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A Study to Determine Faculty Interest in Using Advanced Instructional Technology to Support Course Offerings at Wytheville Community College

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A STUDY TO DETERMINE FACULTY INTEREST IN USING ADVANCED INSTRUCTIONAL TECHNOLOGY TO SUPPORT COURSE OFFERINGS AT WYTHEVILLE COMMUNITY COLLEGE

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CHAPTER I

INTRODUCTION

Today's colleges and universities are at a turning point in educational offerings. In the era of the Information Society, changes in teaching methods and teaching concepts are driven by the new technological possibilities and new learning environments. Instructional technology is not simply an add-on service; it touches the very substance of education. A complete re-engineering must take place if colleges and universities are going to be competitive in revolutionizing education.

In 1998, the National Education Association released resolutions concerning technology in the educational process. This Association believed that technology in the educational process improves the learning opportunities for students, improves the quality of instruction, and improves the effectiveness of education employees. The Association also believed that:

1. Education employees must have access to necessary technology for managing and advancing instruction.
2. Education employees must be involved in all aspects of technology utilization, including planning, materials selection, and evaluation.
3. Ongoing training must be provided for education employees in the use of technologies and applications.
4. Teacher preparation in instructional technology, including the development of effective materials and appropriate instructional strategies must begin in college and university programs and extend through continuing professional development.

5. Students must have access to and instruction in technology and the responsible use of technology.
6. Instructional technology should be used to support instruction, but no reduction of positions, hours, or compensation should occur as a direct or indirect result of any technological programs.
7. The evaluation of education employees in any technological program should be conducted openly and meet the requirements of the local collective bargaining agreement or evaluation policy.
8. Education employees are essential to the success of telecommunications projects, and their perspective, insights, support, and commitment are vital for successful implementation.
9. Distance learning can create or extend learning opportunities not otherwise available to all students.
10. Interactive distance learning should not be used to reduce the number of teachers employed by colleges, universities, or individual school districts (National Association Resolutions, 1998, pp. 1-3).

Technology changes the approach to instruction radically. It is used to enhance learning and to supplement instructional methodologies. The computer must be recognized as an effective teaching tool which assists the educator. Faculty who are willing to be the "first on the block" to try integrating technologies, in their classroom,

who are willing to help colleagues with learning how to use technologies, need acknowledgment and support from the institution's administration.

Equipment, training, and support are as important as technology. Strategies for the integration of technology into instruction must explicitly acknowledge that change will likely occur in stages or a series of stages and faculty will move along at different paces and in different variations. This is perfectly normal, but the faculty must be involved in the decisions concerning equipment, training, and the support needed to implement advanced technology to support course offerings.

STATEMENT OF THE PROBLEM

The problem addressed in this study was to determine faculty interest in and challenges related to using advanced instructional technology to support offerings at Wytheville Community College.

RESEARCH GOALS

To research this problem, the following goals were established:

1. Determine which methods of instructional technology are of interest to faculty.
2. Determine the equipment needs of Wytheville Community College faculty.
3. Determine the training needs for faculty to integrate technology into course offerings.

4. Determine support needs of faculty as they seek new approaches to learning technology.

BACKGROUND AND SIGNIFICANCE

The topic of this study was derived from issues concerning the changes in instructional concepts and methods. The majority of these changes are due to the rapid changes in technology. College and university offerings must be redefined to provide attractively and intellectually challenging packages that combine old and new, and traditional and modern technology. Faculty who do not get involved in instructional technology and adapt technology into their curriculums will be depriving them and their students of the necessary knowledge and skills to function in the Information Society of today.

Educators should focus on identifying the procedures needed to address technological opportunities and problems. Furthermore, colleges must focus on the needs for curriculum change. Instructional personnel need to be involved in identifying the relationship and interaction among technology, people, society, the environment, and other academic disciplines. This challenges educators to seek content and course integration and recognize ways to address technology inadequacies and opportunities (Wright, 1992, pp. 62 - 65).

Today's college is a place of constant and rapid change. It is difficult to try to keep up with the much needed equipment, so faculty typically have been second priority in

the education reform. Educators are being called upon to shoulder increased burdens driven by technology. These burdens are producing stress as educators struggle to keep pace with the ever-increasing needs of the students.

It is the intent of this study to determine faculty interest in and challenges related to using advanced instructional technology in course offerings at Wytheville Community College. In addition, this study will determine the equipment and training needs, and the personnel support necessary for faculty to integrate technology into their course offerings.

LIMITATIONS

This study was based on the following limitations:

1. The population of this study was limited to the faculty of Wytheville Community College.
2. Faculty nearing retirement may not be as receptive to integrating technology.

ASSUMPTIONS

This study was based on the following assumptions:

1. There is a need for faculty to integrate technology into the course offerings at Wytheville Community College.
2. Faculty have the necessary resources to use technology in course offerings at Wytheville Community College.

3. Faculty have the options to integrate technology into the existing course offerings at Wytheville Community College without excessive burdens.

PROCEDURES

In order to determine Wytheville Community College's current situation in using technology in course offerings, the researcher interviewed administrative instructional personnel and the Instructional Technologist. Through the interview with the Instructional Technologist, the researcher determined the status of training faculty in the use of technology. The researcher then developed an instrument to obtain faculty perspectives on using technology in course offerings, the equipment needs of the faculty, and the level of support needed to integrate technology and provide quality instruction without excessive burdens.

DEFINITION OF TERMS

The terms used in this study are defined as follows:

Instructional Technology - Instructional technology are the strategies and tools used to improve instruction, based on theories of behavior and learning (Hathorn, L., 1998, p. 1).

Technology Equipment - Any of the physical equipment in a system, usually containing electronic components and performing some kind of function in information processing (McWhorter, 1998,

p. 1).

Course Offerings - An organization of subject matter and related learning experiences provided for the instruction of students on a regular or systematic basis, usually for a predetermined period of time (NOHSC, 1999, p. 1).

SUMMARY AND OVERVIEW

In Chapter I, the problems associated with the rapid changes in instructional methods and concepts due to the technology explosion were explained. The rationale for using technology for instructional purposes was highlighted to stress the importance of the problem. In the background and significance section, the need to and importance of integrating technology into course offerings was discussed. The procedures and definition of terms sections explained the process used in this study.

