐	☐	
2. Experiencing online learning from a student's perspective	☐	☐	☐	☐	
3. Activities should be relevant and include the ability to create online curriculum or adapt/revise existing online curriculum	☐	☐	☐	☐	
4. Include a variety of activities to meet diverse learning needs	☐	☐	☐	☐	
5. Individualized training by having each teacher develop and post an online module	☐	☐	☐	☐	
6. Provide prompt feedback and explicit grading criteria	☐	☐	☐	☐	
7. Pre-assessment of abilities: word processing, creating HTML documents, scanning, uploading documents from different formats	☐	☐	☐	☐	
8. Evaluation of training after three months of online teaching experience	☐	☐	☐	☐	

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	1 not important	2 slightly important	3 very important	4 extremely important	Comments
9. Assessing whether the teacher is a good candidate for being an online teacher	☐	☐	☐	☐	
10. Include multiple models, activities, and examples in training	☐	☐	☐	☐	
11. Practice the skills they will be teaching their online students	☐	☐	☐	☐	
12. Utilizing discussion boards for ongoing discussion, collaboration and virtual classroom sessions as a forum	☐	☐	☐	☐	
13. Provide content specific questions and discussions	☐	☐	☐	☐	
14. Will the teacher be an effective online instructor?	☐	☐	☐	☐	
15. Evaluation meeting at the end of the contract year to assess student success, teacher success, and training	☐	☐	☐	☐	
16. Online training must be delivered on time	☐	☐	☐	☐	
17. Recognize some aspects of the training will be needed by all individuals	☐	☐	☐	☐	
18. Include collaborative opportunities for cross-curricular as well as curricular teams.	☐	☐	☐	☐	
19. Ability to work with students of various technological abilities	☐	☐	☐	☐	
20. Monthly feedback on successes, challenges, and roadblocks from instructional leaders and mentors	☐	☐	☐	☐	
21. Journaling during the program to assist teachers in the assessment of their development and formulate questions	☐	☐	☐	☐	
22. Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class	☐	☐	☐	☐	

	1 not important	2 slightly important	3 very important	4 extremely important	Comments
23. Offered several times throughout the year – scheduled and asynchronous	☐	☐	☐	☐	
24. Include team building approach to courses and delivery to insure multiple teachers can teach the curriculum	☐	☐	☐	☐	
25. Opportunity to meet content specific needs including available technology, software, texts, and curriculum	☐	☐	☐	☐	
26. Opportunities to air concerns and understanding of online learning including differences and similarities with face to face instruction	☐	☐	☐	☐	
27. Utilize both formative and summative assessments to make timely adjustments and corrections in the training	☐	☐	☐	☐	
28. Provide areas for content specific questions and discussions	☐	☐	☐	☐	
29. Self assessment of one's own teaching style and knowledge of students' learning styles	☐	☐	☐	☐	
30. Willingness to explore teaching in a new frontier	☐	☐	☐	☐	

Appendix M

Round 3 Survey: Components of a staff development program (Question 1)

From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? List specific components and use as much space as needed.

Round 3 represents a compilation of all ratings submitted by panelists in Round 2. Each component is listed with your rating and the results of the entire panel. Please consider your response with that of the group and once again rate each component for its level of importance. Note that items not receiving an 80% response have a line drawn through them and will not be rated in Round 3. Any comments submitted in Round 2 are included in bold print.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	
1. Understanding learning styles		3.43	.535	100	☐	☐	☐	☐	

Understanding learning styles will be important in selecting teaching strategies and media integration.

2. Introduction, training, and experience with the tools that will be employed in teaching an online course (course navigation, course management infrastructure, course management system, discussion boards, virtual classroom, grade book)		3.71	.488	100	☐	☐	☐	☐	

Professional development of teacher, teacher competency is essential

3. Shifting the paradigms from traditional teaching to the virtual classroom		3.14	.690	86	☐	☐	☐	☐	
4. ~~Developing a sense of an online community~~		3.00	.816	71					

This comes with time in the environment

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	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale 1	2	3	4	Comments
5. ~~Understanding the technical requirements of an online course~~		2.57	.787	57					
6. ~~Requiring college courses in the teaching and development of online classes~~		1.71	.951	29					
7. ~~Addressing the at-risk learner~~		2.57	.535	57					

This answer is conditional. Online courses cannot be a one-size fits all. The course must be tailored to the student audience. If the purpose is to address at-risk students then the answer would be different. Courses that are targeting AP students would not be appropriate for at-risk students. Most existing courses are not targeting this population.

