Old Dominion University

ODU Digital Commons

1999

A Study to Determine the Attitudes of Full-time and Adjunct Faculty Members of the Business Division at Southwest Virginia Community College Toward Technology Training

Loretta Beavers
Old Dominion University

Follow this and additional works at: https://digitalcommons.odu.edu/ots_masters_projects

Part of the Education Commons

Recommended Citation

A STUDY TO DETERMINE THE ATTITUDES
OF FULL-TIME AND ADJUNCT FACULTY
MEMBERS OF THE BUSINESS DIVISION AT
SOUTHWEST VIRGINIA COMMUNITY COLLEGE
TOWARD TECHNOLOGY TRAINING

A Research Report
Presented to the Graduate Faculty
of the Department of
Occupational and Technical Studies
at Old Dominion University
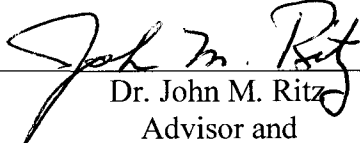
For Partial Fulfillment
of the Requirements for the
Master of Science Degree

By
Loretta R. Beavers
November 1999

APPROVAL PAGE

This research paper was prepared by Loretta R. Beavers under the guidance and direction of Dr. John M. Ritz in OTED 636, Problems in Occupational and Technical Studies. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Master of Science Degree.

APPROVAL BY: _____   _12-15-99_

Dr. John M. Ritz   Date

Advisor and

Graduate Program Director

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

TABLE OF TABLES

.

CHAPTER I

INTRODUCTION

Computers used to be set up in remote offices and used by one operator. Today a computer is a common sight in any office or workplace. College students are becoming more at ease with using technology as a means of learning.

Technology integration is rapidly gaining popularity in community college curriculums. Instructors in many of the disciplines require Internet assignments. For instance, humanity classes assign web-based research documents to be summarized. Economic classes require student portfolios of articles on changes that influence the economy. Up-to-date information concerning economics and business finances can be obtained from the web. Other curriculums such as drafting and welding use special programs as instructional classroom tools. Art students can professionally duplicate their creations on clothing.

Learning to use a specific course software program is very similar to job training. Searching for and finding information using the Internet is indeed a useful skill to possess especially as a college student. However, teaching for an understanding of technology "requires that the student push beyond the normal boundaries of merely learning narrow skill" (Brandt, 1999, p. 33). Instructors should be familiar enough with technology to understand that computer skills are not complete with the knowledge of one program.

Students are realizing the necessity of computer skills in pursuing a career in the business environment. Many students elect to enroll in computer classes to complete the elective requirements of their business programs. These classes are offered through the Southwest Virginia Community College Business Division. The computer labs are

adequately equipped with the appropriate equipment and software to offer from beginning to advanced instruction in business and industry related computer applications. Training could be made available to faculty members if so desired.

STATEMENT OF THE PROBLEM

The problem of this study was to determine the attitudes of full-time and adjunct faculty members of the Business Division at Southwest Virginia Community College toward technology training.

RESEARCH GOALS

The following goals provided direction in this study:

1. What skills do faculty members feel they need to be more effective in using computers to supplement instruction in SVCC's Business Division?

2. What is the individual faculty member's attitude concerning technology training in specific computer software programs?

3. What technology skills do the faculty members think the students of the Business Division's curriculum programs should acquire?

4. What recommendations do Business Division faculty members of SVCC propose to improve computer technology training for faculty members?

BACKGROUND AND SIGNIFICANCE

In 1998 Southwest Virginia Community College was granted government funding to bring all students up to a required level of technology competencies upon graduation. Therefore, all faculty members should be trained in instructional technology to gain a greater level of computer literacy. However, many SVCC faculty members tend to rely

on computer-literate students and co-workers, technicians, and lab assistants to demonstrate computer skills to students.

The Business Division at SVCC offers more computer classes each semester than any other curriculum division. Therefore, faculty members in the Business Division should have or be trained to have competency in general business computer operations such as word processing, presentation graphics, spreadsheets, databases, and Internet to be better prepared to take greater responsibility for student learning.

SVCC's Business Division has recognized the demand for technology skills in the workforce and graduating students' lack of such skills. Not all faculty members have the necessary skills themselves to be able to instruct students with computer applications. These skills could be acquired through computer technology training. Workshops such as Windows 95 and Microsoft Access 97 have been offered to faculty and staff members; however, attendance was on a volunteer basis. Although several faculty members attended the Windows 95 workshop, only staff personnel attended the Microsoft Access 97 workshop.

Business Division faculty members should be advised and aware of the technology skills necessary to demonstrate a working knowledge of computer concepts, components, and operations. When these skills are identified, training can be scheduled.

Acquiring technology skills would reflect a greater degree of professionalism in the business environment. Lectures can be enhanced by using a presentation program. Classroom instructions and demonstrations can be visual as well as audio. The role of technology can be used to support efforts to reach learners (Boettcher, 1999, p. 18).

LIMITATIONS

This research had the following limitations: The researcher was limited to:

1. The Business Division of SVCC.

2. Full-time and adjunct faculty members working on the main campus of the college and had an assigned office with unlimited access to a personal computer.

3. Training that included software programs and a basic understanding of the Internet and operating systems.

4. Those equipment and software programs available through the SVCC Business Division.

ASSUMPTIONS

In this research, several assumptions were made regarding the problem being studied.

1. Each full-time faculty member's office was equipped with a personal computer.

2. The requested software was installed on the faculty member's personal computer.

3. The Internet was accessible on each faculty member's computer.

4. Adjunct faculty members had access to personal computers and the appropriate software.

5. Training was made available without any monetary expense to the participant.

6. If the faculty members are better prepared with computer application skills, they can enhance the learning and employment of their students.

PROCEDURES

The descriptive method of research was used to gather and analyze the data necessary for the study of this problem. A survey and two interviews were conducted to obtain opinions from primary sources. Research data were collected from SVCC Business Division's eleven full-time and four adjunct faculty members through the use of a survey. Interviews were conducted with the Business Division Chair and the Technology Instructional Designer to determine the necessary basic computer skills faculty members should have or acquire.