Chapter II, Review of Literature, provides a summary of the various methods and resources other colleges and universities are using to integrate technology into course offerings. Chapter III, Methods and Procedures, explains how this study was researched. Chapter IV, Findings, describes the results of the survey and details the interviews with instructional staff at Wytheville Community College. The study is finalized by providing a summary, conclusion, and recommendations in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

This chapter provides rationale to integrate technology into course offerings. In addition, the importance of technology infrastructure and the need for instructional technology are highlighted. This review includes insightful expectations for integrating instructional technology and how technology is affecting the way educators teach. The expectations for using technology are addressed through the skills employers will be requiring for future employees.

21st Century Teaching and Learning Patterns: What Will We See?

Why is instructional technology important to education? "21st Century Teaching and Learning Patterns: What Will We See", provides the answers to that question from an educational perspective. Judith Boettcher made six predictions for teaching and learning in the 21st Century that describes the education environment in the Information Age. The six predictions that follow suggest and anticipate where higher education might be by the year 2007.

Prediction One: A "career university" sector will be in place. This prediction highlights the growth in the education market and the need to respond to the new requirements of the Information Age workforce. The workforce, including faculty, must continuously upgrade their skills to support multiple duties.

Prediction Two: Most higher education institutions, as much as 60 percent, will have teaching and learning management software systems linked to their back office administrative systems. This prediction highlights the fact that our current teaching and learning systems are still very traditional. This prediction will mean a dramatic change. Tools and systems for support of the teaching and learning processes will become part of the critical mission infrastructure in higher education. These tools and systems will help faculty in all aspects of the teaching process.

Prediction Three: New career universities will focus on certifications, modular degrees, and skill sets. These content areas include a variety of online degrees as well as Web mastering and international communications. Program content in the near future will focus on updating knowledge and skills through networking.

Prediction Four: The link between courses and content for courses will be broken. This prediction includes a variety of related changes dealing with the ability of the Web and the Internet to package and offer content resources in varying sizes and unlimited combinations.

Prediction Five: Faculty work and roles will make a dramatic shift toward specialization. With the infiltration of the new technologies for teaching and learning, teaching is becoming a more "technology-intensive" part of the faculty members' responsibilities.

Prediction Six: The tools for teaching and learning will become as portable and ubiquitous as paper and books have been in the past. This prediction highlights the need

for constant monitoring and planning in the use of the technologies for teaching and learning. The Information Age will be a decade of mobile, portable, and wireless technologies that support teaching and learning anywhere and anytime (Boettcher, 1991, pp. 18 - 25).

The Need for Technology Integration

William Gibson, a science fiction writer, said, "The future is here; it is just not evenly distributed." This quote describes both where the teaching and learning enterprise are today and how they will progress (Boettcher, 1999, p. 18). "The Need for Technology Integration" emphasizes the reality that many educators are adapting to new technologies while others ignore the fact technology is necessary to the learning process. Some institutions are moving forward to address the technology issues while others are more conservative and steer away from the issues concerning technology education. Meeting the needs of the information age workforce today requires educators to divulge a new context for teaching and learning.

Tools, systems, and educators are vital to the technical teaching and learning processes that are critical to the operations on college campuses. With the increase in new technologies for teaching and learning, teaching is becoming a more "technology driven" part of the faculty members' responsibility. Educators must seek course integration and identify a generic way to address technology deficiencies in course offerings.

Moving From Risk to Challenge

"Moving From Risk to Challenge" provides an in-depth look at how instructional

technology represents a precedential change for most faculty in terms of the their teaching methods. While some faculty members embrace this change, others may express anxiety because of the high degree of uncertainty in the technical environment (Cini & Vilic, 1999, p. 38). Therefore, it is important to remember that these changes not only involve the technological issues but involve humans as well.

Changing from the traditional teaching method of instructional presentations to instruction using technological applications requires a broader approach than encouraging faculty to integrate technology into their courses. It requires an organized approach that provides faculty with learning opportunities without adding excessive burdens. Faculty members who are not comfortable with the changes created by technology may show their fear by repeatedly expressing concerns about educational quality, faculty replacement by computers, and misconceptions of what represents instructional technology. These issues are probably indicators of faculty anxieties.

Due to the concerns and anxieties faculty have concerning technology integration, it is important for the instructional administration to use an organized approach to encourage faculty to integrate technology into course offerings. This should be done with the goal of increasing faculty comfort in using technology.

The Complexity of Technology Support

The need for additional staff is driven by the demand for technology support from all areas of the college or university. As more faculty attempt to integrate technology into course curriculum, technology support is not limited to administrative areas. "The Complexity of Technology Support" explains why the skills of technical assistants are no

longer as basic as programming or word processing. Academic software requires the skills of someone who has the capacity to switch from word processor to spreadsheet to Internet browser to multimedia to e-mail applications. It is unrealistic to expect teaching faculty to troubleshoot academic software and provide quality instruction.

If colleges and universities are going to support educators in using technology in the classroom, the complexities must be addressed. Two useful responses to the instructional technology complexities are to develop a detailed, documented process to help support staff troubleshoot problems in the academic environment. Second, the support staff and the educator must be crossed-trained in desktop software applications (Ramagli, 1991, p. 51). The end results are multiple skill sets for educators and technology support staff. Once the training and sharing routines are in place, instructional technology applications can be implemented and used successfully in the classroom.

Equipment Needs

Education Reform and Computers: The Connection

"Education Reform and Computers: The Connection" highlights the value of computers in teaching and learning. Computers are essential tools in the learning and assessment environments at any educational level. The many aspects of technology provide a variety of opportunities for the learner. Word processing applications allow students to become personal writers of opinions and ideas, and e-mail provides a link to other students who could have an assortment of ideas about learning opportunities. The more enhanced multimedia software applications offer reliable research-based learning where learners have the opportunity to explore and provide solutions to a variety of

educational projects.

Technologies, including software applications and hardware, are essential tools to the educator as well as the learner. Networking provides the potential for educators to restructure courses and make class presentations by simply touching a key. In addition, the Internet has provided an electronically skillful connection between educators. Technologies offer instructional methodologies that help educators design courses, assess students, and provide quality instruction with relative ease and speed (Carvin, 1999, p. 1).

A Study on the Feasibility of Implementing Advanced Placement Courses in the Field of Technology Education

This study was to determine the feasibility of advanced placement courses in the field of technology education; however, the findings revealed relevant information about technology in higher education. The conclusion of this study included the following finding, "The researchers concluded, based on the student population growth data and on the social changes that have occurred in our technological society, that business leaders, parents and students will compel post-secondary institutions to produce more technologically literate graduates. As this process occurs, it is likely that technology requirements will be included in the liberal studies programs of most secondary school districts and colleges and universities" (Luebbecke & McGrath, 1997, p. 43). This conclusion stresses the need for colleges to strive to be on the leading edge of advanced instructional technology.

