INTEGRATION OF MICROCOMPUTERS IN COLLEGIATE

WRITTEN BUSINESS COMMUNICATION COURSES

By

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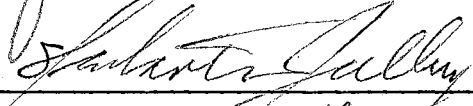May, 1988

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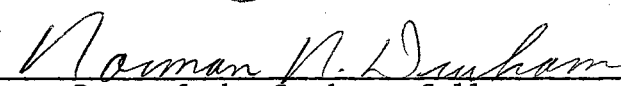I72i
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WRITTEN BUSINESS COMMUNICATION COURSES

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ACKNOWLEDGMENTS

To my family, and professional associates, deep appreciation is given for the caring, encouraging and understanding shown throughout this study.

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

Technology of the 1960s has dramatically evolved into the micro-
computer technology of the 1980s. Business teacher educators have the
opportunity to and responsibility for integrating microcomputer tech-
nology into their business communication courses. New approaches and
ideas are becoming readily available for greater implementation of
computer technology in the field of written communication. Advance-
ments in information processing, information management and overall
office technology represent new and exciting opportunities for enhanc-
ing the classroom teaching and learning environment.

American and world businesses recognize and strive for increased
productivity. Employers demand applicants who not only write and speak
well, but also who can apply computer technology power for increased
efficiency and effectiveness. Conley (1969) and Christensen (1970)
suggest a broader focus in Business Communication since the discipline
should not be viewed only as written communication. Separate courses
in data communication and interdisciplinary approaches to communication
can be employed to incorporate and build talents in speech, computer
science and communications. Cox and Hartman (1976) conclude that the
typical communication program cannot provide courses relating to all

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of these talents. However, new technology can provide experimental and developmental opportunities for the business communication course.

Such researchers as Crawford, Mitchell, and Madden (1983) and Baumgardner (1984) recommend that research in implementing microcomputer technology application in the business communication course is needed. Business communication programs and professors have a unique opportunity to develop and incorporate technological thinking and application through microcomputer concepts and applications.

Statement of Problem

This study was designed to investigate the status of microcomputer integration in written business communication courses at the collegiate level. Data for study and analysis were received from selected members of the Association for Business Communication.

Statement of Purpose

The purpose of the study was to provide valuable information for the improvement of curriculum development in the business communication area.

Need for the Study

Many studies in the area of Business Education indicate increased awareness and sensitivity to the potential impact of microcomputer technology in the collegiate business communication classroom. Boes and Bernardi (1982) describe how useful the computer can be in teaching specific skills. They list two of the most important aspects of business career training as communication training and training in the use

of computer technology as a teaching tool to increase the efficiency and subsequently the productivity of the business communication teacher.

Appropriate training for computer operation and application appears important for students preparing for careers in the business world. However, the status of computer communication training is not readily available. Moreover, it is not known whether business communication teachers have the technological knowledge and skill to provide this training or whether appropriate facilities exist to support such training.

Gilsdorf and Rader (1982) propose how computer technology will change the way business communication is taught. Further, a study conducted by Harcourt, Krizan and Aldridge (1984) reports that 35.4 percent of the schools surveyed indicated that although computers were available for business instructions, they were not used for that purpose. They further stated that over half of the schools could use computers more effectively in their business communication classes if computer software were available.

Toffler (1981) predicted that the key to an intelligent environment would be the computer and added that in the future computers would be used with such grace and naturalness that it is currently difficult to imagine. Molner (1981) stated that computers are the basis of future industries. He contends that changing from an industrial to an information society creates a crisis for educators. Research is needed to identify the effectiveness of the business communication areas and its future impact on microcomputer application.

The findings of this study may be used to provide business communication professors and college/university administrators with information needed to meet the future technological demands of the business community.

Limitations

This study is limited to the following:

1. The coding and instructional level may not reflect actual academic reality as listed by the Association for Business Communication.

2. The findings of this study will not be generalized to non-Association for Business Communication collegiate institutions using microcomputer technology integration.

Delimitations

This study is delimited to the following:

1. A survey of the Association for Business Communication in 1987.

2. A survey of only the business courses of courses identified as written business communication.

3. A survey of domestic collegiate institutions whose business communication teachers have integrated microcomputer technology in the written business communication course.

Definition of Terms

For the purpose of this study, the following definitions of terms were used:

ABC (<u>A</u>ssociation <u>for</u> <u>B</u>usiness <u>C</u>ommunication) - A corporation comprised of established scholars and practitioners devoted to the improvement of business communication in higher education.

<u>Hardware</u> - The physical apparatus of a computer system.

<u>Microcomputer</u> - A desktop or portable computer, based on a microprocessor and meant for a single user.

<u>Microprocessor</u> - A single chip containing all the elements of a computer's central processing unit.

<u>Software</u> - Programs or instruments that enable a computer to do useful work with hardware or the actual computer apparatus.

Hypotheses

The following hypotheses, stated in the null form, were tested as a part of the study:

1. There is no significant relationship between the age of the business teacher and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

2. There is no significant relationship between the number of students the business teacher instructs and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

3. There is no significant relationship between the number of microcomputers that the business communication teacher has available and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

4. There is no significant relationship between the types of software that the business communication teacher uses and the level

to which he/she utilizes microcomputer instructional skills in the written business communication course.

Design and Data Collection Procedure

This study involved the survey method of collecting data to investigate the status of microcomputer integration in the written business communication courses at collegiate level institutions.

Research Questionnaire

A questionnaire survey of a random sample of 278 members of the ABC (Association for Business Communication) members was conducted.

A 19-item questionnaire was used to collect data for the study.

Procedures

The initial mailing included a cover letter, the questionnaire, and an addressed postage-paid envelope. The ABC (Association for Business Communication) members were requested to respond by April 24.

The Two-Way Table and Chi-Square Contingency Table were used to determine whether a significant statistical difference between business communication teachers' responses and the level to which he/she utilized microcomputer instructional skills in the written business communication course.