The respondents were questioned as to what technology skills they already had and what skills they needed to improve or acquire. They answered questions concerning the technology skills they used or required students to use. The survey also included questions about the use of computers and software in the classroom and if any Internet-based assignments were required. This provided information about the technology skill requirements of the students for a specific course.

The results of this research were provided to the Business Division Chair. After reviewing data from the faculty's survey response, technology training could be provided according to the results of the study.

DEFINITION OF TERMS

For the purposes of this research, the following terms assisted in the understanding of this study:

1. **Adjunct faculty members**—instructors hired on a part-time basis to teach courses.
2. **Business Division**—a curriculum division of SVCC that offers courses required to obtain a degree or certificate in a business program.

3. **Business environment**—the behavior and physical aspects of a business.

4. **General computer knowledge**—a working knowledge of computer concepts, components and operations.

5. **Internet**—a huge computer network available to nearly everyone with a microcomputer and a means to connect to it. It is a resource for information about an infinite number of topics (O'Leary and O'Leary, 1998, p. G7).

6. **Personal computer**—IBM compatible computers designed for individual users.

7. **Software**—computer programs that are used to perform a specific task. Operating systems and application software such as a word processing or spreadsheet program is software (Andrews, 1998, p. G-13).

8. **SVCC**—Southwest Virginia Community College. This is the location that the researcher studied. This community college is located in Richlands, Virginia.

9. **TLTR**—Teaching, Learning, and Technology Roundtables. A Virginia Community College System Committee for supporting technology training for educators.

10. **Technology**—knowledge, methods, and activities used to achieve a practical purpose.

11. **Technology competency**—the ability to use computer technology to meet one's information needs.

12. **Training**—instructions or demonstrations received to become qualified or proficient in a particular field or subject area.

OVERVIEW OF CHAPTERS

Chapter I of this research exposed the fact that computer technology should be as rapidly advancing in education as it is in the business work environment. The study also

indicated that Business Division faculty members need technology training to upgrade their computer skills.

The review of existing literature on technology training was necessary to explore new avenues available in training. Chapter II also helped to identify what computer skills were considered basic to classroom instruction.

The methods and procedures used to collect the data are explained in Chapter III. Chapter IV presents and interprets the results of the surveys and interviews used in Chapter III. Chapter V summarizes this research study. Conclusions are stated and recommendations are suggested in this final chapter.

CHAPTER II

REVIEW OF LITERATURE

The review of literature provides an overview of information concerning technological training for faculty members. Because the use of technology in business and education has increased drastically in the 1990s, faculty members need to have sufficient technological literacy to be able to prepare students for a lifetime of computer use. In 1995, President Clinton challenged community leaders and educators to have all children in America technologically literate by the beginning of the 21st century (U.S. Government, 1997, p. 41). This challenge brought about an awareness of the training necessary to reach such a goal.

The published articles reviewed on faculty training encouraged training that would instruct faculty in using technology integration in any subject. Information on training methods and content was also available for review. The literature of this chapter will cover (1) integrating technology in the classroom, (2) available faculty training, (3) technology competencies for students in business programs, and (4) faculty assignment and compensation.

INTEGRATING TECHNOLOGY IN THE CLASSROOM

The role of technology should be to support efforts to reach learners (Boettcher, 1999, p. 18). The success of integration of technology in the classroom begins with the instructor's competency in using the desired technology. In the Business Division at SVCC, the most common programs used for integration are Microsoft Word 97, PowerPoint, and the Internet. According to the 1999 *Learning Technology Skills &*

Technology BASICS Program Checklist of SVCC, the applicable programs have been installed on the campus computers.

> Microsoft Office is on all computers, allowing for word processing, spreadsheet development, budget trading, presentation development, and creating reports. All campus computers are linked to the Internet allowing students, faculty, and staff to conduct research, collect information, and communicate (p. 1).

There are business instructors that require students to search the Internet for specific information. The directions for these assignments are "search and click". Creating presentations using PowerPoint is another common requirement. The instructors of these assignments usually solicit assistance from other faculty members or students familiar with the software program.

As more software programs are implemented, fewer faculty members will be prepared to deliver adequate instruction unless these faculty members are given appropriate training. One author notes that the typical community college organization resides in the "Late Industrial Era." To allow for the effective use of new technologies and information, changes must be made to the rigid traditional organizational structures (Henriksen, 1998, p. 93).

When many of today's faculty members were students themselves, they were taught in the traditional, lecture-based education style. Instructors have a tendency to use the same method of teaching that was used when they were taught. This attitude will result in a reluctance to integrate technology. An understanding of the important role of technology in improving the education outcomes for students must be developed. The faculty should "shift toward integrating technology into their everyday lives, assuming both ownership of technology and responsibility for using it appropriately and

imaginatively to enrich their classrooms (Moran and Payne, 1998, p. 44). Instructors that use educational technology in their teaching and "require students to use it for assignments greatly further student proficiency with technology" (Ford, 1997, p. 15).

FACULTY TRAINING AT SVCC

Technology and its uses change continuously and training also has to be continuous whether it is self training or formal training. According to SVCC's 1999 *Learning Technology Skills and Technology BASICS Program Checklist* report, SVCC is a "state-of-the-art technology center for faculty, staff and students." The flexible infrastructure is "adaptable to change and has empowered its people to use the technology in their teaching or their administrative duties" (p. 2).

Committees have been utilized to increase the awareness of software programs available and the appropriate training for such programs. The Teaching, Learning, and Technology Roundtables, TLTR, facilitate opportunities for faculty and staff to participate in technological learning activities. Another task of the TLTR committee is to "seek to stimulate faculty interest in developing innovative uses of technology in the teaching/learning paradigm" (p. 6).

Other groups that promote technology training at SVCC are the Professional Development Committee, the Information Services Department, and the Instructional Center. The Professional Development Committee is responsible for providing opportunities for faculty to obtain needed training updates. One training session consisted of network management that was beneficial to Information Systems Technology instructors. The Information Services Department assists faculty with information regarding the operation and use of software and hardware. Faculty members

can solicit assistance from this department for reviewing new technologies for classroom instruction. The Instructional Center personnel assist faculty with development of instructional material and with the infusion of information technology into the curriculum (pp. 10-16).