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale 1	2	3	4	Comments
8. ~~Understanding institutional policies, procedures, and funding associated with an online course~~		2.86	.690	71					
9. Opportunities to practice facilitation and delivery strategies		3.29	.488	100	☐	☐	☐	☐	
10. ~~Life of an online educator~~		2.17	.753	33					
11. Netiquette		3.00	.577	86	☐	☐	☐	☐	
12. Extensive individual support as the online teacher works with students (follow-up training)		3.29	.488	100	☐	☐	☐	☐	

This would be important to novice or inexperienced teachers. As teachers become more experienced this is less important.

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale 1	2	3	4	Comments
13. Student motivational strategies		3.14	.378	100	☐	☐	☐	☐	
14. Model best online teaching: delivery, methods, best practices, and strategies for successful online teaching		3.43	.535	100	☐	☐	☐	☐	
15. Developing course standards, syllabus, and schedules		2.86	.378	86	☐	☐	☐	☐	
16. Expectations of students		3.14	.378	100	☐	☐	☐	☐	
17. ~~Daily student assignments~~		2.43	.535	43					

Being asynchronous, we are more flexible on daily work. Our calendars give students weekly assignments. Working with students of all ability levels makes it necessary to allow this flexibility

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	

18. Training teachers to address the needs of individual students — 3.14 .690 86 ☐ ☐ ☐ ☐

This comes as they begin teaching – part of follow up

19. Delivery of formative and summative assessments online — 3.14 .690 86 ☐ ☐ ☐ ☐

Not immediately – training for this should occur close to the time assessments are given

20. ~~Requiring prospective online teachers to shadow a mentor teacher~~ — 2.67 .816 50

Mentoring – in a virtual environment in person shadowing is very difficult – time can be spent in 3 way conference calls so mentor can model teacher-student-parent communication.

21. Expectations of an instructor — 3.14 .690 86 ☐ ☐ ☐ ☐

22. ~~Preview of existing online courses for design and function~~ — 2.57 .535 57

23. ~~What it takes to be an online student~~ — 2.71 .488 71

Important to experience the student side of the course

24. Understanding the importance of clearly communicating with clarity and frequently in written word — 3.29 .488 100 ☐ ☐ ☐ ☐

25. ~~Model a variety of activities and assessments~~ — 2.86 .690 71

Hopefully those are already in the course and they will see those as they become familiar with the course they will be teaching.

26. Accessibility and 508 compliance — 3.00 .577 86 ☐ ☐ ☐ ☐

A new online teacher needs to have an awareness of this – not a complete understanding of how the technology makes this work within the course.

We do not change our virtual classes to meet 504 or accessibility needs. These are things the local school district must deal with. We can only adjust our grading for special needs students.

This is becoming more of a legal requirement.

27. Familiarity with online pedagogy — 2.86 .378 86 ☐ ☐ ☐ ☐

Must be sure the new teacher understands the pedagogy and believes in that pedagogy to be successful with the course.

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	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	
28. ~~Technology management: troubleshooting and technology tips~~		2.57	.535	57					

Again, this comes over time in the course and working with students.

29. ~~Employing one face-to-face session to develop a common vision and to share successes and failures~~		2.57	1.134	43					

Working with over 200 districts state wide, it is very difficult to have face to face sessions. I also do not have full time teachers which is another roadblock to this aspect.

This is desirable if possible, but many online students will be geograpically displaced and can not participate in a f-2-f component. The is an appropriate strategy only if all the students and the teacher are from the same school district.

30. Online facilitation strategies/facilitating online collaboration		3.43	.535	100	☐	☐	☐	☐	
31. Familiarity with course content		3.57	.535	100	☐	☐	☐	☐	
32. ~~Data driven decision-making~~		2.57	.787	43					

Most of my decisions are based on school district needs and student needs

33. ~~Instructional philosophy and design of online courses~~		2.71	.488	71					

Again, this is conditional. Will teachers be designing their online courses or will they be using a course from a provider? There may be a difference in importance based upon this.