Connecting Schools is Only A Start

"Connecting Schools is Only A Start" is a brief that addressed the issue of

connecting the Internet to the classroom. The central idea was about the pedagogical and organizational changes necessary for success. Of utmost importance, the article also included in-depth discussion about why and how teachers should rethink their entire approach to instruction. Numerous suggestions were provided to assist educators in changing their technical content into curriculum as well as ways to master a mix of content knowledge with confidence about new techniques and approaches in their use of technologies. The article also focused on educators acquiring new skills in technology education and the simplicity of using technology as tools for learning. Highlights included a discussion about the obstacles educators are facing from old traditions in education. The educator and the problems and solution of integrating technology into curriculums were discussed in detail. Although the problems with technology and education are due to the lagging infrastructure and teacher training, the problems have actually occurred because of the technology explosion. Technology changes so rapidly that schools simply cannot keep up. The infrastructure is very expensive, and schools and colleges are slowly trying to meet technology standards. Until adequate infrastructure is in place, educators cannot transform their instructional strategies to include technology.

The State of States

This article focused on the technology plans for each state and the appropriations used to fund the plans. An overview of several states' technology plans was provided. Highlights included proposed requirements for teacher preparation and technical professional development strategies to help teachers meet the technology education requirements. The article also addressed the obstacles some schools and colleges are

experiencing in trying to meet the technology standards. The statistical information about what is happening with technology education detailed the strategies that are being used to help prepare educators for technology education curriculums.

Virginia's Changing Workplace: Employers Speak

The central idea of "Virginia's Changing Workplace: Employers Speak" was about the workplace today with emphasis on the computerized workplace of tomorrow and of the coming decade. Highlights included descriptions of 54 rising occupations including the qualification requirements for these occupations. An overview of the knowledge and skills employers will be expecting from future applicants was provided. This manuscript was written from a survey conducted with 564 Virginia employers in 1997. The majority of the employers who were surveyed stressed the importance of computer literacy in the workplace. They also expressed their opinions about raising educational standards to prepare students to meet the requirements for the computerized work environment. Employers have been willing to provide a considerable amount of on-the-job computer literacy training, but how long will employers continue to provide this training (Martin, Carrier, & Hill, 1997, p. 27)? Currently, preference is given to applicants who already have computer skills. This is another point that stresses the need for technology to be integrated into course offerings.

Summary

Chapter II provides ample rationale for integrating technology into course offerings as quickly as possible. In the era of the Information Age, it is vital that colleges and universities produce graduates with marketable skills. Employers will be soliciting

potential employees who possess diverse and competitive technical skills.

Chapter III will discuss a survey instrument that will determine faculty interest in using instructional technology and the equipment and support needs to integrate technology into course offerings. The instrument design, methods of data collection, and methods of data analysis will also be discussed in this chapter.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to determine faculty interest in and challenges related to using advanced instructional technology to support offerings at Wytheville Community College. The information presented in this chapter identifies the methods and procedures used to gather the data collected to address the problem of the study and answer the research questions. In response to this problem, the following research goals were established: determine which methods of instructional technology are of interest to faculty; determine the equipment needs of Wytheville Community College faculty; determine the training needs for faculty to integrate technology into course offerings; and determine support needs of faculty as they seek new approaches to learning technology. Chapter III provides information concerning the population, instrument design, methods for data collection, and methods of data analysis and summary.

POPULATION

The research goals revealed four areas of concern that need to be addressed. The population used to answer questions relating to all four problems were the full-time faculty of Wytheville Community College. The total population consisted of forty-eight (48) full-time faculty and one (1) Instructional Technologist. The survey was distributed to the faculty, and interviews were conducted with the administrative Instructional Technologist.

INSTRUMENT DESIGN

The researcher interviewed the Dean of Instruction and Student Services to solicit questions for the survey instrument. The results of this interview indicated that an instrument should be developed to solicit data relevant to the current situation concerning instructional technology and course integration at Wytheville Community College. The survey instrument for faculty focused on all areas for using technology in course curriculum. The instrument was designed to solicit input on faculty interest in instructional technology, and the equipment, support, and training needs necessary for faculty to integrate technology into course offerings. For a copy of the survey instrument, see Appendix A.

METHODS OF DATA COLLECTION

Data collection consisted of a survey instrument for the full-time faculty of Wytheville Community College. This survey instrument consisted of nine (9) open-ended questions. The purpose of this survey was to obtain faculty perspective on each of the four research goals.

The survey instruments were distributed through the internal campus mail along with a cover letter and a self-addressed envelope. Two weeks following the initial distribution date, a follow-up letter, along with another survey instrument was sent to participants who had not responded. See Appendices B and C for the cover letter and the follow-up letter that accompanies the instrument.

METHODS OF DATA ANALYSIS

The data collected from the survey for the faculty were tabulated and analyzed to determine the following:

1. Which methods of instructional technology were of interest to faculty.
2. What equipment needs the faculty felt were necessary for course integration.
3. What types of training needs were necessary for faculty to integrate technology into course offerings.
4. The level of support faculty would need as they seek new approaches to learning technology.

The responses from the survey were tabulated and arranged to show a rank ordered listing of priority needs for faculty interest in the methods of instructional technology, equipment needs, training needs and the levels of support. The frequency for duplicate responses are also identified.

SUMMARY

Chapter III outlined the methods and procedures used to collect the essential data to answer the research goals and to solve the problem. The data and information needed to prepare the appropriate questions for the faculty were solicited through an interview with the Instructional Technologist of Wytheville Community College. The data collected through this interview were used to develop a survey instrument for faculty. The results from the methods and procedures established in this chapter will be presented in Chapter IV.

CHAPTER IV

FINDINGS

Chapter IV will present the information gathered in the data collection segment of this research project. The problem addressed in this study was to determine faculty interest in and challenges related to using advanced instructional technology to support course offerings at Wytheville Community College. Data was gathered through a survey instrument distributed to the full-time faculty of Wytheville Community College. This survey instrument consisted of nine (9) open-ended questions. The purpose of this survey was to obtain faculty perspective on each of the four research goals. Approximately two (2) weeks after the initial mailing, follow-up letters and duplicated copies of the survey were mailed to those individuals who had not responded. A total of 39 responses were received which represents 81% of the population.

SURVEY RESPONSES

Questions 1 through 9 provided open-ended responses to questions that would provide the necessary information to answer the research goals. The responses are summarized in individual tables for each question. The individual responses are provided in Appendix D.