Training sessions are conducted during faculty inservice and faculty/staff meetings. Personnel are kept informed of impending technological changes. Web Course in a Box, PowerPoint for Instruction, Pros and Cons of Microsoft, and Netscape workshops have been conducted. The SVCC library offers adjunct faculty a one-credit seminar entitled Topics in Information (p. 4). There is a one-credit tuition fee for this seminar.

Another method faculty members receive training is from other faculty members having more experience in the uses of technology in the classroom. There are "key faculty mentors" in each academic division that help colleagues to "keep abreast of cutting-edge technologies" (p. 10). Since 1994, the Library Staff has conducted training sessions during faculty inservice meetings. This training is centered on highly automated systems of library contents and functions (p. 4).

Technology support services should be able to provide assistance to both individuals and groups in the use of various educational technologies (Ford, 1997, p. 14). Instructors experience many of the same anxieties as students when learning new technological skills. Instructors receiving the appropriate training and support would result in the instructors providing the same type of instruction to their students.

STUDENTS' TECHNOLOGY COMPETENCY REQUIREMENTS

A grant funded in 1998 enabled SVCC to create a new staff position, Instructional Design Technician. This staff member is responsible for outlining specific technology competency requirements for each of the college's curriculum programs. The technology competency report for the Business Division's programs was received in the 1999 Spring Semester.

Michael Brown, Instructional Design Technician, stated the following required competencies in his 1999 Technology Competency Report. There are three general categories of the students' technology competency requirements: (1) general computer knowledge, (2) information literacy, and (3) computer management. General computer knowledge is the ability to "demonstrate a working knowledge of computing concepts, components, and operations to accomplish educational and career tasks." The information literacy competency is using the Internet to access and apply information from online catalogs, virtual libraries, and the World Wide Web. The student should be able to "read and use computer information critically and analytically" and have an understanding of the ethical use of computer information and resources. Computer management is effectively using the basic features of "an operating system to manage the computer and files" (p. 1).

Business students are required to have competencies in word processing, electronic presentations, and spreadsheets. The word processing competencies include composing, formatting, and editing documents using word commands. Students should demonstrate the ability to use various printing options and integrate a variety of applications. Creating tables, using columns and managing files are also required (p. 2).

Competencies for electronic presentations include creating a presentation using textual information and visual elements. Additional competencies include importing data and modifying, customizing, and delivering the presentations (p. 2).

Required competencies for creating worksheets are creating and applying ranges, using functions and cell referencing, and using charts and graphs. Students are required to create budgets, marketing and sales reports, expense reports, invoices and purchase orders, and basic financial statements (p. 2).

There are also technology competency requirements for using electronic communication and the World Wide Web. Business students are required to send and receive email and include attachments. They will demonstrate the ability to navigate a web site and find information using public and private Internet databases. Students are required to develop a simple web site with hyperlinks (p. 3).

Business students are exposed to a variety of computer functions. Many of the business courses are beginning to require assignments to be completed using computer skills and students are beginning to demonstrate more competencies in using computers. If instructors can provide more technological assistance, students would be less stressful in completing assignments.

FACULTY ASSIGNMENT AND COMPENSATION

The increased use of technology has caused an overall increase in mandatory training. Faculty members have to receive appropriate training or self learn on their own time to remain competent in their teaching areas. Internet-based courses and distant education have increased the responsibility of instructors by presenting a different

teaching media. Faculty members are concerned about being compensated for expanding their teaching expertise and the time required learning technological skills.

Two types of faculty compensation are the direct methods and indirect methods. The indirect methods are the least effective. These methods include awards and recognition. The direct methods consist of stipends and assigned time. Faculty members will frequently prefer assigned time over monetary compensation because of the expertise that the training provides to their fields (Allison and Scott, 1998, p. 69-71).

Technology has changed the responsibilities and/or duties of faculty positions. Positions being filled with a new faculty member can be reworded to include the new responsibilities. Faculty members that receive training for the new responsibilities expect to be compensated. Instructors have new obligations to their students, and to assure the best possible outcomes, the college should fulfill its obligations to the instructors.

SUMMARY

The review of literature provides an overview of the technological training available to SVCC Business Division faculty members. The instructor has the option of determining the technological skills that can best be integrated into his/her teaching field. Upon making this decision, the instructor should become competent in those technological areas. This can be accomplished by obtaining the appropriate training.

Faculty members are beginning to take "charge of their own professional development" (Rogers, 1997). Upon understanding what skills are needed, instructors will obtain access to the necessary equipment and software. They will seek out assistance, support, and text materials to acquire the competency level they desire.

Beginning with the 1997 Fall Semester, SVCC's Business Division upgraded the keyboarding classes from the typewriter to computers. Up until then, computer instruction had basically been occupational training. With the upgrading of the keyboarding classes, computers began to serve as instructional tools.

SVCC has adequate technological training sessions, support, expertise, and equipment to provide faculty training. Faculty members and technological support services need to establish a rapport that will bring about a greater knowledge of what skills are needed to improve student learning.

The next chapter will explain the instruments and methods and procedures used to collect the data used in this study. The population will be identified and an explanation of the compiling and analyzing of the survey and interviews will be provided.

CHAPTER III

METHODS AND PROCEDURES

Chapter III explains the methods and procedures used in collecting the data necessary for this research. Descriptions of the population and instrument design used in this study are included in this chapter. The data collection procedures and statistical analysis are also explained.

POPULATION

The population for this study consisted of eleven full-time and four adjunct faculty members of SVCC's Business Division. Both male and female full-time faculty members and only female adjunct faculty members participated in the survey. All participating members had an assigned office or office space on the college campus and had unlimited access to a personal computer. The Business Division Chair and Instructional Design Technician offered full cooperation for the interviews in conducting this research.

INSTRUMENT DESIGN

A survey questionnaire was developed by the researcher to gather data regarding faculty members' attitude toward computer training at SVCC. The survey was designed to gather data concerning the amount of computer training the participants had received and the type of training they felt would be most beneficial to them. Data were also collected to determine what technology skills the faculty members felt the students in business programs should have or acquire. A copy of the survey questionnaire, Appendix A, is included in the Appendices section of this research document.

Interview questions were designed to determine what technology skills the Business Division Chair and the Instructional Design Technician felt the faculty members should have or acquire. The interview also included questions concerning SVCC's responsibilities toward training of faculty members. A copy of the interview questions, Appendix B, is also included in the Appendices section of this research document.