34. ~~Incorporating advanced graphics and video~~		2.14	1.069	29					

Bandwidth can be a problem when incorporating advanced graphics and video. We have to be sure the lowest level of technology used will successfully access the content.

35. Course standards		3.14	.690	86	☐	☐	☐	☐	

Where to find them in the course, awareness of how they are incorporated

36. ~~Experience in developing and revising online components~~		2.57	.787	71					
37. ~~Time on task and time management strategies~~		2.86	.690	71					
38. ~~Basic learning theories~~		2.57	.535	57					

Experienced classroom teachers should have this knowledge before moving into the online environment. Our philosophy is that one should not teach online unless they have had successful experience in a traditional classroom.

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	
39. Post training: ongoing mentoring		3.00	.577	86	☐	☐	☐	☐	
40. ~~Understanding the mechanics and process of delivering and supporting an online course~~		2.43	.535	43					
41. Copyright		3.29	.488	100	☐	☐	☐	☐	
Particularly if your teachers are expected to develop lessons.									
42. ~~Training committee~~		1.71	.756	14					
43. Student management strategies		3.00	.000	100	☐	☐	☐	☐	
Over time – shows importance of having a mentor for follow up and ongoing support									

Round 3 Survey: Addressing Individual Needs in a Staff Development Program (Question 2)

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers? List specific recommendations and use as much space as needed.

Round 3 represents a compilation of all ratings submitted by panelists in Round 2. Each component is listed with your rating and the results of the entire panel. Please consider your response with that of the group and once again rate each component for its level of importance. Note that items not receiving an 80% response have a line drawn through them and will not be rated in Round 3. Any comments submitted in Round 2 are included in bold print.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	
1. ~~Ability to take courses for credit or recertification~~		2.71	.756	57					

It is less important that they take courses for credit or recertification than it is to demonstrate skill mastery. Taking a course for credit does not insure skill or knowledge mastery. Some would take the course solely for credit without regard to need.

	Your Rating	Mean	Standard Deviation	Overall Percentage	1	2	3	4	Comments
2. Experiencing online learning from a student's perspective		3.57	.535	100	☐	☐	☐	☐	
3. Activities should be relevant and include the ability to create online curriculum or adapt/revise existing online curriculum		3.29	.488	100	☐	☐	☐	☐	

Agree that activities should be relevant – that is very important – development and revision is not important as part of an online preparation program. One should not develop online content unless they have had experience teaching online.

	Your Rating	Mean	Standard Deviation	Overall Percentage	1	2	3	4	Comments
4. Include a variety of activities to meet diverse learning needs		3.00	.000	100	☐	☐	☐	☐	

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	Your Rating	Mean	Standard Deviation	Overall Percentage	Rating Scale				Comments
					1	2	3	4	

5. ~~Individualized training by having each teacher develop and post an online module~~ — 2.86, 1.069, 71

It is an extremely great task to create an online module. Most of my teachers learn as they go. I find it is easier for them to learn in small bites as they need to know things.

6. Provide prompt feedback and explicit grading criteria — 3.43, .535, 100 ☐ ☐ ☐ ☐

Prompt and relevant feedback is essential

7. ~~Pre-assessment of abilities: word processing, creating HTML documents, scanning, uploading documents from different formats~~ — 2.57, .535, 57

8. ~~Evaluation of training after three months of online teaching experience~~ — 2.86, .690, 71

Important in validating the transferance of skills/knowledge

9. ~~Assessing whether the teacher is a good candidate for being an online teacher~~ — 2.71, .756, 57

This recognizes that not all teachers will be good online teachers.

10. Include multiple models, activities, and examples in training — 3.14, .378, 100 ☐ ☐ ☐ ☐

11. Practice the skills they will be teaching their online students — 3.43, .535, 100 ☐ ☐ ☐ ☐

12. Utilizing discussion boards for ongoing discussion, collaboration and virtual classroom sessions as a forum — 3.43, .787, 86 ☐ ☐ ☐ ☐

In online courses, the learning takes place in interaction between students/teachers using the discussion board. It is an essential element of any learning management system for online learning.