Population of the Study

The population for this study was a random sample of the 1987 ABC (Association for Business Communication) membership. Business

Communication teachers selected to participate in this study were
screened according to the following criteria:

1. He/she must teach at a four-year college or university in the
United States.

2. He/she must teach a business communication course involving
integration of microcomputer software technology.

Summary

Previous research indicates that microcomputers can be integrated
efficiently and effectively into the written business communication
course. Therefore, it appears that teaching traditional business com-
munication courses should include microcomputer application. Hands-on
training utilizing appropriate communication software enhances the
possibility of more efficient and effective communication skill
development for future business employees.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This study described the status of microcomputer integration in
written business communication courses at collegiate-legel institu-
tions. Related literature and research were studied to assess the
following areas:

1. Microcomputer application in written business communication
areas.

2. Microcomputer utilization for instructional purposes in the
written business communication areas.

3. Hardware and software availability in written business
communication areas.

Microcomputer Application in Written

Business Communication

Cochran, Giallourakis and Shim (1986) conducted a study of busi-
ness communication teachers concerning their perception of the
utilization of personal computers in the classroom. Out of 500 ques-
tionnaires mailed, they received 169 responses. Twenty-three percent
of the respondents indicated no interest in either using personal com-
puters presently or in the future. Seventy-seven percent of the
respondents indicated an interest in using personal computers either

presently or in the future. The following findings toward integrating computers in business communication courses were reported:

1. Business teachers experimenting on a limited basis the utilization of personal computers in business communication classes.

2. Universities becoming committed to providing necessary laboratory facilities for business communication classes.

3. Computer companies developing the necessary software to make it easily accessible for business communication teachers.

4. Business teachers overcoming potential resistance and examining the advantages of personal computers in the classroom.

In 1985, Munter and the American Assembly of Collegiate School of Business (AACSB) conducted a survey of AACSB undergraduates and graduate business schools to determine the current utilization of computers in business communication courses. Out of 628 schools surveyed, faculty members from 312 schools responded. The response rate was nearly 50 percent. Twenty-four percent of the respondents indicated current utilization of computers in the business communication courses. Sixty-one percent of the respondents indicated future consideration in computer utilization in the business communication courses.

Holder (1984) conducted a survey of 106 business teachers from selected vocational business educators programs in Nebraska. Holder reported 38 of the programs had from two to four computer terminals available, while 27 programs had only one computer. Twelve programs had six or more available and 15 had none. Three programs had access to computers outside the department. Holder indicated that they had plans for obtaining computers in the department. Nine of the ten

reported that the computers would be utilized for instructional pur-
poses, while the other one would be used for both instruction and
administration. The remaining five programs had no plans to obtain
computers in the department.

Some pertinent suggestions for the respondents include:

1. Efforts should be made to ensure that students are given the
same degree of access to computer use in large urban and small rural
business programs.

2. Efforts should be made to house computers either in the busi-
ness department or a laboratory so that an adequate number of terminals
will be available to meet business students' needs.

3. Efforts should be made to provide adequate hardware and soft-
ware to encourage and support the varied uses of the computer in the
business education courses.

4. Efforts should be made to provide computer literacy classes
and incorporate the computer in all phases of the curriculum for the
pre-service business teachers at teacher training institutions.

5. Efforts should be made to provide opportunities for teachers
to learn more about computers and their uses in the classroom.

Baumgardner (1984) reported that in 1982 the School of Business
Administration at Central Michigan University incorporated micro-
computers in the business communication course. She stated 18
microcomputers and nine printers were installed. Eleven business
faculty (1) developed a rationale to guide the incorporation of micro-
computer technology with business communication learning, (2) educated
themselves on the features and capabilities of WordStar software,

(3) outlined a plan of instruction, and (4) prepared a syllabus for students.

Baumgardner assessed the following:

1. Students gave support to the use of microcomputers in the business communication class. They cited a new awareness of processing information management, and a better understanding of how the managerial work station can function.

2. Students gave preference to small group sessions and not to the large lecture sessions.

3. Students reported frustration if they lacked keyboarding knowledge and proficiency.

Baumgardner further reported that the faculty felt the pressure of time when adding instruction on the microcomputer to the course agenda. Suggestions made by Baumgardner include:

1. The business communication class is the natural place to provide training that will enable beginning workers to be knowledgeable and productive in computer technology for decision support systems and executive scheduling.

2. The rethinking and restructuring of the business communication course should provide realistic and relevant education for the productivity that exists in the business world for those involved with information management.

Pibal (1986) conducted a survey of 250 administrative managers in west central Illinois and the Chicago area. One hundred twenty-nine business managers completed the questionnaire, with a 52 percent rate of return. The business managers represented the areas of

manufacturing, marketing, and finance. The survey findings included the following:

1. Eighty-nine percent of the respondents utilized microcomputers.

2. Thirty-eight percent of the respondents utilized 50 or more microcomputers; 32 percent of the businesses utilized five or less microcomputers.

3. Eighty-six percent of the responding businesses utilized IBM microcomputers. The Apple, Compag, and Wang microcomputers received second, third, and fourth rankings, respectively.

4. Seventy-six percent of the respondents utilized Lotus for spreadsheets. Thirty-two percent utilized Data Base II & III for data base management. The respondents indicated WordStar and Display Write Word Processing packages were the most popular utilized.

5. Eighty-four percent of the respondents utilized microcomputers for spreadsheets.

6. Seventy-four percent of microcomputer time was utilized by secretarial employees.

The respondents suggested that schools should train students for microcomputer utilization, and that employees should have touch keyboarding skills. Pibal suggested the following needed-emphasis areas:

1. The integration of microcomputers into all business education courses since clerical and secretarial employees are the most frequent users.

2. The inclusion of software programs utilizing spreadsheets, word processing, data base, graphics and accounting procedures.

3. The teaching of touch keyboarding by business teacher educators.

4. The emphasis of microcomputer instruction should take place on IBM Personal microcomputers because of the large numbers used in business.

5. The emphasis of microcomputer instruction should be placed on teaching concepts and software program applications.

According to Naisbitt (1984), computer use in public education is still in its infancy, and schools around the nation are beginning to realize that in the information society, the two required languages will be English and Computer. At the university level, the fall of 1983 saw a nationwide stampede into computer courses. (p. 29) Lambrecht (1982) reports that the microcomputer did not exist in 1975, but 50,000 were being used in 1981. Lambrecht (1980) feels that because of a data processing background, business teachers can become familiar with this technology much more quickly than other teachers. King (1980) contends,

> One of the urgent challenges facing business educators
> in the 1980s is to find the best means to educate all
> students about computers. A relevant secondary education
> curriculum is needed to reflect the rapidly changing
> computer technology and its impact on society (p. 31).