The scope of the questions were based mainly on perceptions of the researcher as a result of working as an adjunct faculty member for SVCC's Business Division for two years. The review of literature supported the perception that faculty members should receive initial and/or continuous training in technology. The survey questionnaire and the two interviews provided data that the researcher used to expand her ideas, draw conclusions, and make possible suggestions to improve computer training for faculty members and to integrate more technology in the business programs.

DATA COLLECTION PROCEDURES

A cover letter (see Appendix C for example of cover letter) and survey questionnaire were hand delivered to each participant at the beginning of the 1999 Fall Semester. The participants were given written and oral explanations about how to complete the questionnaire and return it to the researcher. Follow-up letters were distributed to the appropriate participant's mailbox if the questionnaire had not been returned within one week. Interviews were scheduled with the Business Division Chair and Instructional Design Technician.

STATISTICAL ANALYSIS

The responses for each question were compiled and tabulated to provide the information regarding each faculty member's attitude toward computer training. The responses also indicated which computer programs were currently being used for each business course. The percentages and number of responses for each question were calculated and recorded. The Likert Scale was used for some of the survey questions. The means were provided for these questions.

SUMMARY

This chapter provided information on the methods and procedures used to gather the data necessary to conduct this research. The population and the instrument design were identified. An explanation of the procedure of how the data were collected and how the data gathered were analyzed was provided. Chapter IV describes the findings and analyzes the data collected.

CHAPTER IV

FINDINGS

The problem of this study was to determine the attitudes of full-time and adjunct faculty members of the Business Division at Southwest Virginia Community College toward technology training. This chapter presented the information obtained from the survey and the two interviews conducted during this research project. The following research goals were instrumental in determining what information was necessary to include in the survey and the interviews.

1. What skills do faculty members feel they need to be more effective in using computers to supplement instruction in SVCC's Business Division?

2. What is the individual faculty member's attitude concerning technology training in specific computer software programs?

3. What technology skills do the faculty members think the students of the Business Division's curriculum programs should acquire?

4. What recommendations do Business Division faculty members of SVCC propose to improve computer technology training for faculty members?

SURVEY RESPONSE

Eleven SVCC's Business Division full-time faculty members and four adjunct faculty members were surveyed. All fifteen surveys were completed and returned as requested by the researcher. Excluding the researcher, this included all of the Business Division's faculty members that worked on the main campus of the college and had an

assigned office with unlimited access to a personal computer. There was a 100 percent response rate to the survey.

SURVEY DATA ANALYSIS

The following is an analysis of the information provided by the responses on the survey. The number of responses and percentage analysis of each of the questions contained in the survey are also provided.

Question 1: Which faculty category describes your status at SVCC: Full-time faculty or Adjunct faculty. There are eleven full-time and five adjunct (including the researcher) SVCC Business Division faculty members teaching on the college campus. The eleven full-time and four of the adjunct faculty members were asked to participate in the survey. All fifteen faculty members completed and returned the survey, 100%. The full-time faculty members made up 73.3% of the participants in the survey and the adjunct faculty made up 26.7%.

Question 2: Please indicate which of the following computer categories you integrate with your classes. 2a) Did you receive training? 2b) If not, do you think you should have? Thirteen, 86.7%, responded that they integrated word processing in their classes. Four, 26.7%, had received training in this program and 11, 73.3%, had not. Six, 54.5%, of the 11 that had not received training indicated that they felt they should have received training and 5, 45.5%, indicated that they did not desire the training.

Eight, 53.3%, integrated a spreadsheet program with their classes. Five, 33.3%, had received appropriate training and 10, 66.7%, had not. Six, 60.0%, of the 10 that had not been trained responded that they should have received training and 4, 40.0%, responded that they did not desire training.

Six, 40.0%, integrated a database program in their instruction. Three, 20%, had received database training and 12, 80.0%, had not. Of the 12 that had not received training, 5, 41.7%, desired training and 7, 58.3%, did not.

Eight, 53.3%, used presentation graphics in their classrooms. Three, 20.0%, indicated that they had received training and 12, 80.0%, indicated that they had not. Seven, 58.3%, of the 12 desired training and 5, 41.7%, did not.

Eleven, 73.3%, of the faculty members integrated the Internet with their classes. Seven, 46.7%, responded that they had received Internet training and 8, 53.3%, responded that they had not. Four, 50.0%, of the 8 felt that they should have received the Internet training and 4, 50.0%, did not feel that they should have received the training.

Eight, 53.3%, integrated using e-mail in their classes. Seven, 46.7%, had received training and 8, 53.3%, had not received training on using e-mail. Four, 50.0%, responded that they felt they should have received e-mail training and 4, 50.0%, responded that training was unnecessary for them.

Three, 20.0%, of the participants integrate programming with their classes. Four, 26.7%, faculty members had received training in programming and 11, 73.3%, had not. Of the 11, 2, 18.2%, indicated that they should have received training and 9, 81.8%, indicated that they should not have.

Question 3: When should training be provided for faculty members? Seven, 46.7%, of the faculty members surveyed responded that the afternoon (after 3:00 p.m.) would be appropriate for training sessions. Eleven, 73.3%, selected their in-service time to receive their technology training. Three, 20.0%, selected activity time, 2, 13.3%, selected the weekend and 1, 6.7%. selected the other option to for technology training

sessions. The <u>other</u> option time was "at the faculty member's convenience." Most of the participants responded by selecting several of the options available for this question.

<u>Question 4: Do you feel that you have received adequate technology training for your instructional field?</u> Eight, 53.3%, responded that they had receive adequate training for their instructional field and 7, 46.7%, responded that they had not.

<u>Question 5: Do you feel that computer technology workshops should be mandatory to attend?</u> Six, 40.0% responded that these workshops should be mandatory to attend and 9, 60.0%, indicated that they felt it should not be mandatory to attend workshops.

<u>Question 6: Which tasks do you use a computer to support? 6a) Did you receive training to use the appropriate technology to accomplish the task?</u> Ten, 66.7%, of the faculty members responded that they used the computer to support lesson plan preparation. Seven, 46.7%, had received training to accomplish this and 8, 53.3%, had not.