13. ~~Provide content specific questions and discussions~~ — 2.86, .690, 71

14. Will the teacher be an effective online instructor? — 3.00, .577, 86 ☐ ☐ ☐ ☐

The teacher is the single most important factor. Good courses with bad teachers will result in bad results. Poor courses with good teachers will result in positive experiences for students. The desired is good curricula and good teachers.

	Your Mean Rating	Standard Deviation	Overall Percentage	Rating Scale				Comments
				1	2	3	4	
15. Evaluation meeting at the end of the contract year to assess student success, teacher success, and training	3.14	.690	86	☐	☐	☐	☐	
16. ~~Online training must be delivered on time~~	3.00	.816	71					
17. Recognize some aspects of the training will be needed by all individuals	3.00	.577	86	☐	☐	☐	☐	
18. Include collaborative opportunities for cross-curricular as well as curricular teams.	3.00	.577	86	☐	☐	☐	☐	
19. Ability to work with students of various technological abilities	3.14	.690	86	☐	☐	☐	☐	
20. ~~Monthly feedback on successes, challenges, and roadblocks from instructional leaders and mentors~~	2.71	.756	57					
21. ~~Journaling during the program to assist teachers in the assessment of their development and formulate questions~~	2.57	.535	57					
22. Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class	3.14	.378	100	☐	☐	☐	☐	
23. ~~Offered several times throughout the year – scheduled and asynchronous~~	2.43	.787	57					

We don't have time during the year for workshops but we do have several in the summer. Presently, all additional teacher training I handle through email or one on one sessions as teachers need help.

	Your Mean Rating	Standard Deviation	Overall Percentage	Rating Scale				Comments
24. ~~Include team building approach to courses and delivery to insure multiple teachers can teach the curriculum~~	2.71	.488	71					
25. Opportunity to meet content specific needs including available technology, software, texts, and curriculum	3.14	.690	86	☐	☐	☐	☐	

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	Your Mean Rating	Standard Deviation	Overall Percentage	Rating Scale				Comments
				1	2	3	4	
26. ~~Opportunities to air concerns and understanding of online learning including differences and similarities with face to face instruction~~	2.71	.488	71					

Not sure a new online teacher is prepared to do this until they have had experience in the environment for a period of time – learning curve is large when moving from traditional setting to online setting.

27. Utilize both formative and summative assessments to make timely adjustments and corrections in the training	3.14	.378	100	☐	☐	☐	☐	
28. Provide areas for content specific questions and discussions	3.14	.690	86	☐	☐	☐	☐	

Mentors assist in this role as do teams if collaboration is part of the culture.

29. ~~Self assessment of one's own teaching style and knowledge of students' learning styles~~	2.57	.535	57					
30. Willingness to explore teaching in a new frontier	3.00	.577	86	☐	☐	☐	☐	

31. You may use my name in your dissertation ☐Yes ☐No

32. You may use the name of my online school in your dissertation ☐Yes ☐No

Appendix N

Final Survey Results: Components of a staff development program (Question 1)

From your experiences and observations, what are the necessary components of a staff development program to prepare teachers to teach secondary online classes in a local school system? List specific components and use as much space as needed.

Each component is listed with results of the entire panel. Items not receiving an 80% response in Round 2 have a line drawn through them. Items not receiving an 80% response in Round 3 have a double line drawn through them. Any comments submitted in Round 2 are included in bold print. Comments submitted in Round 3 are included in italics. Comments are stated exactly as received.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	Round 2 Results			**Round 3 Results**		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
1. Understanding learning styles	3.43	.535	100	3.29	.488	100

Understanding learning styles will be important in selecting teaching strategies and media integration.

2. Introduction, training, and experience with the tools that will be employed in teaching an online course (course navigation, course management infrastructure, course management system, discussion boards, virtual classroom, grade book)	3.71	.488	100	3.86	.378	100

Professional development of teacher, teacher competency is essential

3. Shifting the paradigms from traditional teaching to the virtual classroom	3.14	.690	86	3.17	.408	100

Teachers who can't make this adjustment are not likely to succeed in online instruction. Attempting to bring traditional teaching strategies into online instruction has been an invitation for program failures.