Boes and Bernardi (1982) suggest that the computer can be used in the business communication course to check for words that should be avoided in various types of letters, mass mailings, proper letter forms, and spelling checks. Herbert (1982) recommends the use of microcomputers to assist in instruction even if the learning is only as good, not better, than traditional methods. He feels the following factors may make instruction better:

1. Computer familiarity.

2. Enjoyable learning.

3. Flexible instruction schedules.

4. Individualized instruction.

5. Computerized evaluations (p. 32).

Several authors suggest the use of a variety of computer capabilities to help students keyboard effectively and become better writers. Some of their specific comments are feedback to the students can be given faster by the computer, and "faster feedback results in fewer repeat errors" (Anandam et al., 1979, p. 1). Use of word processors makes editing and revising less cumbersome (Hennings, 1981). Students learn writing skills by using stylistic aids such as Writers Workbench and Grammatik which carry over and can be applied in situations where the program is not available (Keifer and Smith, 1983). "Word Processing can change the way students write and their attitudes toward writing" (Schwartz, 1984, p. 239). "Documents prepared on information processing equipment are likely to have a more professional appearance than documents prepared on conventional equipment" (Mott and Quible, 1985, p. 44). "Word processing can ease the mechanical drudgery of writing; it can produce qualitative changes in the way we go about writing" (Sekuler, 1985, p. 38).

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Microcomputer Utilization for

Instructional Purposes

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The use of microcomputers to assist in the writing process is a comparatively new field of study, with most of the work having been completed since 1978 (Briand, 1978). Naiman (1982) contends the

microcomputer has only been available since 1977, but it has changed the whole nature of thinking about computers as far as schooling is concerned. The cost is low and steadily declining as new technologies increase the capacity and decrease the size of equipment.

The effects of the use of microcomputers on students' writing ability and attitude toward writing in business communication classes were studied through experimentation by several authors. Burns (1979) conducted a study at the University of Texas (in Austin) to "determine if the computer, with the use of prompts, could stimulate the students to think, to inquire, to explain, and to understand" (p. 2). The sample consisted of 72 volunteers from four first-year English composition classes. As a result of the study, an interactive computer program was created to help students in the prewriting process.

Giovannini and Miller (1983) conducted a study at Northeast Missouri State University to compare the teaching of business communications using the traditional method with the word processing method. The sample consisted of 70 students enrolled in the business communication course. The purposes were to determine if there would be a difference in the students' attitudes toward the business communications course if they were taught differently, and whether the students who used the word processing method would learn more than the students who used the traditional method of instruction. The results concluded no significant difference between the two groups using the word processing method and the traditional method of instruction.

Hardware and Software Availability

Naisbitt (1984) states that the utilization of computers in

schools is on the rise for several reasons. First, computers offer

a cost-effective albeit capital intensive way of individualizing

education. Second, computers simplify the extensive recordkeeping

required for individualized instruction. Third, familiarity with

computers is now considered to be a strong vocational advantage, and

a salable skill. Finally, the computer is an enormously flexible tool

that can be used in a wide variety of ways depending on local needs

and available resources (p. 28).

A conference held for business educators in Snowbird, Utah (1979)

identified major areas confronting business educators, with updating

the present business education curriculum to reflect the goals and

skills required by business. They recommended that (1) business edu-

cators need to update the equipment and methodology to include the new

technological development in marketing, sales, management, records

system administration, reprographics, word processing systems, and

micrographics, and (2) business teacher education offerings need to be

elevated to make sure the curriculum is equipping business teachers for

teaching emerging technology in business.

Boes and Bernardi (1982) recommend business teachers using the

microcomputer as a teaching tool in the business communication class.

A computer program was prepared for use in writing letters of adjust-

ment, collection and credit. They suggested: (1) The advantages to

the students in using this program include immediate knowledge of

results, a writing instrument, and time saved in writing and rewriting

letters, and (2) the advantages to the instructor in using this program include the opportunity to integrate the computer into the classroom, and time saved in grading letters and variation added to the classroom instruction.

Campbell's (1984) article reports on one college instructor's experiences in teaching business letter writing using computers as word processors in the College of Business Administration at the University of Tennessee (in Knoxville). So that students could become more computer literate, the university installed a communications laboratory, with 17 computers and three printers to be used in teaching several business communication courses. The business communication courses were taught to juniors and seniors in the Department of Management. The instructor's grading system was as follows: Twenty-five percent for writing a good news or neutral letter; 25 percent for writing a bad news letter; 20 percent for completing exercises outside of class and for attending letter writing laboratory time; ten percent for quizzes in class and 20 percent for final examination.

The respondents reported that final grades were probably higher in classes that used computers than in traditionally taught classes by the same instructor because students earned 20 percent of their grades by attending laboratory time and completing the required material.

Although no research has been conducted to confirm this report, Campbell suggests that research is needed to determine if and how the composing process is affected when a student received immediate feedback on a display terminal instead of with pen and paper. Furthermore, she contends that research is needed to determine the differences in

the effectiveness of letters written in traditional classes and in classes in which students utilize computers to compose.

Munter's (1986) article reports that business communication faculty utilized computers to give students the opportunity to revise and rewrite; to teach students word processing; to give students computerized tutorials, to give students computerized feedback; and to communicate with students. Groneman's (1984) article reports that teachers in Kansas developed a business education guide to meet the needs of the present and future electronic office. The guide development was based upon the premise that computer and keyboarding skills will be needed by all students and that communication skills and knowledge of word processing/microcomputers will be a skill needed by all future graduates.

In 1985, Bararestan conducted a study to compare the perception barriers to curriculum innovation in computer courses as seen by faculty and administration at the public and private four-year schools of technology in New Jersey. The purpose was to determine similarities and differences in faculty's and administrators' respective perceptions of resistance to curriculum change. The findings were:

1. For five areas (non-effectiveness, complexity, training, psychological aspects and low ranks), there were no significant differences between the perceptions of resistance to change of administrators and faculty at the public and private schools.

2. For eleven areas (upsetting of tradition, not trusted, time-consuming, not supplementary, advocacy, internal pressure, budgetary, no obvious cost-benefit, job security, political influence, and

non-involvement) there was a significant difference between the percep-

tions of faculty and administrators at the public and private schools.

3. For four areas (scope, rapidity, unfamiliarity, and external

pressures), there were no significant differences between faculty and

administrative perceptions, but there was a difference between person-

nel at the public versus private schools.

4. There was no correlation between institutional areas (number

of students and faculty, age in department) and the resistance shown

by faculty and administrators.

Bararestan further indicated that administrators showed more

resistance to innovations pertaining to operational/planning aspects,

while the faculty showed more resistance to innovations pertaining to

performance aspects to curriculum.

Hergenroeder (1973) conducted a study to examine the business

communication programs offered at Ohio Community Colleges and Technical

Institutions to evaluate the state-of-the-curriculum and make recommen-

dations for its involvement. One questionnaire was designed to gather

data on the organizational pattern of the business communication pro-

gram offered at the educators' institutions. A second questionnaire

was designed to determine pertinent business communication skills

essential for success in business at the mid-management level. Based

on the findings of the study, respondents recommended the following:

1. English fundamentals should be reviewed. Emphasis should be

placed on the development of organization skills, outlining skills,

habits of orderly thinking, critical judgment, vocabulary expansion,

perception skills and problem-solving approaches in processing oral and

written communications.