All 15, 100%, of the participants responded that they used the computer to maintain student information. Six, 40.0%, had received training and 9, 60.0%, had not. All 15 of the participants responded that they also used the computer for research and information on line. Three, 20.0%, had received training and 12, 80.0%, had not. One, 6.7%, participant indicated the use of the computer for another task. The task was test preparation. The participant had not received training for this task.

<u>Question 7: Which of the following areas would you want the opportunity to obtain additional computer training? (Check all that apply.)</u> Four, 26.7%, wanted additional training in programming. Five, 33.3%, wanted additional training in word

processing, the Internet, e-mail, and "other". The "other" included networking, scanning, and MOUS training. Six, 40.0%, responded that they wanted the opportunity to obtain additional training with spreadsheets and databases. Eight, 53.3%, desired more computer training in presentation graphics.

Question 8: What technology skills do you think students of the Business Division's curriculum programs should acquire. Please check your teaching program then check all technology skills that apply. There were three accounting instructors that made up 20.0% of the participants. All three instructors indicated that accounting students should acquire skills in word processing, spreadsheets, the Internet, and e-mail. Two of these instructors responded that their students should acquire skills in databases and one accounting instructor supported students acquiring skills in presentation graphics.

The four instructors in the Administrative Support Technology/ Clerk Typist programs made up 26.7% of the survey participants. All four AST/CT instructors indicated that their students should acquire skills in word processing, presentation graphics, the Internet, and e-mail. Three of these instructors responded that their students should acquire skills in spreadsheet and database programs.

There were three Business Management/Administration instructors which made up 20.0% of the survey participants. All three instructors responded that their students should acquire skills in word processing, spreadsheets, and the Internet. Two of these instructors indicated that their business students should also acquire skills in databases, presentation graphics, and e-mail.

The five Information System Technology instructors made up 33.3% of the participants in the survey. All five of these instructors felt that their students should acquire skills in word processing, spreadsheets, and databases. Four of these IST instructors responded that their business students should acquire skills in presentation graphics, the Internet, e-mail, and programming. There were two "other" skills indicated which were web design and construction and networking.

Question 9: Instructors should receive training on posting class information on the web. The mean response for this question was 4.07 which indicated that the participants agreed that they should receive training on posting class information on the web.

Question 10: Your technology skills are adequate to meet your teaching needs and the needs of your students. The mean response for this question was 3.93 which indicated that the participants agreed that they had adequate skills to meet their teaching demands.

Question 11: Instructors should require student assignments to be completed using computers. The mean response for this question was 4.06 which indicated that the faculty members of the Business Division agreed that students should be required to use the computer to complete their assignments.

Question 12: Instructors should require students to use e-mail when appropriate for communicating and submitting assignments. The mean response for this question was 3.53 which indicated that the faculty members did not fully agree that students should be required to use e-mail for communicating and submitting assignments.

<u>Question 13: What recommendations do you propose to improve technology</u>

<u>training for faculty members in the Business Division?</u> There were 10, 66.7%, responses

to this question. The responses included: 1) have workshops during in-service days,

2) faculty members working in groups of two or more with a technology mentor for a few

hours each week, 3) the college paying for courses and books for computer classes for

faculty, thereby providing the incentives, motivation, and credit for the courses taken,

4) have MOUS training and testing, 5) have more workshops, 6) have web design and

maintenance training, 7) have more efficient layout of classrooms, 8) have more college

money available for travel, tuition, and workshops, 9) classrooms being better equipped

so that each instructor has graphics presentation capabilities, and 10) Business Division

faculty members should have a minimum of basic Microsoft Office skills.

FACULTY RESPONSES

The faculty responses were tabulated and formatted into a table. Table 1 provided

specific responses for the faculty members and the statistical tabulations for each

question in the survey.

Table 1 Faculty Survey Statistical Data		
Question	**Responses**	**Percentage of Faculty Members**
1. Which faculty category describes your status at SVCC?	11 Full-time faculty 4 Adjunct faculty	73.3% 26.7%
2. Please indicate which of the following computer categories you integrate with your classes: Word processing Spreadsheet Database Presentation graphics Internet use e-mail Programming	 13 8 6 8 11 8 3	 86.7% 53.3% 40.0% 53.3% 73.3% 53.3% 20.0%
2a. Did you receive training? Word processing Spreadsheet Database Presentation graphics Internet use e-mail Programming	 4 Yes 11 No 5 Yes 10 No 3 Yes 12 No 3 Yes 12 No 7 Yes 8 No 7 Yes 8 No 4 Yes 11 No	 26.7% 73.3% 33.3% 66.7% 20.0% 80.0% 20.0% 80.0% 46.7% 53.3% 46.7% 53.3% 26.7% 73.3%
2b. If not, should you have received training? Word processing Spreadsheet Database Presentation graphics , Internet use e-mail Programming	 6 Yes 5 No 6 Yes 4 No 5 Yes 7 No 7 Yes 5 No 4 Yes 4 No 4 Yes 4 No 2 Yes 9 No	 54.5% 45.5% 60.0% 40.0% 41.7% 58.3% 58.3% 41.7% 50.0% 50.0% 50.0% 50.0% 18.2% 81.8%
3. When should training be provided for faculty members?	7 Afternoon (after 3:00 p.m.) 11 In-service time 3 Activity time 2 Weekend 1 Other	46.7% 73.3% 20.0% 13.3% 6.7%

Table 1		
Faculty Survey Statistical Data (continued)		
4. Do you feel that you have received adequate technology training for your instructional field?	__8_ Yes __7_ No	53.3% 46.7%
5. Do you feel that computer technology workshops should be mandatory to attend?	__6_ Yes __9_ No	40.0% 60.0%
6. Which tasks do you use a computer to support? Lesson plan preparation Maintain student information Research and information on line Other, list	__10_ _15_ _15_ __1_	66.7% 100% 100% 6.7%
6a. Did you receive training to use the appropriate technology to accomplish the task? Lesson plan preparation Maintain student information Research and information on line Other, list	__7_ Yes __8_ No __6_ Yes __9_ No __3_ Yes _12_ No __0_ Yes __1_ No	46.7% 53.3% 40.0% 60.0% 20.0% 80.0% 0.0% 6.7%
7. Which of the following areas would you want the opportunity to obtain additional computer training? (Check all that apply.) Word Processing Spreadsheet Database Presentation graphics Internet e-mail Programming Other, list	_5_ _6_ _6_ _8_ _5_ _5_ _4_ _5_	33.3% 40.0% 40.0% 53.3% 33.3% 33.3% 26.7% 33.3%
8. What technology skills do you think students of the Business Division's curriculum programs should acquire? Please check your teaching program then check all technology skills that apply. Accounting Word processing Spreadsheet Database Presentation graphics Internet e-mail Programming Other, list	_3_ _3_ _3_ _2_ _1_ _3_ _3_ _0_ _3_	20.0% 20.0% 20.0% 13.3% 6.7% 20.0% 20.0% 0.0% 20.0%