4. ~~Developing a sense of an online community~~	3.00	.816	71			

This comes with time in the environment

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	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
5. ~~Understanding the technical requirements of an online course~~	2.57	.787	57			
6. ~~Requiring college courses in the teaching and development of online classes~~	1.71	.951	29			
7. ~~Addressing the at-risk learner~~	2.57	.535	57			

This answer is conditional. Online courses cannot be a one-size fits all. The course must be tailored to the student audience. If the purpose is to address at-risk students then the answer would be different. Courses that are targeting AP students would not be appropriate for at-risk students. Most existing courses are not targeting this population.

	Round 2 Results			Round 3 Results		
8. ~~Understanding institutional policies, procedures, and funding associated with an online course~~	2.86	.690	71			
9. Opportunities to practice facilitation and delivery strategies	3.29	.488	100	3.43	.535	100

We have found that allowing the new instructor time to role play and practice facilitation has made them more comfortable with the environment than groups who were not given the same practice opportunities.

	Round 2 Results			Round 3 Results		
10. ~~Life of an online educator~~	2.17	.753	33			
11. Netiquette	3.00	.577	86	3.14	.378	100

Important that instructors have an understanding of netiquette and are also able to teach/model netiquette to students.

	Round 2 Results			Round 3 Results		
12. Extensive individual support as the online teacher works with students (follow-up training)	3.29	.488	100	3.29	.488	100

This would be important to novice or inexperienced teachers. As teachers become more experienced this is less important.

	Round 2 Results			Round 3 Results		
13. Student motivational strategies	3.14	.378	100	3.14	.378	100

There are motivational strategies unique to the online environment. Collaboration with more experienced online teachers seems to be the best for helping new teachers try different strategies for motivating students in this environment.

An ability to design and implement motivational strategies is important in keeping students interested, on task, and moving toward successful completion of the online course. Most drop outs are not because of an inability to do the work but other factors of which motivation is key.

	Round 2 Results			**Round 3 Results**		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage

14. Model best online teaching: delivery, methods, best
practices, and strategies for successful online teaching 3.43 .535 100 3.43 .535 100

Modeling behaviors is an important way to demonstrate and influence new teacher behavior and developing practices the teacher will use in their online instruction.

15. Developing course standards, syllabus, and schedules 2.86 .378 86 2.86 .378 86

16. Expectations of students 3.14 .378 100 3.00 .000 100

Teachers will be able to better meet the needs of students if they have an understanding of student expectations.

17. ~~Daily student assignments~~ 2.43 .535 43

Being asynchronous, we are more flexible on daily work. Our calendars give students weekly assignments. Working with students of all ability levels makes it necessary to allow this flexibility.

18. Training teachers to address the needs of individual
students 3.14 .690 86 3.29 .756 86

Distance learning puts into practice the philosophy of student-centered instruction vs. teacher-centered instruction. The tools and the means are provided so that instruction can be individualized. Teacher should take advantage of that opportunity.

This comes as they begin teaching – part of follow up

19. Delivery of formative and summative assessments
online 3.14 .690 86 3.14 .378 100

Evaluation of all aspects of teaching online curricula should be evaluated. Improvement only comes with information that tells us where expectations are not being meet and adjustments made to close gaps between expected results and actual outcomes. Formative assessments that only focus on student results and neglect things such as quality of instruction, support materials, support, etc. are too narrow.

Not immediately – training for this should occur close to the time assessments are given

20. ~~Requiring prospective online teachers to shadow~~
~~a mentor teacher~~ 2.67 .816 50

Mentoring – in a virtual environment in person shadowing is very difficult – time can be spent in 3 way conference calls so mentor can model teacher-student-parent communication.

21. Expectations of an instructor 3.14 .690 86 3.29 .488 100

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
22. ~~Preview of existing online courses for design and function~~	2.57	.535	57			
23. ~~What it takes to be an online student~~	2.71	.488	71			

Important to experience the student side of the course

24. Understanding the importance of clearly communicating with clarity and frequently in written word	3.29	.488	100	3.29	.488	100

It is an essential requirement that distance teachers be able to communicate clearly. Students do not have the same level of access to teachers that traditional students do. Communications must be structured so that students have no questions about course requirements, assignments, or directions. Communications from teachers to students must not be ambigious.