Question 1 asked the faculty if they were currently using instructional technology in their courses. A total of 33 faculty members responded that they were using some form of technology but some of them were not using technology in their courses. A total of 6 faculty members responded that they were not using technology for any reason. The

responses are summarized in Table 1.

TABLE 1				
Question #	**Question**	**Response**	**Frequencies**	**Percentage**
1	Are you currently using instructional technology in your courses?	Yes	33	84.6
		No	6	15.4
		No Response		

Question 2 asked for a brief description of the technology being used. Various responses from software packages to computerized manikins were provided. The responses were summarized into five general categories which are computers, presentations, Internet, other tutorial software, and other technical equipment and are presented in Table 2.

TABLE 2				
Question #	**Question**	**Response**	**Frequencies**	**Percentage**
2	If you answered 'Yes' to Question 1, please give a brief description of the technology being used.	Computers	13	33
		Presentations	13	33
		Internet	13	33
		Other Tutorial Software	25	64
		Other Technical Equipment	26	66

Question 3 asks what types of barriers were hindering the faculty from using technology in their courses. The choices included equipment, training, support, time, no incentive to integrate, other, and no barriers. Time was the main barrier with 87% of the faculty responding that there was not enough time for them to learn to use technology in the classroom. Equipment was the next barrier with 58% of the respondents identifying

the need for better and more equipment for classroom use. Support ranked third as a barrier with 35% of the respondents recognizing the need for additional instructional technology support. These responses are shown in detail along with the frequencies for each category in Table 3.

TABLE 3

Question #	Question	Response	Frequencies	Percentage
3	What types of barriers, if any, are hindering you from using technology in your courses.	Equipment	23	58
		Training	11	28
		Support	14	35
		Time	24	87
		No incentive to integrate	8	20
		Other	4	10
		No Barriers	5	12

Question 4 asked which methods or types of instructional technology were of interest to the faculty. Responses included presentations as the highest percentage of methods or types. The other responses included Internet and web-based training, various types of on-line training, and CD-Rom simulations. These responses are summarized in Table 4.

TABLE 4

Question #	Question	Response	Frequencies	Percentage
4	Which methods or types of instructional technology are of interest to you.	Internet Training	12	30
		Presentations	10	25
		Web-based Training	9	23
		On-line Training	6	15
		CD-Rom Simulations and other training	18	46

Question 5 asked if there are specific technology equipment needs not currently available that would be useful for classroom, home study, or web-based instruction. Two individual categories including state-of-the-art equipment and upgrading existing equipment were identified by 17% of the respondents as types of technology that would benefit them. These responses are summarized in Table 5.

TABLE 5

Question #	Question	Response	Frequencies	Percentage
5	Are there specific technology equipment needs not currently available that you feel would be useful for classroom, home study or web-based instruction?	All classrooms be equipped with state-of-the art equipment	7	17
		Upgrade existing classroom equipment	7	17
		Upgrade existing faculty equipment	4	10
		Better visual aids in the classrooms	2	5
		Network all labs and other technical items	7	17

Question 6 asked what type of in-service training in using instructional technology would best accommodate the faculty in their positions. 28% of the faculty responded that mini, intermediate and follow-up instructional workshops would benefit them in their positions. Hands-on, individualized, web-based and on-line training were identified by 27% of the faculty as the types of in-service training needed to accommodate them in their positions. Seven percent of the faculty indicated that they actually needed an introduction on the methods and types of instructional technology available. The responses are summarized in Table 6.

TABLE 6				
Question #	**Question**	**Response**	**Frequencies**	**Percentage**
6	What type of in-service training in using instructional technology do you feel would best accommodate you in your position?	Mini, intermediate, and follow-up workshops	11	28
		Web-based/On-line training	6	15
		Hands-on and/or individualized training	5	12
		Orientation or an Introduction on what is available	3	7
		Other training	8	20

Question 7 requests that the reader describe the level and type of support needed to help them learn to use instructional technology effectively and to integrate technology into their courses. The majority of the faculty, 25% responded that they needed individualized support and 23% responded that professional development days should be set aside for training. The responses are summarized in Table 7.

TABLE 7				
Question #	**Question**	**Response**	**Frequencies**	**Percentage**
7	Describe briefly, the level and type of support you feel you would need to learn how to use instructional technology effectively and integrate technology into your courses.	One-on-one individualized support	10	25
		Professional development days set aside for training	9	23
		Workshops that start with the basics	5	12
		Release time for preparation and integration	4	10
		Hands on training	3	7

Question 8 asked how WCC's administration could assist with the integration of instructional technology without adding excessive burdens to their already heavy

workloads. The highest percentage or 25% responded that release time for training would be very beneficial as they learned new ways of teaching with technology. The responses are summarized in Table 8.

TABLE 8

Question #	Question	Response	Frequencies	Percentage
8	How could WCC's administration assist you in using instructional technology without adding excessive burdens to your already heavy workloads.	Release time for training	10	25
		Adequate equipment	5	12
		More technical staff for support	3	7
		Reduce workloads to allow time for training	2	5
		Other	8	20

Question 9 asked what level of instructional technology the faculty would like to see WCC achieve within the next two years. The responses averaged from 10% to 12% for WCC to have state-of-the-art equipment in every classroom, for all faculty members to be using technology with confidence, for WCC to be offering on-line degree programs, and for WCC to stay competitive. A summary of these responses is presented in Table 9.

TABLE 9

Question #	Question	Response	Frequencies	Percentage
9	What level of instructional technology would you like WCC to achieve in the next two years?	All faculty members using technology with confidence	5	12
		WCC offering on-line degree programs	5	12
		For WCC to stay competitive	5	12
		State-of -the-art equipment in every classroom	4	10
		Other	8	20

SUMMARY

The questions asked of the Wytheville Community College faculty were used to obtain responses to the research goals established for this study. Data was gathered to determine the equipment, training, and support needs for faculty to integrate instructional technology into course offerings. In Chapter V, the data gathered and analyzed in Chapter IV will be used to provide a summary, draw conclusions, and make recommendations for courses of action.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The questions asked of the faculty were used to determine the interest in and challenges related to using advanced instructional technology to support course offerings at Wytheville Community College. A summary will be presented to provide a description of the problem, desired goals and methods and procedures used in the study. The data and information collected will then be used to answer the research problem and the accompanying research goals. Recommendations will be made based on the data collected. These recommendations will identify a course of action to assist faculty in integrating technology into their courses.