Table 1 **Faculty Survey Statistical Data (continued)**		
(Question 8 continued)		
Administrative Support Technology/Clerk Typist	4	26.7%
Word processing	4	26.7%
Spreadsheet	3	20.0%
Database	3	20.0%
Presentation graphics	4	26.7%
Internet	4	26.7%
e-mail	4	26.7%
Programming	0	0.0%
Other, list	0	0.0%
Business Management/Administration	3	20.0%
Word processing	3	20.0%
Spreadsheet	3	20.0%
Database	2	13.3%
Presentation graphics	2	13.3%
Internet	3	20.0%
e-mail	2	13.3%
Programming	0	0.0%
Other, list	0	0.0%
Information System Technology	5	33.3%
Word processing	5	33.3%
Spreadsheet	5	33.3%
Database	5	33.3%
Presentation graphics	4	26.7%
Internet	4	26.7%
e-mail	4	26.7%
Programming	4	26.7%
Other, list	2	13.3%
9. Instructors should receive training on posting class information on the web.		
Strongly agree	6	40.0%
Agree	7	46.7%
Unsure	0	0.0%
Disagree	1	6.7%
Strongly disagree	1	6.7%
10. Your technology skills are adequate to meet your teaching needs and the needs of your students.		
Strongly agree	3	20.0%
Agree	9	60.0%
Unsure	2	13.3%
Disagree	1	6.7%
Strongly disagree	0	0.0%
11. Instructors should require student assignments to be completed using computers.		
Strongly agree	4	26.7%
Agree	10	66.7%
Unsure	0	0.0%
Disagree	0	0.0%
Strongly disagree	1	6.7%

Table 1 Faculty Survey Statistical Data (continued)		
12. Instructors should require students to use e-mail when appropriate for communicating and submitting assignments.		
Strongly agree	4	26.7%
Agree	4	26.7%
Unsure	3	20.0%
Disagree	4	26.7%
Strongly disagree	0	0.0%
13. What recommendations do you propose to improve technology training for faculty members in the Business Division?	10	66.7%

INTERVIEW RESULTS

Two interviews were conducted to collect information on the type of technology training that would be most appropriate for faculty members of SVCC's Business Division. The two individuals that were selected to be interviewed for this research were selected because of their position status at the college. These positions were the Instructional Design Technician and the Business Division Chair. Any individuals that occupy the positions of Instructional Design Technician and Business Division Chair will have the same technology responsibilities and the same responsibilities of ensuring that students and faculty receive appropriate technology training. The personnel in these two positions are concerned about the quantity and quality of technology skills faculty members have or can acquire within a given period of time.

INTERVIEW DATA ANALYSIS

Both interview participants indicated that technology skills are important and that the Business Division's faculty members should possess a minimum of certain skills.

These skills were stated because of the relevance of them to the business working environment.

Both interview participants also agreed that the college should provide the training; however, one participant stated that it was the faculty member's responsibility to pursue the training he/she needs. This participant also responded that formal training is necessary to certify the faculty member's instruction. This formal training should be scheduled during the evenings and for multiple weeks. The faculty member should not receive extra compensation for training time. Both agreed that training should be scheduled during or under conditions that the faculty member receives regular pay.

They have different opinions on whether or not newly hired Business Division faculty members should be required to demonstrate computer competency in their field. The participant that stated that a demonstration of competency should not be required did state that technology is increasing the way we communicate and work. The other participant favored the idea that newly hired faculty members be required to demonstrate computer competency and make a commitment to upgrade skills as needed.

ADMINISTRATIVE INTERVIEW RESPONSES

Table 2 contained the answers to the interview questions. The Instructional Design Technician's answers were the answers labeled number 1. The Business Division Chair's answers were the ones labeled number 2.

Table 2
Interview Responses

1. **What computer skills do you feel Business Division faculty members should possess to better assist the students in business programs?**
 	
  1) a) The faculty member should be proficient in the technology he/she teaches.
       b) A Business Division faculty member should possess the skills to communicate, use word processing and create spreadsheets.
       c) PowerPoint or a presentation software program should be used by the faculty to present lectures and by students for in-class presentations.
 	
  2) a) The faculty member should possess skills in the Windows Operating System, Microsoft Office Suite, and the Internet and e-mail.

2. **Why do you feel these particular skills are essential in the business field?**
 	
  1) It all relates to communicating with technology. Business is making money through the communication of ideas. Any skill that will allow the faculty to present the information of a format quickly and efficiently is greatly needed.
 	
  2) All of these applications are needed by students looking for a job in business and industry.

3. **Do you think the college (SVCC) should provide training to the faculty members that need to develop these skills or should acquiring these skills be the responsibility of the faculty member?**
 	
  1) It is up to the faculty member to follow the process that suits his/her needs of learning these skills. The college should provide classes just as they provide classes for students. If the faculty member is going to teach the program, he/she should have formal training that could certify his/her instruction.
 	
  2) The training should be the college's responsibility.

4. **If the college should provide the training, when should it be done (i.e., evenings, in-service time, activity time), and should the faculty members be provided all materials and receive extra compensation for their training time?**
 	
  1) Training should be done during the evenings if the training is for formal qualifications and for multiple weeks. It can be done during in-service time only if the training can be done in a few hours. Activity time should be used to introduce the technology to the faculty. The faculty members should receive handouts but not textbooks. The faculty members may be given leave from duties and job responsibilities with pay but should not receive extra compensation for their training time.
 	