25. ~~Model a variety of activities and assessments~~	2.86	.690	71			

Hopefully those are already in the course and they will see those as they become familiar with the course they will be teaching.

26. Accessibility and 508 compliance	3.00	.577	86	2.86	.378	86

A new online teacher needs to have an awareness of this – not a complete understanding of how the technology makes this work within the course.
We do not change our virtual classes to meet 504 or accessibility needs. These are things the local school district must deal with. We can only adjust our grading for special needs students.
This is becoming more of a legal requirement.

27. Familiarity with online pedagogy	2.86	.378	86	3.00	.577	86

Must be sure the new teacher understands the pedagogy and believes in that pedagogy to be successful with the course.

28. ~~Technology management: troubleshooting and technology tips~~	2.57	.535	57			

Again, this comes over time in the course and working with students.

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage

29. ~~Employing one face-to-face session to develop a common vision and to share successes and failures~~   2.57   1.134   43

Working with over 200 districts state wide, it is very difficult to have face to face sessions. I also do not have full time teachers which is another roadblock to this aspect.

This is desirable if possible, but many online students will be geograpically displaced and can not participate in a f-2-f component. The is an appropriate strategy only if all the students and the teacher are from the same school district.

30. Online facilitation strategies/facilitating online collaboration   3.43   .535   100   3.57   .535   100

Courses that do not employ collaboration or effective faciliation are likely to become nothing more than online correspondance courses. Collaboration and interaction is where the most effective learning happens.

31. Familiarity with course content   3.57   .535   100   3.33   .516   100

32. ~~Data driven decision-making~~   2.57   .787   43

Most of my decisions are based on school district needs and student needs

33. ~~Instructional philosophy and design of online courses~~   2.71   .488   71

Again, this is conditional. Will teachers be designing their online courses or will they be using a course from a provider? There may be a difference in importance based upon this.

34. ~~Incorporating advanced graphics and video~~   2.14   1.069   29

Bandwidth can be a problem when incorporating advanced graphics and video. We have to be sure the lowest level of technology used will successfully access the content.

35. ~~Course standards~~   3.14   .690   86   2.86   .690   71

Where to find them in the course, awareness of how they are incorporated

36. ~~Experience in developing and revising online components~~   2.57   .787   71

37. ~~Time on task and time management strategies~~   2.86   .690   71

38. ~~Basic learning theories~~   2.57   .535   57

Experienced classroom teachers should have this knowledge before moving into the online environment. Our philosophy is that one should not teach online unless they have had successful experience in a traditional classroom.

39. Post training: ongoing mentoring   3.00   .577   86   3.00   .577   86

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
40. ~~Understanding the mechanics and process of delivering and supporting an online course~~	2.43	.535	43			
41. Copyright	3.29	.488	100	3.29	.488	100
Particularly if your teachers are expected to develop lessons.						
42. ~~Training committee~~	1.71	.756	14			
43. Student management strategies	3.00	.000	100	2.86	.378	86
Over time – shows importance of having a mentor for follow up and ongoing support.						

Final Survey Results: Addressing Individual Needs in a Staff Development Program (Question 2)

How can a staff development program for teaching online be structured to assess and address the individual needs of teachers? List specific recommendations and use as much space as needed.

Each component is listed with results of the entire panel. Items not receiving an 80% response in Round 2 have a line drawn through them. Items not receiving an 80% response in Round 3 have a double line drawn through them. Any comments submitted in Round 2 are included in bold print. Comments submitted in Round 3 are included in italics. Comments are stated exactly as received.

1 = not important
2 = slightly important
3 = very important
4 = extremely important

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
1. ~~Ability to take courses for credit or recertification~~	2.71	.756	57			

It is less important that they take courses for credit or recertification than it is to demonstrate skill mastery. Taking a course for credit does not insure skill or knowledge mastery. Some would take the course solely for credit without regard to need.

2. Experiencing online learning from a student's perspective	3.57	.535	100	3.57	.787	86

Teachers who have not taken an online course are not likely to have an appreciation for issues that face online students. Having a relevant experience (taking a course that is weeks long instead of hours) contributes to the experience of teachers that is beneficial and necessary for them to excel as online teachers.