2. Emphasis should be placed on the development of written communications competencies, including interoffice memos, letter reports, formal reports, business letters, "cross-jobs," "downward and outward" written communications, and procedural directives.

3. The education sector should be alerted to the frequency with which certain letters are written in the business community so that proper emphasis might be assigned to student preparation in these areas.

4. The education sector should be alerted to the media--audio and electronic--which will be impacting the employment sector, and their significance for business communications in the near future, so that proper emphasis might be assigned to student preparation (pp. 34, 35).

Summary

Microcomputer integration in the written business communication area is increasing. It seems apparent that business educators' concerns exist. Keeping pace with the microcomputer technology advancement is difficult, and written business communication educators need to learn more about the integration of computers in the classroom.

CHAPTER III

RESEARCH DESIGN AND PROCEDURES

Designed to obtain data from members of the Association for

Business Communication, this descriptive study focused on the status

of microcomputer integration in written business communication courses

at the collegiate level.

The following steps were utilized in researching the problem,

planning the study, conducting the survey of Association for Business

Communication members, and presenting the results of the study:

1. Review of related literature

2. Development of the research questionnaire

3. Preparation of the cover letter and follow-up letter

4. Selection of the population

5. Collection of the data

6. Analysis and interpretation of the data.

Survey of Related Literature

Professional publications, literature, and an on-line data base

search dealing with written business communication and microcomputer

hardware and software technology were examined to determine the status

of previous research and the overall implications for future research

efforts. The literature review was also designed to determine the

trends and utilization of microcomputer integration in written business

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communication courses. Sources included the Business Education Index (1970-1986), the Index to Doctoral Dissertations in Business Education 1900-1975 (1975), the ERIC data base, and numerous professional journals.

The Research Questionnaire

A four-page research survey instrument was designed to gather data for this study. A thorough review of other questionnaires concerning written business communication, microcomputer technology, and consultation with committee members were completed to add advice to the survey development process.

The wording, clarity of content, and sequencing of the questions were revised following consultation with the dissertation adviser and committee members.

The final questionnaire was three pages long and was printed on 8 1/2 x 11 inch paper, with information printed on one side. (See Appendix A).

The completed questionnaire was anonymous in order to keep information provided by the respondents confidential. An identification number was used solely for the purposes of a follow-up if needed.

The questionnaire was designed to cover three areas:

1. General Information

2. Written Business Communication Information

3. Microcomputer Technology Information

The questionnaire was designed for an easy-to-answer format to facilitate ease of completion by the respondents. The design was also prepared to aid the researcher in tabulation of responses.

Preparation of the Cover Letter

and Follow-up Letter

The questionnaire was mailed to a random sample of members of the Association for Business Communication selected to participate in the study. The letter was reproduced on Oklahoma State University, College of Business Administration stationery, and was co-signed by Dr. Dennis L. Mott, dissertation adviser. (See Appendix B).

Approximately three weeks after the original mailing, a follow-up letter, a copy of the questionnaire, and an Oklahoma State University Business Reply envelope were sent to those not responding to the first letter and questionnaire.

The follow-up letter was an attempt to encourage a higher return rate. The follow-up letter was also reproduced on Oklahoma State University, College of Business Administration stationery, and co-signed by the dissertation adviser, Dr. Dennis L. Mott. (See Appendix B).

Selection of Population

The population for this study included those Association for Business Communication members identified by a 1987 membership list of the national ABC office.

The teacher educators selected to participate in this study were required to meet the following criteria:

1. He/she must teach at a four-year college or university in the United States.

2. He/she must teach a business communication course involving integration of microcomputer software technology.

Collection of Data

Questionnaires were mailed to 278 Association for Business Communication members.

The timetable for the mailings of the original and follow-up materials was as follows:

1. Original mailing--April 15, 1987

    Date requested for return--April 24, 1987

2. Follow-up mailing--May 13, 1987

    Date requested for return--May 25, 1987

Twenty-four of the 278 questionnaire recipients were deleted from the population for the following reasons:

1. Retirement from the teaching profession

2. Do not teach a written business communication course

3. Written business communication course not offered at college or university

4. Employment in private sector

Forty questionnaires were returned from the remaining 153 Association for Business Communication members. All 141 of the questionnaires were judged to be usable, which was 50.7 percent usable response rate. An analysis of the returns and non-returns is reported in Table I, page 25.

TABLE I

DISTRIBUTION OF THE POPULATION BY RETURNS
AND NON-RETURNS TO THE QUESTIONNAIRE

Category	Number	Percent Total (N = 278)
Total ABC members in population	278	100.0
Total respondents from original mailing	125	45.0
Total non-respondents from follow-up mailing	153	55.0
Total respondents from follow-up mailing	40	26.1
Total ABC members in population overall returns	165	59.3
Total non-usable returns	24	0.9
Total usable returns	141	50.7

Analysis and Interpretation of the Data

Responses were coded and keyboarded on a terminal to facilitate data tabulation. An SAS Statistical Package was used to reveal frequencies and percentages of each response for each question included in the questionnaire.

Additional analyses were conducted using the SAS Statistical Package using one-way and two-way tables and the Chi-Square Test for Significance. The tabulation and interpretation of the data collection are presented in Chapter IV.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA

The "Questionnaire Concerning Microcomputer Integration in Colle-
giate Written Business Communication Courses" was mailed to 278 members
of the Association for Business Communication. The data obtained from
the questionnaire described the current status and trends of micro-
computer integration in the written business communication courses.
Findings included in Chapter IV are presented from a detailed analysis
of the responses to the questionnaire.

Method of Analyzing the Data

For the purpose of the analysis of data, five basic parts of the
questionnaire were used.

Questions 1-6 of the questionnaire were designed to gather general
information about the respondents and the written business communica-
tion courses within their institutions. Specifically, these questions
requested the respondent's gender, age, total enrollment of the college
and/or university, region, types of educational institution, and
faculty status.

Questions 7-13 of the questionnaire were designed to request
information in the following areas:

1. The department, college, or school in which the business
communication program is located.

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2. The number of years the respondent has taught written business communication at the collegiate level.