  2) Training should be done on paid time as much as possible. Training can be during pre-service, in-service, and release time.

Table 2
Interview Responses (continued)

5. **Should newly hired Business Division faculty members be required to demonstrate computer competency in their field? Why or why not?**
 	
   1) No. A newly hired faculty member is hired for their understanding of a subject matter. However, technology is increasing the way we communicate and work.
 	
   2) All new faculty members should demonstrate minimum skills and a commitment to upgrade skills as needed.

SUMMARY

This chapter presented the data collected for the research to determine SVCC's Business Division faculty members' attitude toward technology training. The survey data were analyzed to determine the percentages for all the questions and the mean responses were provided for the four questions that were based on the Likert Scale. The information from the two interviews suggested the technology skills that faculty members should possess and the college's responsibilities toward faculty training.

Chapter V summarizes this research study. This final chapter will contain the summary, conclusions, and recommendations for this research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The problem of this study was to determine the attitudes of full-time and adjunct

faculty members of the Business Division at Southwest Virginia Community College

toward technology training. This chapter summarizes the research study, draws

conclusions based on the findings of the data, and provides recommendations based on

these conclusions.

SUMMARY

As students move from college into the knowledge-based work environment,

technology learning has to be continuous. It is impossible to succeed in an increasing

number of jobs without a working knowledge of technology. Businesses are increasingly

using technology to manage information. Word processing programs are used for writing

and producing professional looking newsletters. Spreadsheet programs are used for

manipulating numbers and keeping accounting records. Filing and retrieving data are

done through using databases. Businesses are creating and presenting their own

presentations of information visually using a presentation graphics program (Nickels,

McHugh, and McHugh, 1999, p. 513). Communication can be quicker, easier, less

expensive, and more convenient when done using the Internet. Students need these

technology skills to be more marketable as business employees. These are skills that

students should be able to acquire through their required courses in their business field.

SVCC's Business Division faculty members are already in this knowledge-based

work environment and the continuous learning demands training either from a trainer or

from self-training. The survey used in this research study was designed to determine the Business Division's faculty members' attitudes toward technology training. The survey was distributed to fifteen full-time and adjunct Business Division faculty members. The response rate was 100 percent.

Interviews were conducted with the Instructional Design Technician and the Business Division Chair to determine what technology skills the faculty members should possess or acquire. The information collected through these two interviews also suggested the college's responsibilities for the technology training of these faculty members. The information these interviews provided was instrumental in making the recommendations of this research study.

CONCLUSIONS

The responses to the questions on the survey used in this research indicated that up-to-date technology skills were a concern of SVCC's Business Division. Data were collected pertaining to what technology skills were desired by the business faculty members and what skills they thought were relevant for business students to learn. Using this data collected from the surveys, conclusions can be made based on the four research goals of this study.

The first goal was to determine what skills the faculty members felt they needed to be more effective in using computers to supplement instruction in SVCC's Business Division. Software programs that were integrated in the classrooms by 63.98% of the faculty members included word processing, spreadsheets, presentation graphics, the Internet, and e-mail. It was the conclusion of this study that technology skills in these areas are necessary to supplement the faculty members' instructions. The database skills

used were those required in teaching the database program; therefore, this did not appear to be a technology skill the other faculty members felt would supplement their classroom instructions. Programming was another technology skill most faculty members, 80.0%, did not integrate with their classes.

The second goal of this research was to determine the attitude of the individual faculty member concerning technology training in specific computer software programs. Of the five programs used most by the faculty members, word processing, spreadsheets, presentation graphics, the Internet, and e-mail, 34.68% of the faculty had received training in these areas. Of the 57.32% that had not received training, 54.56% felt they should have been trained for using these programs. Over half, 53.3%, felt that they had not received adequate technology training for their instructional field. It was the conclusion of this study that faculty members did want training in the specific computer software programs that they used. The mean for faculty members that felt they should receive training on posting class information of the web was 4.02. Therefore, another conclusion of this study was that posting web information training was also desired.

The third research goal was to determine what technology skills the faculty members thought the students of the Business Division's curriculum programs should acquire. One hundred percent of the faculty members responded that business students should acquire word processing skills and 93.3% supported spreadsheets and Internet skills for students. Three other technology skill areas that should be acquired by students are skills in databases (79.9%), presentation graphics (73.4%), and using e-mail (86.7%). The conclusion for this research goal was that faculty members thought business students

should acquire technology skills for using an entire office suite program, the Internet, and e-mail.

The last research goal requested recommendations from the Business Division's faculty members in improving technology training for them. Suggestions were made concerning the scheduling of workshops, the content of the workshops, methods of training, and the layout of the classrooms. Based on the proposals made by the faculty members, this study concluded that technology training could be scheduled for these instructors. The faculty members' responses indicated that they desired technology training and that they would be cooperative in participating in the training process.

RECOMMENDATIONS

Based on the findings and conclusions of this research study, the following recommendations are made to improve SVCC's Business Division faculty members' technology training.

1. Survey the faculty members to gather data to be used to determine what type of technology training is desired and what type will be most beneficial to the faculty members and the business students.

2. Introduce new technology during activity time. Use this time to schedule workshops and appoint trainers. Have open discussion for other factors such as required materials for these workshops.

3. Schedule more workshops during in-service and pre-service (work days scheduled prior to the start of a new semester) time. With the preliminaries already taken care of during activity time, more time will be available for hands-on training during these workshops.

4. Have faculty members evaluate the relevance of the training provided in the workshops.

5. Have the classrooms equipped with the appropriate equipment to encourage the use of technology in instruction and learning.

BIBLIOGRAPHY

Allison, R. D and Scott, D. C. (1998). Faculty Compensation and Obligation: The Necessity of a New Approach Triggered by Technology Integration. *Integrating Technology on Campus: Human Sensibilities and Technical Possibilities, 101. 67-71.*

Andrews, J. (1998). *A Guide to Managing and Maintaining Your PC* (Second Edition). Cambridge: Course Technology.

Boettcher, J. V. (1999). 21st Century Teaching and Learning Patterns: What Will We See? *Syllabus New Directions in Education Technology, 12.* 18.

Brandt, D. S. (1999). What (How, Where, When, Why) is Training? *Computers in Libraries: Complete Coverage of Library Information Technology, 40.* 33.