SUMMARY

The problem of this study was to determine faculty interest in and the challenges related to using advanced instructional technology to support course offerings at Wytheville Community College. The research conducted as a part of this study included a review of literature to determine how other schools and colleges were handling the rapid need to integrate technology into courses and curriculums. This research indicated a need for colleges to train a more technologically literate workforce and that schools and colleges would need to take the necessary steps to meet the demands of our current and future society.

The second phase of research included an interview with Wytheville Community College's Instructional Technologist to determine what was currently being done to assist faculty with technology integration. This interview revealed that the Instructional

Technologist had developed and was offering short session classes to all faculty. However, due to time restraints, many faculty members were not able to participate in the classes.

The final phase of research included the development of a survey instrument designed to draw responses to the research goals outlined in this study. Based on the results of this survey, conclusions and recommendations regarding faculty interest in and challenges related to technology integration were made.

CONCLUSIONS

The purpose of this study was to determine the equipment, software, and support needs for faculty to integrate technology into course offerings at Wytheville Community College. The first goal was to determine which methods of technology were of interest to the faculty. Twenty-three percent of the faculty indicated an interest in web-based training including on-line training to obtain the necessary skills to teach on-line classes as well as learning how to navigate the Internet. Twenty-five percent of the faculty expressed an interest in learning how to develop and use presentations and CD-Rom simulations for classroom instruction.

The second goal was to determine the equipment needs. Responses to Question 2 of the survey indicated that 62% of the faculty felt that equipment needs were hindering them from using technology in course offerings. The main equipment needs addressed were more computers for classrooms and labs and upgraded equipment for faculty.

The third goal was to determine the training needs for faculty to integrate technology into course offerings. The survey indicated that 31% of the faculty needed

training before they could integrate technology into their courses. Most of the faculty indicated that they needed training to use presentations in the classroom, training to offer on-line courses, training on how to use instructional software and training on the use of the Internet.

The fourth goal was to determine support needs of faculty as they seek new approaches to learning technology. The survey responses indicated that the majority or 26% of the faculty felt that professional development days designated for technology training would be beneficial. Eight or 21% of the faculty felt they needed individualized training and support.

RECOMMENDATIONS

Based on the research conducted, the author recommends the following actions. The recommendations are presented in three areas: equipment, training, and support.

Equipment: Equipment was an issue in several of the survey responses. The technology committee of Wytheville Community College should evaluate the existing technology plan to ensure that instructional equipment needs are top priority. Every faculty member should have a state-of-the-art desktop or laptop computer for individual use. If faculty are expected to integrate technology into their courses, a study is recommended to determine which classrooms should be equipped with which types of technical equipment in order for faculty to begin an integration process. It is also recommended that a study be done to determine the number of computerized classrooms needed to meet the instructional demands.

Training: A study is recommended to determine what methods of training would

equip faculty with the necessary skills to integrate technology into their courses. The study should also determine which classes would benefit from instructional technology and if a simulation classroom for faculty training would be feasible. After it is determined which classes would benefit from instructional technology, a recommendation is made to determine if it would be feasible to allow faculty release time to learn, develop, and integrate technology into their courses.

Support: A study is recommended to determine the level of support needed to meet the technological demands of faculty. This research study has revealed that one instructional technologist cannot supply the necessary support for faculty to learn, develop and integrate technology into their courses. It should also be determined if one technical support staff should be assigned to the instructional area to maintain technology-based classrooms. This would ensure that equipment is functioning properly and prevent technology from being a disruption which not only infringes on valuable class time but also frustrates faculty who have to deal with the technical problems.

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APPENDICES

Appendix A: Survey Instrument

Appendix B: Cover Letter

Appendix C: Follow-up Letter

Appendix D: Individual Survey Responses

Appendix A

A Study to Determine Faculty Interest in Using Advanced Instructional Technology to Support Course Offerings at Wytheville Community College

Faculty Name: _____ Department: _____
Optional

The data gathered in this survey will be used to determine which methods of instructional technology are of interest to faculty and determine recommendations for equipment, training, and support needs for faculty to learn to use technology effectively and integrate technology into course offerings. Instructional technologies for the purpose of this survey are defined as any of the physical equipment in a system, usually containing electronic components and performing some kind of function in information processing, used to improve instruction.

Please respond to the questions below as they apply to your instructional situation.

1. Are you currently using instructional technology in your courses? Yes _____ No ____

2. If you answered "Yes" to Question 1, please give a brief description of the technology being used._____
_____

If you answered "No", are you interested in using technology in your courses?
Yes_____ No_____ Why or why not?_____

_____

If you answered "No" Skip to Question 10. If you answered "Yes" go to Question 3.

3. What types of barriers, if any, are hindering you from using technology in your courses?

_____ Equipment, explain_____

_____

Please continue to the next page.

A Study to Determine Faculty Interest in Using Advanced Instructional Technology to Support Course Offerings at Wytheville Community College

_____ Training, explain_____

_____

_____ Support, explain_____

_____

_____ Time, explain _____

_____

_____ No incentive to integrate, explain _____

_____

_____ Other, explain _____

_____

_____ No barriers _____

_____

4. Which methods or types of instructional technology are of interest to you?

_____

_____

_____

5. Are there specific technology equipment needs not currently available that you feel would be useful for classroom, home study or web-based instruction?

_____

_____

_____

6. What type of in-service training in using instructional technology do you feel would best accommodate you in your position?

Please continue to the next page.

A Study to Determine Faculty Interest in Using Advanced Instructional Technology to Support Course Offerings at Wytheville Community College

6. _____

_____

_____

7. Describe briefly, the level and type of support you feel you would need to learn how to use instructional technology effectively and integrate technology into your courses.

_____

_____

_____

8. How could WCC's administration assist you in using instructional technology without adding excessive burdens to your already heavy workloads?

_____

_____

_____

9. What level of instructional technology would you like WCC to achieve in the next two years?

_____

_____

10. I would like to receive a copy of the results of this survey, Yes_____ No_____.

If you answered "Yes" please complete the line for Faculty Name on Page 1.

Thank you for taking the time to complete this survey.

Appendix B

Wytheville Community College
1000 East Main Street
Wytheville, VA 24382

September 7, 1999

Dear :

I am currently working on my Master's Degree in Occupational and Technical Studies majoring in Community College Education with a specialization in Information Technology at Old Dominion University. My research topic focuses on determining faculty interest in using advanced instructional technology to support course offerings at Wytheville Community College. I am requesting your assistance with completing the attached questionnaire. Please respond to these questions as you see your situation in integrating advanced technology into your courses.