3. The number of written business communication sections taught at the respondent's college or university.

4. The average class size for the written business communication course.

5. The credit hour system used by the respondent's college or university.

6. The credit hours awarded for the written business communication course.

7. The semesters in which written business communication are taught at the respondent's college or university.

Questions 14-15 of the questionnaire requested respondents to place a check mark in the appropriate columns of instructional potentials for the integration of microcomputer technology in the written business communication course. Space was provided for the respondents (1) to list other instructional specifics; and (2) to place a check mark in appropriate columns for perceived barriers in implementing microcomputer technology in the written business communication course.

Questions 16-18 of the questionnaire requested respondents to indicate if they used microcomputers in the written business communication class. Those respondents who indicated the use of microcomputers in the written business communication class were asked to indicate the number of microcomputers and the various brands available in their department. Space was provided for listing other brands not included in the checklist. Finally, the respondents were asked to place a

check mark in the column to indicate the types of software they use in teaching the written business communication course.

The analysis of the questionnaires concluded with a Two-Way Table and Chi-Square Test for Significance of the following hypotheses:

Ho_1 = There is no significant relationship between the age of the business teacher and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

Ho_2 = There is no significant relationship between the number of students the business teacher instructs and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

Ho_3 = There is no significant relationship between the number of microcomputers that the business communication teacher has available and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

Ho_4 = There is no significant relationship between the types of software that the business communication teacher uses and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

The Statistical Analysis System was used to tabulate the response to each item in the questionnaire. The results from each response to a question were tabulated according to frequency of occurrence, cumulative frequency, percentage, cumulative percentage, and Chi-Square. Tables of specific findings are presented in the following discussion.

Data Analysis

Responses were received from 165 Association for Business Communication members. Twenty-four of the members were deleted from the population for the following reasons:

1. Seven members were retired from the teaching profession

2. Nine members did not teach a written business communication course

3. Five members' college or university did not offer a written business communication course

4. Three members were employed in the private sector.

Therefore, analysis of data included responses from 141 questionnaires which represented an analysis of 50.7% of the total sample. The analysis is divided into five parts:

Part 1 - An analysis of general information about the teachers of written business communication.

Part 2 - An analysis of the location of the written business communication course, section offerings, student class sizes, credit system, credit hours, and semesters written business communication courses are offered.

Part 3 - An analysis of specific areas for potential integration of microcomputer technology and perceived barriers in implementing microcomputer technology.

Part 4 - An analysis of the numbers and brands of microcomputers used in the written business communication course.

Part 5 - An analysis of the numbers and brands of microcomputers used in the written business communication course.

Part 5 - An analysis of the Two-Way Table and the Chi-Square Test for Significance to determine if relationships exist other than those attributed to chance.

Part 1--An Analysis of General Information

This part of the questionnaire included six questions (Questions 1-6). An abbreviated statement of the questions is used in each table. The number of responses to each question and an analysis of the data are presented. (The complete questionnaire is included in Appendix A.)

1. Gender category of respondents

2. Age classification of respondents

3. Enrollment status at respondents' institution

4. Region location of respondents

5. Types of educational institution in which respondents work

6. Employment status of respondents

Sixty-eight Association for Business Communication members (48.2%) who responded were males, while 73 (51.8%) were females. Table II contains an analysis of the gender category of the respondents.

TABLE II

WRITTEN BUSINESS COMMUNICATION
RESPONDENTS' GENDER CATEGORY

Gender	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Male	68	68	48.2	48.2
Female	73	141	51.8	100.0

The age classification of 59 respondents was in the 50 and above
(41.8%) range. Fifty-one of the respondents were in the 40-49.9
(36.2%) range, while two respondents were in the 20-29.9 (1.4%) range.
Table III contains an analysis of the age classification of the
respondents.

TABLE III

WRITTEN BUSINESS COMMUNICATION RESPONDENTS'
AGE CLASSIFICATION

Age (Years)	Frequency	Cumulative Frequency	Percent	Cumulative Percent
20-29.9	2	2	1.4	1.4
30-39.9	29	31	20.6	22.0
40-49.9	51	82	36.2	58.2
50 and above	59	141	41.8	100.0

Fifty-one (36.2%) respondents reported an enrollment of 10,000-
19,999 at their respective universities. Five respondents reported
an enrollment of fewer than 999 (3.5%). Table IV, page 32, contains
an analysis of the enrollment of the respondents' institution.

TABLE IV

WRITTEN BUSINESS COMMUNICATION RESPONDENTS'
INSTITUTIONS ENROLLMENT STATUS

Enrollment Status	Frequency	Cumulative Frequency	Percent	Cumulative Percent
999 or under	5	5	3.5	3.5
1,000- 4,999	29	34	20.6	24.1
5,000- 9,999	27	61	19.1	43.3
10,000-19,999	51	112	36.2	79.4
20,000-29,999	22	134	15.6	95.0
30,000 or more	7	141	5.0	100.0

Thirty-eight respondents (27.0%) reported from the North-Central Region, while 26 (18.4%) reported from the Eastern Region, and 22 (15.6%) from the Western Region. Table V, page 33, contains an analysis of the region location of the respondents.

One hundred six (75.2%) of the respondents' educational institutions are public, while 29 (20.6%) are private. Table VI, page 33, contains a breakdown of the respondents' educational institutions.

One hundred twenty-seven respondents (90.1%) reported their employment status to be full time, while 13 (9.2%) reported part-time employment status. Table VII, page 34, contains an analysis of the employment status of the respondents.

TABLE V

WRITTEN BUSINESS COMMUNICATION
RESPONDENTS' REGION LOCATION

Region Location	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Eastern	26	26	18.4	18.4
Southern	32	58	22.7	41.1
North-Central	38	96	27.0	68.1
Mountain Plains	23	119	16.3	84.4
Western	22	141	15.6	100.0

TABLE VI

TYPES OF EDUCATIONAL INSTITUTIONS
OF RESPONDENTS

Types of Institution	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Public	106	106	75.2	75.2
Private	29	135	20.6	95.7
Junior	6	141	4.3	100.0

TABLE VII

RESPONDENTS' EMPLOYMENT STATUS

Employment Status	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Full time	127	127	90.1	90.1
Part time	13	140	9.2	99.3
No response	1	141	0.7	100.0

Part 2--Analysis of Written Business

Communication Course

This part of the questionnaire included seven questions (Questions 7-13). An abbreviated statement of the substance of each question is used in each table.

1. Location of business communication course at respondents' institutions

2. Number of years respondents have taught written business communication at the collegiate level

3. Number of written business communication section offerings at respondents' institutions

4. Class size of written business communication sections at respondents' institutions

5. System of credits used by the respondents' institutions

6. Credit hours awarded for the written business communication course at respondents' institutions

7. Semesters written business communication courses are taught at respondents' institutions.

One hundred one (72.1%) of the respondents reported their business communication program is located in the department, college, or school of business. Two respondents (1.4%) reported their program is located in the department, college, or school of education, while 37 (26.4%) reported their program is located in other departments. Other locations for the business communication program cited by the respondents included the school of arts and sciences and the college of liberal arts. (See Table VIII.)