Ford, L. (1997). *Guidelines for Technology in the Commonwealth's State-Approved Teacher-Education Programs.* Commonwealth of Virginia. **http://www.schev.edu/wuacadpg/tchtech.html**.

Henriksen, J. A. S. (1998). Sources and Information: Identifying and Implementing Technologies for Higher Education. *Integrating Technology on Campus: Human Sensibilities and Technical Possibilities, 101.* 93.

Moran, T. J. and Payne, M. (1998). Humanizing the Integration of Technology. *Integrating Technology on Campus: Human Sensibilities and Technical Possibilities, 100.* 44.

Nickels, W. G., McHugh, J. M., and McHugh, S. M. (1999). *Understanding Business* (Fifth Edition). Boston: Irwin/McGraw-Hill.

O'Leary, T. J., and O'Leary, L. I. (1998). *Computing Essentials* (Annual Edition 1998—1998). Boston: Irwin/McGraw-Hill.

Rogers, A. (1999). *The Failure and the Promise of Technology in Education.* Global SchoolNet Foundation. **http://www.gsn.org/teach/articles/promise.html**.
(1997). *A Call to Action for American Education in the 21st Century.* U.S. Government Printing Office.

Brown, M. (1999). *Technology Competencies.* Southwest Virginia Community College.

King, C. R. (1999). *Learning Technology Skills & Technology BASIC Program Checklist.* Southwest Virginia Community College.

APPENDICES

APPENDIX A—Technology Training Survey

APPENDIX B—Interview Questions for Research Study

APPENDIX C—Sample Cover Letter

Appendix A
Technology Training Survey

The purpose of this survey is to gather information concerning technology training of Southwest Virginia Community College's Business Division faculty members.

Please complete the following survey and leave it in my mailbox by October 6, 1999. Your participation is greatly appreciated.

1. Which faculty category describes your status at SVCC?
   _____ Full-time faculty member
   _____ Adjunct faculty member

2. Please indicate which of the following computer categories you integrate with your classes. Did you receive training? If not, do you think you should have?

Technology	Received Training	Should Have Received Training
_____ word processing	____yes ____no	____yes ____no
_____ spreadsheet	____yes ____no	____yes ____no
_____ database	____yes ____no	____yes ____no
_____ presentation graphics	____yes ____no	____yes ____no
_____ Internet use	____yes ____no	____yes ____no
_____ e-mail	____yes ____no	____yes ____no
_____ programming	____yes ____no	____yes ____no

3. When should training be provided for faculty members?
   _____ afternoon (after 3:00 p.m.)
   _____ in-service time
   _____ activity time
   _____ weekend
   _____ other _____

4. Do you feel that you have received adequate technology training for your instructional field?
   _____yes _____no

5. Do you feel that computer technology workshops should be mandatory to attend?
   _____yes _____no

6. Which tasks do you use a computer to support: Did you receive training to use the appropriate technology to accomplish the task? (Check all that apply.)
   _____ lesson plan preparation .... received training: __ yes __ no
   _____ maintain student information .... received training: __ yes __ no
   _____ research and information on line............. received training: __ yes __ no
   _____ other, list_____ .... received training: __ yes __ no

7. Which of the following areas would you want the opportunity to obtain additional computer training? (Check all that apply.)
    ___ word processing
    ___ spreadsheet
    ___ database
    ___ presentation graphics
    ___ Internet
    ___ e-mail
    ___ programming
    ___ other, list _____

8. What technology skills do you think students of the Business Division's curriculum programs should acquire? Please check your teaching program then check all technology skills that apply.
    Program:
    ___ Accounting
    ___ Administrative Support Technology/Clerk Typist
    ___ Business Management/Administration
    ___ Information System Technology

    Skills:
    ___ word processing
    ___ spreadsheet
    ___ database
    ___ presentation graphics
    ___ Internet
    ___ e-mail
    ___ programming
    ___ other, list _____

For the next four statements, please circle the answer that best describes your choice.

9. Instructors should receive training on posting class information on the web.
    strongly agree   agree   unsure   disagree   strongly disagree

10. Your technology skills are adequate to meet your teaching needs and the needs of your students.
    strongly agree   agree   unsure   disagree   strongly disagree

11. Instructors should require student assignments to be completed using computers.
    strongly agree   agree   unsure   disagree   strongly disagree

12. Instructors should require students to use e-mail when appropriate for communicating and submitting assignments.
    strongly agree   agree   unsure   disagree   strongly disagree

13. What recommendations do you propose to improve technology training for faculty members in the Business Division?

_____

_____

_____

_____

_____

_____

Appendix B
Interview Questions for Research Study

1. What computer skills do you feel Business Division faculty members should possess to better assist the students in business programs?

2. Why do you feel these particular skills are essential in the business field?

3. Do you think the college (SVCC) should provide training to the faculty members that need to develop these skills or should acquiring these skills be the responsibility of the faculty member?

4. If the college should provide the training, when should it be done (i.e. evenings, in-service time, activity time), and should the faculty members be provided all materials and receive extra compensation for their training time?

5. Should newly hired Business Division faculty members be required to demonstrate computer competency in their field? Why or why not?

Appendix C
Sample Cover Letter

Name
Office Number
Date

Dear Name:

You have been selected to participate in a research study concerning technology training of Southwest Virginia Community College's Business Division faculty members. Graduates of the Business Division programs enter a high-skilled work environment designed around technology. Instructors of these programs may desire specific technology training relevant in their teaching field in order to better prepare students for knowledge-based opportunities that are increasing rapidly. The information compiled from this survey may be instrumental in determining what technology training or retraining will be offered to Business Division faculty members.

Participation in this study is encouraged and all responses will be kept strictly confidential. I am pursuing my Masters degree in Business Management and the information provided by this research will be very beneficial in my completing the research requirement for this program. This is also an opportunity for you to identify areas where you feel technology training is needed for Business Division faculty members.

The attached survey will take approximately 10 minutes to complete. Please leave the completed survey in my mailbox by October 6, 1999. Results of the survey will be available for those participants interested.

Your participation in this study will be greatly appreciated.

Sincerely,

Loretta Beavers
Adjunct Faculty Member
Business Division

Attachment