The purpose of this study is to determine which methods of technology are of interest to the faculty. The study consists of determining the equipment, training, and support needs as faculty seek new approaches to learning and using technology in the classroom.

Your specialization as an educator means you can provide valuable insight concerning the technology needs of your students, as well as identifying the support needed for helping faculty integrate technology into their courses without excessive burdens. Your responses to this questionnaire are needed so that an accurate picture of needs can be identified and then addressed. I am asking that you complete the attached questionnaire and return it in the enclosed envelope by September 21, 1999. Please help me achieve a 100 percent response rate.

Thank you for your time in this matter and I hope to hear from you soon. You can contact me at extension 4780 or by e-mail at wcsextn@wc.cc.va.us to further discuss this research.

Sincerely,

Nancy C. Sexton

Attachment

Appendix C

Wytheville Community College
1000 East Main Street
Wytheville, VA 24382

September 28, 1999

Dear :

Several weeks ago you should have received a survey asking for information about determining faculty interest in using advanced instructional technology to support course offerings at Wytheville Community College. If you have already completed and returned it, thank you very much. Your input will be valuable as I make recommendations that will assist you in learning the benefits of and the knowledge for using advanced technology in your course offerings. If you never received the survey, or have not returned it, please do so in the next few days. Enclosed, you will find another copy of the survey and a self-addressed envelope.

Your specialization as an educator means your input is vital in identifying the support needed for helping faculty integrate technology into their courses without excessive burdens. Your responses to this questionnaire are necessary so that an accurate picture of needs can be identified and then addressed. The response rate to date has been quite good, please help me achieve a 100 percent response rate.

Thank you for your time in this matter and I hope to hear from you soon. You can contact me at extension 4780 or by e-mail at wcsextn@wc.cc.va.us to further discuss this research.

Sincerely,

Nancy C. Sexton

Attachment

Appendix D

Actual Survey Responses

Received 39 out of 48 surveys or 81%

1. Are your currently using instructional technology in your courses?

- Yes 33
- No 6

2. If you answered 'Yes' to Question 1, please give a brief description of the technology being used.

Category	Description	Frequencies
Computers:	Desk top/Laptop computers	13
Presentations:	Presentations	13
Internet:	Internet Assignments & Research	13
Other tutorial Software:		
	Specialized Tutorial Software	7
	Chat	2
	MRDS	1
	CIT	2
	CAM	1
	CAD	1
	CNC	1
	WCB	3
	Voice Mail	1
	Email	4
	Word Processing	2
Other technical equipment:		
	Robotics1	1
	CIM	1
	Overhead Projector	3
	Video	4
	Micro grade	2
	Graphing Calculator	3
	Electronic Classroom	2
	ELMO	1

Central Video System	1
VCR	1
Distance Education Equipment	3
Computerized Manikins	1
Interactive video disks	2
CAI disks	1

Of the 6 faculty members that answered no to the use of technology, 4 said they were interested in using technology and 2 said they were not interested.

3. What type of barriers, if any, are hindering you from using technology in your courses?

- Equipment: Insufficient equipment, no money.

  Need a classroom computer with access to the Network.

  Need VCRs in all classrooms.

  Need overhead projectors in all classrooms.

  Need updated controllers for equipment.

  Not enough time to learn.

  Faulty equipment.

  Printers cause inconvenience during class.

  Need more labs.

  Need more off-campus access to computers and Internet.

  Access to a computer in the classroom.

  The television/AVERY keys are useless. Students cannot see the small screens.

  I teach technology and I have a four-year-old machine in my office that will not run Office 2000 which is a big problem. Need an upgrade desperately.

  I have a desktop but I need a laptop computer for class.

  Unreliable, if equipment doesn't work, reflects negatively on the instructor.

  Need better equipment in the classrooms.

  Computer does not work properly. It turns itself on and off.

  Not enough technical equipment available in the classrooms.

  Need more laptops available for faculty.

  Equipment is not in classrooms. Nursing faculty lose time moving to areas where equipment is available.

  I am having problems with my computer and sometimes it takes two weeks to get help.

Need interactive videos. Would like more leaning reinforcement, but need more hardware to accommodate the number of students.

If classrooms were set up with computers and screens, we could make better use of software and presentations. Now, we have to schedule a room to use technology.

- Training:

Need training desperately. Schedule does not allow time for learning.

When software on computers is upgraded, no training is provided for faculty. Everything is trial and error.

Need release time to learn special software.

Faculty need to know more about what is available.

We always need more training to keep up.

Training is available but slow learning curve for some computer programs.

I am afraid to use the expensive equipment. I don't want to use technology by trial and error.

Need more time to take classes.

Scheduling for training is difficult.

Mainly, it is time for training. I would ultimately like to offer SPD110 on the Net but it would require four visits to campus by students for actual speech delivery. I don't think this is the best way but it is do - able and others are already doing it.

There are many ways I could use technology if I knew what was available.

- Support:

Need support to ensure equipment is working properly.

Equipment causes inconveniences during class. Need technical support for instructional purposes.

Many faculty are now doing their own clerical work and doing most of their class work at home on their own time. There is no time for training.

Faculty need special assistance with most instructional technology.

Need assistance with instructional technology presentations.

Need support to develop courses with instructional technology.

Available support is limited. If you don't repeatedly use a technique, it is more time efficient for someone else to do it for you.

Sometimes, someone will do things for you, doesn't help much. Help is not always available.

Need more people to support faculty with technology so response is more quickly.

Need set-up and classroom support personnel. Shortage has been a problem.

Need instructional technical support.

I get very frustrated when I have a problem. Faculty get very little support from Information Technology Services.

It always helps to learn new things about old techniques.

WCC does not have enough support for the number of computers and employees. Don, Gabe and the tech people do a good job, there is just not enough of them.

- Time:

Faculty should have release time to prepare and learn significantly.

Not enough time to learn.

Need release time to learn.

Need sufficient time to develop programs, Web pages for search the Internet for appropriate/useful sites.

Time to learn the skills.

Need technical knowledge and training time.

Need the time to get the necessary skills.

Developing technology supplements for classes almost triples the workload.

It is difficult to find the time to integrate all of my handouts for online delivery.

Release time is needed, release time is needed. There, I said it twice.

Not enough time to develop materials and courses.

Learning curve. Initial takes longer. No one to relieve instructors of full-time classes so we have time to learn.

Involved in several technical projects. Not enough time to learn.

Need time to practice and take classes but we can't do that and keep up with our normal workloads.