TABLE VIII

LOCATION OF BUSINESS COMMUNICATION PROGRAM
AT RESPONDENTS' INSTITUTIONS

Program Location	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Department, college, or school of business	101	101	72.1	72.1
Department, college, or school of education	2	103	1.4	73.6
Other	37	140	26.4	100.0

Forty-eight of the respondents (35.0%) reported 6-10 years of teaching written business communication at the collegiate level, while 35 (25.5%) reported teaching 11-19 years. Table IX contains an analysis of the number of years the respondents have taught written business communication at the collegiate level.

TABLE IX

YEARS RESPONDENTS HAVE TAUGHT WRITTEN BUSINESS
COMMUNICATION AT COLLEGIATE LEVEL

Number of Years Taught	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Less than 1	4	4	2.9	2.9
1- 5	32	36	23.4	26.3
6-10	48	84	35.0	61.3
11-19	35	119	25.5	86.9
20 or more	18	137	13.1	100.0

Ninety-one respondents (66.9%) indicated having seven or more written communication sections at their institution, while 22 (16.2%) indicated their institution offered three or four sections. Table X, page 37, contains an analysis of the number of written business communication sections offered at the respondents' institutions.

TABLE X

NUMBER OF WRITTEN BUSINESS COMMUNICATION SECTIONS
OFFERED AT RESPONDENTS' INSTITUTIONS

Sections Offered	Frequency	Cumulative Frequency	Percent	Cumulative Percent
0 – 2	10	10	7.4	7.4
3 – 4	22	32	16.2	23.5
5 – 6	13	45	9.6	33.1
7 or more	91	136	66.9	100.0

Seventy-six respondents (55.9%) reported their written business communication class size to be 21-30, while 31 (22.8%) reported a class size in the 31-40 range. Table XI, page 38, contains an analysis of class size of respondents' written business communication sections.

One hundred ten respondents (79.7%) reported their institutions use the semester hour system, while 23 (16.7%) respondents reported using the quarter hour system. Other semester hour systems of offering credits reported by the respondents included tri-semester hours, and month-long modules. Table XII, page 38, contains an analysis of the credit system used at the respondents' institutions.

TABLE XI

WRITTEN BUSINESS COMMUNICATION CLASS SIZE
AT RESPONDENTS' INSTITUTIONS

Class Size	Frequency	Cumulative Frequency	Percent	Cumulative Percent
0-20	26	26	19.1	19.1
21-30	76	102	55.9	75.0
31-40	31	133	22.8	97.8
41-50	1	134	0.7	98.5
Over 50	2	136	1.5	100.0

TABLE XII

CREDIT SYSTEM RESPONDENTS' INSTITUTIONS USE

Credit Hours System	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Semester hours	110	110	79.7	79.7
Quarter hours	23	133	16.7	96.4
Other	5	138	3.6	100.0

One hundred sixteen respondents (85.3%) indicated three credit

hours are awarded for the written business communication course. Two

respondents (1.5%) indicated two credit hours. Five respondents indi-

cated one credit (3.7%), while another five respondents indicated five

credits (3.7%). Table XIII contains an analysis of the credit hours

awarded for the written business communication courses at the respond-

ents' institutions.

TABLE XIII

CREDITS AWARDED FOR WRITTEN BUSINESS COMMUNICATION
COURSES AT RESPONDENTS' INSTITUTIONS

Credits Awarded	Frequency	Cumulative Frequency	Percent	Cumulative Percent
3 credits	116	116	85.3	85.3
2 credits	2	118	1.5	86.8
1 credit	5	123	3.7	90.4
4 credits	8	131	5.9	96.3
5 credits	5	136	3.7	100.0

One hundred six (100.0%) of the respondents indicated written

business communication is taught the first semester, second semester,

and summer session. Table XIV, page 40, contains an analysis of sem-

esters written communication is taught at the respondents' institutions.

TABLE XIV

SEMESTERS WRITTEN BUSINESS COMMUNICATION COURSES
ARE OFFERED AT RESPONDENTS' INSTITUTIONS

Semesters	Frequency	Cumulative Frequency	Percent	Cumulative Percent
1st/2nd/summer	106	100.0	100.0	106

Part 3--An Analysis of Instructional Potential

Areas and Perceived Barriers in

Implementing Microcomputers

This part of the questionnaire included two questions (Questions 14-15). An abbreviated form of the questions is used in the tables.

The number of responses to Question 14 concerning the instructional potential areas for integration of microcomputer technology in the written business communication course is presented in Table XV, page 41.

Seventy-four (52.5%) respondents checked four of the potential areas, while 24 (17.0%) checked three of the areas. Seven respondents (5.0%) did not check any of the potential areas. However, other potential areas cited by the respondents included Electronic Mail, Group Decision Making, Text Analysis, Grammar Review and Punctuation Tutorial, and Visuals and Graphs.

Table XVI, page 41, contains the four instructional potential areas in Question 14 and the number of times each was checked by the respondents.

TABLE XV

INSTRUCTIONAL POTENTIALS IN WRITTEN BUSINESS COMMUNICATION
CLASSES AT RESPONDENTS' INSTITUTIONS

Number Areas Checked	Frequency	Cumulative Frequency	Percent	Cumulative Percent
0	7	7	5.0	5.0
1	10	17	7.1	12.1
2	14	31	9.9	22.1
3	24	55	17.0	39.0
4	74	129	52.5	91.5
5	12	141	8.5	100.0

TABLE XVI

NUMBER OF TIMES RESPONDENTS CHECKED INSTRUCTIONAL
POTENTIAL AREAS IN INTEGRATING MICROCOMPUTER
TECHNOLOGY IN THE WRITTEN BUSINESS
COMMUNICATION COURSE

Instructional Potential Areas*	Number of Times Respondents Checked (N=141)
Word processing/text editing	122
Basic communication skills	97
Letter/memorandum writing skills	116
Report writing skills	114
Others (please specify)	17

*Respondents specified other instructional potential areas to include
Electronic Mail, Group Decision Making, Text Analysis, Grammar Review
and Punctuation Tutorial and Visuals and Graphs.

The number of responses to Question 15 concerning the perceived barriers to implementing microcomputer technology in the written business communication course is presented in Table XVII.