3. Activities should be relevant and include the ability to create online curriculum or adapt/revise existing online curriculum	3.29	.488	100	3.29	.488	100

Agree that activities should be relevant – that is very important – development and revision is not important as part of an online preparation program. One should not develop online content unless they have had experience teaching online.

4. Include a variety of activities to meet diverse learning needs	3.00	.000	100	3.14	.378	100

	Round 2 Results			**Round 3 Results**		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
5. ~~Individualized training by having each teacher develop and post an online module~~	2.86	1.069	71			

It is an extremely great task to create an online module. Most of my teachers learn as they go. I find it is easier for them to learn in small bites as they need to know things.

| 6. Provide prompt feedback and explicit grading criteria | 3.43 | .535 | 100 | 3.43 | .535 | 100 |

Prompt and relevant feedback is essential

| 7. ~~Pre-assessment of abilities: word processing, creating HTML documents, scanning, uploading documents from different formats~~ | 2.57 | .535 | 57 | | | |
| 8. ~~Evaluation of training after three months of online teaching experience~~ | 2.86 | .690 | 71 | | | |

Important in validating the transferance of skills/knowledge

| 9. ~~Assessing whether the teacher is a good candidate for being an online teacher~~ | 2.71 | .756 | 57 | | | |

This recognizes that not all teachers will be good online teachers.

| 10. Include multiple models, activities, and examples in training | 3.14 | .378 | 100 | 3.14 | .378 | 100 |

Multiple models help students process information and may provide examples that are more in line with their experiences, training or backgrounds.

| 11. Practice the skills they will be teaching their online students | 3.43 | .535 | 100 | 3.43 | .535 | 100 |

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
12. Utilizing discussion boards for ongoing discussion, collaboration and virtual classroom sessions as a forum	3.43	.787	86	3.57	.787	86

In online courses, the learning takes place in interaction between students/teachers using the discussion board. It is an essential element of any learning management system for online learning.

13. ~~Provide content specific questions and discussions~~	2.86	.690	71			
14. Will the teacher be an effective online instructor?	3.00	.577	86	3.20	.447	100

The teacher is the single most important factor. Good courses with bad teachers will result in bad results. Poor courses with good teachers will result in positive experiences for students. The desired is good curricula and good teachers.

I agree this is extremely important but the way it is stated does not address the "how" part of what we are supposed to be considering.

15. Evaluation meeting at the end of the contract year to assess student success, teacher success, and training	3.14	.690	86	3.43	.535	100
16. ~~Online training must be delivered on time~~	3.00	.816	71			
17. Recognize some aspects of the training will be needed by all individuals	3.00	.577	86	3.14	.378	100
18. Include collaborative opportunities for cross-curricular as well as curricular teams.	3.00	.577	86	3.00	.577	86
19. Ability to work with students of various technological abilities	3.14	.690	86	3.33	.516	100

Again, this is an important criteria but this item is not written parallel to the other items, in that it answers "how" staff development can…

20. ~~Monthly feedback on successes, challenges, and roadblocks from instructional leaders and mentors~~	2.71	.756	57			
21. ~~Journaling during the program to assist teachers in the assessment of their development and formulate questions~~	2.57	.535	57			

	Round 2 Results			Round 3 Results		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
22. Determining the teacher's level of knowledge and what is needed to meet the appropriate level of expertise required to teach an online class	3.14	.378	100	3.14	.378	100

Great teaching is a skill - the passion for teaching cannot be taught. Knowing the technology is secondary to the ability to communicate successfully with students. The technology can be taught.

23. ~~Offered several times throughout the year – scheduled and asynchronous~~	2.43	.787	57			

We don't have time during the year for workshops but we do have several in the summer. Presently, all additional teacher training I handle through email or one on one sessions as teachers need help.

24. ~~Include team building approach to courses and delivery to insure multiple teachers can teach the curriculum (Not teacher dependent)~~	2.71	.488	71			
25. Opportunity to meet content specific needs including available technology, software, texts, and curriculum	3.14	.690	86	2.86	.378	100
26. ~~Opportunities to air concerns and understanding of online learning including differences and similarities with face to face instruction~~	2.71	.488	71			

Not sure a new online teacher is prepared to do this until they have had experience in the environment for a period of time – learning curve is large when moving from traditional setting to online setting.