Takes time to do these things. Most things with technology are done on our own time, i.e. taking classes, integrating technology into courses, grading, etc.

Due to clinicals, visits, and teaching, it is often difficult to schedule.

There is never enough time to experiment with new technology and software.

Have waited two weeks or more to get my computer working.

Finding time to take David's classes is a problem.

Faculty are encouraged to learn technology but not given time.

It is difficult to have time to develop presentations (researching the topic itself takes time.)

To develop and use presentations and tutorial software is very time consuming if used on a big scale.

Many students are computer illiterate so it takes too long to get them into programs. I feel I cannot use class for this purpose.

- No Incentive to integrate:

  Need additional dollars to develop program and skills.

  No or little appreciation by administration of time needed to learn instructional technology.

  The only incentive is to help the student.

  You hear a lot of faculty say "there is no incentive to integrate."

  No incentive to integrate.

  WCC doesn't adequately reward those who integrate technology into courses. Very little consideration is given to evaluation scores.

  My annual evaluation is based on my poor use of technology. This should be an incentive but it only causes a defeated attitude.

  No extra money is available.

- Other:

  Improved materials would be helpful.

  Could use Internet more extensively if students has access at home.

  Not enough classrooms. Only one classroom has computers for English classes.

  Student evaluations at WCC are the same ??????, not technology use. (Not legible)

- No Barriers:

  'No Barriers' - 5

  Actually, barriers are being first to try and work out the bugs.

  No rewards except self satisfaction.

4. Which methods or types of instructional technology are of interest to you?

   Internet Training:

   - Courses offered on the Internet
   - Internet research
   - Internet
   - Internet

- Internet
- Internet
- Internet
- Internet research
- Internet related topics
- Internet research
- Internet use in the classroom
- Internet for classroom instruction

Presentations Training:

- Slide presentations
- Powerpoint
- Presentations
- Presentations integrated multimedia
- Powerpoint ready presentations
- Computer presentations
- Powerpoint Presentations
- Powerpoint
- Powerpoint
- Powerpoint

Web-based Training:

- Web based courses
- Web based training
- Web component with courses
- Web courses
- Web page for out of class and/or distance learning
- Web Course In a Box
- Web based
- Web instruction
- Web based instruction

Online training:

- Online courses
- Online training
- Online methods
- Multimedia online delivery
- On-line training
- Online training

CD-Rom Simulations, other technical equipment, and software.

- CBTs
- Motivating demonstrations
- Microscopic connections to the computer, image saving and more lab practical work on the computer.
- Labs with Text ready software for student's use
- CD Rom Simulations for instruction and communication
- CD Rom Simulations for short demonstrations for classroom usage
- A method to demonstrate software applications to students. Distance education.
- CIT and CBTS
- CD-Rom, computer-assisted instruction of compression.
- CD -Rom simulations
- Graphing calculator
- Testing students
- Instructional software
- There are a lot of new things I could benefit from.
- Electronic classroom
- Interactive videos, computerized equipment that simulates human reaction treatment.
- Computer laptop presentations.
- Interactive CDs

5. Are there specific technology equipment needs not currently available that you feel would be useful for classroom, home study or web-based instruction?

All classrooms be equipped with state-of-the-art equipment.

- All classrooms need to be equipped with the kinds of teaching aids which are available in the electronic classrooms (minus the satellite link TVs and equipment).
- Need a PC or laptop available for every classroom without having to reserve one from AV.
- Computers available in the classrooms, VCR and Monitors in the classrooms.
- Without the equipment, it is difficult to plan.
- Need more computer labs dedicated to English and other general education instruction.
- I am concerned about the ratio of computers to students in computer labs. Only 1/3 of the students have ready access to the Internet at home.
- Have a stationary computer in lecture rooms to use for presentations.

Upgrade existing classroom equipment:

- Equipment could be available already but we need it to work, training, and support in usage.
- Upgrade computers in the labs.
- Need more high-powered software available to students. Need to update labs.
- Access to Internet at off campus locations.
- Upgrade computers in the classrooms and upgrade computers in the offices.
- More and higher powered computers, some labs are out of date.
- More access to the electronic classroom. Seems the equipment on campus is usually tied up.

Better visual aids in the classrooms:

- Video or big screen monitors in the machine lab and CIM Lab.
- Equipment to provide a good, clear picture of what is being demonstrated on the computer.

Upgrade existing faculty equipment and software:

- Better computers. I have a 486 DX 66.
- Really good, practical software in my particular field.
- A laptop to use in my classes. We should have divisional laptops, I use one frequently in my classes.
- Faculty computers could use upgrading.

Network Labs and Other technical items:

- Network drafting lab.
- Technical equipment to convert videos into Web-based components (streaming video).
- More scanners in the buildings.
- I have limited knowledge.
- Unaware of any.
- Not at this time.
- A computer projector.

6. What type of in-service training in using instructional technology do you feel

would best accommodate you in your position?

- Mini, Intermediate and Follow-up instruction workshops:
- Follow-up "refresher classes on the classes and workshops already being done."
- I like the one-hour in-service format although I have taken advantage of several free courses.
- Mini classes with live instructors.
- Since learning about technology is an ongoing building process, I could benefit from intermediate class in most areas, in new areas from beginner.
- updating OT current training.
- Practice time for using technology in the classroom
- Training that would allow the faculty member to work at their own pace and at a convenient time.
- Offering classes, mini courses and workshops on various aspects of technology.
- Training is adequate at this point.
- Mini workshops are good but I need time to work on the computer to truly understand and apply what I learn. Longer sessions.

Web-based /On-line training:

- Web Course training.
- Web Page authoring - HTML and Networking.
- Web Course in a box.
- Orientation on what is available and instruction on setting up on-line courses.
- Saving images, setting up folders with individual outside of WCC — on GROUPWISE.
- Sample lessons or activities for the Web.

Hands on and/or individualized training for using technology in the classroom:

- Opportunities to prepare for electronic presentations (assuming the equipment is available).
- Hands on and course specific
- On-on-one instruction at my level of competence with a computer, I am not at the instructor's level (which is how most courses are taught).
- Hands on training.
- Personal time with actual software.

Orientation or Introduction on what is available:

- Introduction to what is available and then instruction on how to use the technology best suited for my classes.
- I don't know enough to know what we don't have.
- Overall view of the different types of technology available to the faculty at WCC and who is available to train us.