TABLE XVII

PERCEIVED BARRIERS FOR IMPLEMENTING MICROCOMPUTER
TECHNOLOGY IN THE WRITTEN BUSINESS COMMUNICATION
CLASSES AT RESPONDENTS' INSTITUTIONS

Number of Barriers Checked	Frequency	Cumulative Frequency	Percent	Cumulative Percent
0	28	28	19.9	19.9
1	26	54	18.4	38.3
2	41	95	29.1	67.4
3	29	124	20.6	87.9
4	5	129	3.5	91.5
5	12	141	8.5	100.0

Forty-one (29.1%) of the respondents checked two of the barriers. Twenty-nine respondents (20.6%) checked three barriers, while five checked four barriers. Twenty-eight respondents did not check any barriers. In addition, other barriers cited by the respondents included unstandardized microcomputer software and limited in word processing skills among students.

Table XVIII contains the five barriers in Question 15 and the number of times each was checked by the respondents.

TABLE XVIII

NUMBER OF TIMES RESPONDENTS CHECKED PERCEIVED
BARRIERS IN IMPLEMENTING MICROCOMPUTERS IN
THE WRITTEN BUSINESS COMMUNICATION COURSE

Barriers	Number of Times Respondents Checked (N=141)
Limited microcomputer software	51
Limited access to microcomputer equipment	76
Limited access to laboratory facilities	65
Limited faculty skills in using microcomputers	52
Faculty resistance to microcomputer application	31

Part 4--An Analysis of the Numbers

and Brands of Microcomputers Used

This part of the questionnaire included three questions (Questions 16-18). An abbreviated form of the questions is used in each table. The number of responses to Question 16 concerning respondents' utilization of the microcomputer in teaching their written business communication classes is presented in Table XIX, page 44.

TABLE XIX

MICROCOMPUTER UTILIZATION IN WRITTEN
BUSINESS COMMUNICATION CLASSES

Microcomputer Utilization	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Yes	76	76	55.1	55.1
No	62	138	44.9	100.0

Seventy-six (55.1%) of the respondents indicated they use microcomputers in teaching their written business communication classes, while sixty-two (44.9%) indicated they did not use microcomputers.

The number of responses to Question 17 concerning the numbers and brands of microcomputers available in the respondents' departments are presented in Table XX, page 45.

Thirty-seven of the respondents indicated over twenty IBM PC Microcomputers were available in their departments, while 18 respondents indicated over 20 IBM compatible Microcomputers. One hundred forty respondents indicated the Commodore Microcomputer was not available in their departments, while one hundred twenty-five indicated the Apple II and Macintosh Microcomputers were not available. In addition, other brands identified by the respondents included Zenith, DecMate II, Digital Rainbow, and Burroughs.

TABLE XX

NUMBER AND BRANDS OF MICROCOMPUTERS AVAILABLE
IN RESPONDENTS' DEPARTMENTS

Brand	Number of Microcomputers Available				
	None	1-5	6-10	11-20	Over 20
Commodore	140	0	1	0	0
IBM PC	85	9	4	6	37
IBM Compatible	109	4	1	9	18
Macintosh	125	8	3	0	5
Apple II	125	8	2	2	4
TRS 80	132	6	1	1	1
Other	120	7	0	3	11

The number of responses to Question 18 concerning the types of software the teachers used in teaching his/her written business communication course are presented in Table XXI, page 46.

Thirty-five (24.8%) of the respondents indicated the use of WordStar software in the Written Business Communication classes, while 23 (16.3%) indicated using WordPerfect software. Ten respondents (7.1%) used Apple Writer II, EasyWriter, and PFS: Write software. The Benchmark software was not checked by any respondents. Additionally, other types of software cited by respondents included PC Write, Microsoft Word and Textra Word Processing.

TABLE XXI

TYPES OF SOFTWARE UTILIZED IN RESPONDENTS'
WRITTEN BUSINESS COMMUNICATION CLASSES

Software Types	Number Utilized by Respondents				
	None	1-5	6-10	11-20	Over 20
Apple Writer II	0	0	10	0	0
Benchmark	0	0	0	0	0
EasyWriter	0	0	10	0	0
Grammatik	0	5	0	0	0
Letter Perfect	0	4	0	0	0
PFS: Write	0	0	10	0	0
WordPerfect	0	0	0	0	23
Word Processing	0	0	0	11	0
WordStar	0	0	0	0	35
Volkswriter	0	4	0	0	0
Other	0	0	0	0	39

Part 5--Comparison of Selected Items With

Two-Way Tables and Chi-Square Tests

The fifth part of this data analysis presents an analysis of
selected items of the questionnaire with the Chi-Square Tests of Inde-
pendence in Two-Way Tables. Five items of the questionnaire were
analyzed with the Two-Way Chi-Square to determine if relationships

other than those attributed to chance exist. The relationships were
tested at the .05 level of significance.

Table XXII contains a breakdown of the hypotheses and the
relationship between two variables.

TABLE XXII

HYPOTHESES VERSUS VARIABLES

| Hypotheses | Variables | |
	Variable 1	Variable 2
Hypothesis 1	Age	Use of microcomputers
Hypothesis 2	Age	Brands and numbers of microcomputers
Hypothesis 3	Age	Types of software used
Hypothesis 4	Number of students per section	Use of microcomputers
Hypothesis 5	Number of students per section	Brands and numbers of microcomputers
Hypothesis 6	Number of students per section	Types of software used
Hypothesis 7	Respondents utilizing microcomputers	Brands and numbers of microcomputers
Hypothesis 8	Respondents utilizing microcomputers	Types of software

Testing of Hypotheses

Hypothesis One

There is no relationship between the age of the written communication teacher and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

Hypothesis 1a. There is no significant relationship between the age of the written communication teacher and the extent to which they use microcomputers in the instructional process.

The ages were grouped into the following categories: 20-29, 30-39.9, 40-49.9, and 50 and above. The Two-Way Table and Chi-Square Test for Significance revealed no significant difference at the .05 level. The null hypothesis is accepted that there is no relationship between the respondents' age and the utilization of microcomputers in the written business communication courses.

Table XXIII, page 49, shows the majority of respondents in all age groups indicated using microcomputers in the instructional process. This result was not anticipated, but apparently experienced teachers have adjusted their teaching patterns to the widespread availability of microcomputers in their written business communication courses.

Hypothesis 1b. There is no significant relationship between the age of written communication teachers and the number of available IBM PC microcomputers for use in the instructional process.

The IBM PC microcomputers were grouped into five categories: None, 1-5, 6-10, 11-20, and over 20. The Two-Way Table and Chi-Square Test revealed no significant difference at the .05 level. The null

hypothesis that there is no relationship between the age of the respondents and the number of available IBM PC microcomputers is therefore not rejected.