27. Utilize both formative and summative assessments to make timely adjustments and corrections in the training	3.14	.378	100	3.29	.488	100
28. Provide areas for content specific questions and discussions	3.14	.690	86	3.14	.690	86

Mentors assist in this role as do teams if collaboration is part of the culture.

29. ~~Self assessment of one's own teaching style and knowledge of students' learning styles~~	2.57	.535	57			

	Round 2 Results			**Round 3 Results**		
	Mean	Standard Deviation	Overall Percentage	Mean	Standard Deviation	Overall Percentage
30. Willingness to explore teaching in a new frontier	3.00	.577	86	3.33	.516	100

Again, this is an important criteria but this item is not written parallel to the other items, in that it answers "how" staff development can …

VITA

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EDUCATION

Virginia Polytechnic Institute, Blacksburg, Virginia, May 2005
Doctor of Education: Educational Leadership and Policy Studies

Harvard University, July 1997
"Leadership and New Technologies: Strategies for the Schools of Tomorrow"

Loyola College, Baltimore Maryland, August 1975
Master of Education: Educational Management and Supervision

Towson State University, Towson, Maryland, June 1971
Bachelor of Science: Secondary Education/Mathematics

PROFESSIONAL EXPERIENCE

Washington County Public Schools, Hagerstown, Maryland
• Principal, Williamsport High School, July 2002 – present

• Principal, Hancock Middle/Senior High School, July 2001 – June 2002

• Assistant Principal, South Hagerstown High School, July 1999 – June 2001

• Supervisor of Computer Related Instruction, August 1989 - July 1999

• Assistant Principal, Clear Spring High School, August 1988 - July 1989

• Coordinator of Computer Related Instruction, July 1985 - July 1988

• Teacher: Mathematics/Computer Science, September 1974 - June 1985

Baltimore County Board of Education – Teacher, January 1972 - August 1974
        Middle school mathematics

Hagerstown Community College – Instructor, September 1981 - May 1982
        College Algebra

PROFESSIONAL COMMITTEES

Maryland State Department of Education Internet-Based Learning Study Group, April 2000 –
September 2000
Maryland Technology Academy Advisory Committee, Fall 1998 - July 1999
Maryland Business Roundtable Committee on Technology in Education, Fall 1995 - July 1999
Washington County Public Schools Instructional Technology Advisory Committee Chairperson,
Fall 1989 - July 1999
Washington County Public Schools Year 2000 Compliance Committee Chairperson, Spring
1998 - July 1999
Maryland Instructional Computer Coordinators Association Conference Committee, Fall 1989 -
July 1999
Coalition on Telecommunications in Western Maryland, Fall 1994 - July 1999
RESA Long Distance Learning Committee, Fall 1994 - July 1999
MSDE Telecommunications Wiring Standards Committee - 1996 - July 1999
Washington County Strategic Planning Budget Sub-committee, 1998
Washington County Public Schools Wide Area Network Committee, 1995 - 1996
Maryland Business Roundtable Blue Ribbon Technology Committee, 1994 - 1995

OTHER PROFESSIONAL RESPONSIBILITIES

Maryland Instructional Computer Coordinators Association President, 1999-2000
Maryland Instructional Computer Coordinators Annual Conference Chairperson, 1993 & 99
National Educational Computer Conference Workshop Co-Chairperson, 1994-95
Shippensburg College Telecommunication Project, 1993-94

AWARDS, PUBLICATIONS, AND PRESENTATIONS

"Technology Standard – Superficial Fluff or the Real Stuff", (1999 Leadership Development
Institute, Washington County Public Schools)
"The Evolution of Instructional Technology in Washington County", (National School Board
Conference, April 1994)
"Computer Station: Choosing the Right Location for Your School", (*PRINCIPAL*, National
Association of Elementary Principals, May 1988)
"Computers in Education -- Riding The Wave", (University of Maryland Baltimore County,
1986)
"Administrative Use of Computers", (Maryland Association of Elementary School
Administrators, 1987)
Washington County Presidential Award Nominee for Excellence in Science and Mathematics
Teaching, 1983