Other training:

- Training on CAD/CAM solid modeling classes.
- Access to and training in more expensive authoring software.
- Time is more important although I prefer online and self-study.
- Classes taught on specific topics during the normal workday then be allowed practice time.
- David Carter-Tod does a good job. I like to take his courses, he knows his stuff and gets right down to my level.
- Due to too much "hands on" in our profession, it is difficult to know at this point.
- We do have S. B. Review Tests if we can get a computer hooked up.
- An individual who is willing to teach the basics. One who does not expect someone to already be prepared but will be willing to start where more students are and address the needs of those who wish to do more at a higher level.

7. Describe briefly, the level and type of support you feel you would need to learn how to use instructional technology effectively and integrate technology into your courses.

One-on-one support:

- Classes or one-on-one instruction.
- One-on-one support.
- One-on-on support or at least very small groups in order to learn new technology.
- I have found that on-line classes require extensive technological support.
- Mostly, have a lot of support individually to learn new tasks. Courses, are nice but you really have to learn to use technology for a particular purpose. Maybe need more personnel available, still a long time between requests and results.
- What has been done is fine, mini courses offered without charge and individual assistance from the Instructional Technologist when needed.
- Meet individually with an instructor who could demonstrate exactly how to use the materials for a particular course. Probably 3 to 4 hour sessions.
- Well, I need a class, then I need David's ongoing assistance. Would finally

like to attend a statewide gathering of folks teaching courses on the Internet.

- Most beneficial would be someone with a background in health/science issues and who understands the amount and complexity of the information that I need to teach.
- Some time that is uninterrupted. Probably, individual instruction.

Professional development or other specific in-service days set aside for training and Other:

- Some days set aside for just doing computer learning activities.
- Time, time, time. Classrooms truly media ready. aver key and computer needs to be seen on both monitors.
- Work with small peer groups.
- I feel that David Tod is doing an adequate job.
- Need M.S. trained Educational Technologist.
- Continue classes in use of hardware and software in use, i.e. GROUPWISE, etc.
- Computer courses now being offered in the afternoon will be helpful.
- The level of support is in place and courses are offered at no cost to the instructors.
- I already use instructional technology in all of my classes.

Workshops that start with the basics:

- A well-taught 3 credit course for a semester.
- Start with the basics and assume I know nothing and go from there (remedial technology classes). Do one program at a time including GROUPWISE, calendar, address book, etc.
- WCC does a good job but we need time to develop classroom technology. WCC puts little emphasis on technology in the sense that faculty evaluations don't reflect its use.
- Network support.
- Introduction for students in the use of technologies.

Release time for preparation and integration:

- Release time each semester to learn some of the latest technology.
- Release time for courses, study and integration.
- Need to be free (release time) to experiment with actually using some software.
- Release time to practice the use of technology. It takes all of my time now

to keep the labs running.

Hands on training:

- More individual hands-on training.
- Mini training sessions, hands-on.
- Open training lab go to when we have problems or need to know something about the technology.

8. How could WCC's administration assist you in using instructional technology without adding excessive burdens to your already heavy workloads?

Release time for training:

- Provide release time for development of instructional aids.
- Release time.
- Release time.
- Release time. Pay us to learn technologies.
- Release time or extra help to relieve me so I can practice the use of instructional technologies.
- Release time is so very crucial to technology integration.
- Using professional development days at the beginning of the semester and at the end of the semester for training or give us release time.
- Release time for course and course component development.
- Offer release time to develop a course or maybe offer an intensive two day course for those interested during two days of the professional development time.
- Release time for developing online classes.

Adequate equipment:

- Equipment.
- Have equipment available for practice before class begins.
- A laptop to use in the classroom.
- Providing equipment that will support current software applications in the office and in the classrooms.
- Additional money for computers.

More technical staff for support:

- Support, service and training.
- WCC has excellent support personnel who are stretched for time. Additional personnel could help faculty with the technologies.
- Add more people to the technical staff.

Reduce workloads to allow time for training:

- Reduce heavy workloads. It takes time to learn new methods.
- By not continually increasing my teaching load and by allowing faculty time to integrate new information. Like workshops instead of in-service time.

Other:

- With hands-on individual training. Come to my classroom and help me.
- Add computer skills to orientation, Email, Navigators. Additional monies for equipment.
- Develop on-line courses. I feel that developmental time would need to be integrated into workload.
- Keep us informed on how technology is practically being used so we can see the options and to use technology just to say we are using it is pointless.
- Can't be done.
- Short course workshops
- This is a good question, maybe there is someone around that knows what is going on.
- Adequate assistance is in place. I don't feel we should be mandated to use technology, it is excellent where it is appropriate. To use it on a large scale, one might need to reduce the current class loads.

9. What level of instructional technology would you like WCC to achieve in the next two years?

All faculty members using technology with confidence:

- 20 - 30 % of faculty with extensive use of technology.
- 60 - 70 % of faculty with moderate use of technology.
- General comfort for faculty and staff in common operation. Use of distance education where appropriate.
- To have faculty using computers with confidence.
- Have technology accessible to most if not all of the classrooms.

WCC offering on-line degree programs:

- More on-line courses.
- Make career studies certificates available entirely on the Internet; 50% of the faculty engaged in integration of technology for traditional courses; 20% of all courses available by distance learning.
- Be able to offer more core courses on the Internet to give viable

alternatives to students who cannot commute or have no free time that matches our traditional schedule.

- Online degree program.
- Online degree program.

For WCC to stay competitive:

- Keep growing.
- If the appropriate training and support were available, we probably would have most of the technology or the capability for it.
- I would like to see WCC stay competitive.
- I would like to see WCC competitive with other US colleges and especially colleges in the area.
- Continue growing. AV and the Instructional Technologist need money and support. Do whatever you need to do to hang on the to the technical people you have.

State-of-the-art equipment in every classroom:

- Complete electronic teaching aids in each classroom with courses to help instructors develop expertise usage.
- Every faculty member have state-of-the-art computers and the same in the classrooms.
- It would be nice if all classrooms has PCs or all faculty had laptops. It is very inconvenient to try and run one down. The trouble to find a laptop is not worth the effort.
- State of the art equipment.

Other:

- On-line registration and advising.
- Whatever we do. Don't forget we still need old methods too.
- Basic, Intermediate and advanced levels of technology integration.
- Many of WCC's students do not do well with the technology. Many are older as I am and are always pushing the wrong button. We need to give technology time.
- Students need to learn basics before trying to become hi-tech. WCC has wasted thousands on insignificant hi-tech over the past 30 years.
- I would like to continue with what I am doing now, just doing more of it and being more familiar with it.
- Every faculty have one or two on-line classes
- One or two classes on the Internet per faculty.