TABLE XXIII

CONTINGENCY TABLE FOR BUSINESS TEACHER'S AGE
VERSUS UTILIZATION OF MICROCOMPUTERS IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

	Microcomputer Utilization	
Age Group	Yes	No
20-29.9	1	1
30-39.9	17	12
40-49.9	27	23
Over 50	31	26
Total Column	76	62

Chi Square = 0.202   Significance = 0.977   d.f. = 3

As summarized in Table XXIV, page 50, respondents in each age group indicate having a number of available IBM PC microcomputers for use in the instructional process. The majority of respondents have available over 20 IBM PC microcomputers for their classes.

TABLE XXIV*

CONTINGENCY TABLE FOR BUSINESS TEACHER'S AGE VERSUS
NUMBER OF AVAILABLE IBM PC MICROCOMPUTERS IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

| Age Group | IBM PC Microcomputers | | | | |
	None	1-5	6-10	11-20	Over 20
20-29.9	1	0	0	0	1
30-39.9	19	1	0	0	9
40-49.9	31	5	4	2	9
Over 50	34	3	0	4	18
Total Column	85	9	4	6	37

Chi Square = 13.642   Significance = 0.324   d.f. = 12

*Because of small frequencies in several cells, this table was
collapsed and a Chi-Square was calculated for the collapsed table.
The conclusions were not changed.

Hypothesis 1c. There is no significant relationship between the
age of written communication teachers and the number of available IBM
compatible microcomputers for use in the instructional process.

The IBM compatible microcomputers were grouped into five cate-
gories: None, 1-5, 6-10, 11-20, and Over 20. The Two-Way Table and
Chi-Square Test revealed no significant difference at the .05 level.
The null hypothesis that there is no relationship between the age of
the respondents and the number of IBM compatible microcomputers
available is therefore not rejected.

Table XXV indicates that the overwhelming majority of resondents reported that the IBM compatible microcomputers are available for instructional purposes in the written business communication courses.

TABLE XXV*

CONTINGENCY TABLE FOR BUSINESS TEACHER'S AGE VERSUS NUMBER
OF AVAILABLE IBM COMPATIBLE MICROCOMPUTERS IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

| Age Group | IBM Compatible Microcomputers | | | | |
	None	1-5	6-10	11-20	Over 20
20-29.9	2	0	0	0	0
30-39.0	19	1	0	3	6
40-49.9	38	2	1	4	6
Over 50	50	1	0	2	6
Total Column	109	4	1	9	18

Chi Square = 7.343   Significance = 0.834   d.f. = 12

*Because of small frequencies in several cells, this table was collapsed and a Chi-Square was calculated for the collapsed table. The conclusions were not changed.

Hypothesis 1d. There is no significant relationship between the age of written communication teachers and the extent to which Word Perfect software is used in the instructional process.

The categories of "yes" and "no" were used to analyze responses
by the respondents using WordPerfect software in the written business
communication course. No significant difference was found at the .05
level. The null hypothesis is accepted that there is no relationship
between the respondents' age and the extent to which WordPerfect
software is used in the instructional process. Results reported in
Table XXVI show that a substantial majority of the respondents use
WordPerfect software in the instructional process.

TABLE XXVI

CONTINGENCY TABLE FOR BUSINESS TEACHER'S AGE VERSUS
WORD PERFECT SOFTWARE UTILIZATION IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

| | WordPerfect Software | |
Age Group	Yes	No
20-29.9	2	0
30-39.9	21	8
40-49.9	41	10
Over 50	54	5
Total Column	118	23

Chi Square = 6.151　　　　Significance = 0.105　　　　d.f. = 3

Hypothesis 1e. There is no significant relationship between the age of written communication teachers and the extent to which WordStar software is used in the instructional process.

The categories of "yes" and "no" were used to analyze responses by the respondents using WordStar software in the written business communication course. No significant difference was found at the .05 level. Therefore, the null hypothesis that there is no relationship between the age of the respondents and the extent to which WordStar software is used in the instructional process is not rejected. Results summarized in Table XXVII indicate that respondents at all age levels tend to use WordStar software for instructional purposes in the written business communication course.

TABLE XXVII

CONTINGENCY TABLE FOR BUSINESS TEACHER'S AGE
VERSUS WORDSTAR SOFTWARE UTILIZATION IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

Age Group	WordStar Software	
	Yes	No
20-29.9	2	0
30-39.9	23	6
40-49.9	42	9
Over 50	39	20
Total Column	106	35

Chi Square = 4.937   Significance = 0.176   d.f. = 3

Hypothesis Two

There is no relationship between the number of students the
written communication teacher instructs and the level to which he/she
utilizes microcomputer instructional skills in the written business
communication course.

Hypothesis 2a. There is no significant relationship between the
number of students per class section and the extent to which communica-
tion teachers use microcomputers in the instructional process.

The number of students were grouped into five sections: 0-20,
21-30, 31-40, 41-50, and over 50 students. No significant difference
was found at the .05 level using the Two-Way Table and Chi-Square Test
for Significance. The null hypothesis that there is no relationship
between the number of students per section and the utilization of
microcomputers in the written business communication courses is
therefore not rejected. Results shown in Table XXVIII, page 55, indi-
cate the majority of respondents are using microcomputers regardless of
the class sections in the written business communication course.

Hypothesis 2b. There is no significant relationship between the
students per class section and the extent to which IBM PC
microcomputers were used in the instructional process.

The IBM PC microcomputers were grouped into five categories:
None, 1-5, 6-10, 11-20, and over 20. The Two-Way Table and Chi-Square
Test for Significance revealed no significant difference at the .05
level when comparing the number of students per class section and the
use of IBM PC microcomputers in the written business communication

course. The null hypothesis that there is no relationship between the number of students per class section and the use of IBM PC microcomputers in the written business communication course is not rejected. Results in Table XXIX, page 57, reveal the use of IBM PC microcomputers in class sections to meet student needs. It can be noted that the majority of available IBM PC microcomputers are in the average class size of 21-30 students.

TABLE XXVIII

CONTINGENCY TABLE FOR STUDENTS PER CLASS SECTION VERSUS
BUSINESS TEACHER UTILIZATION OF MICROCOMPUTERS IN
THE WRITTEN BUSINESS COMMUNICATION COURSE

Students Per Class Section	Microcomputer Utilization	
	Yes	No
0-29	13	13
21-30	42	33
31-40	19	12
41-50	0	1
Over 50	2	0
Total Column	76	59

Chi Square = 3.577   Significance = 0.466   d.f. = 4

TABLE XXIX[*]

CONTINGENCY TABLE FOR STUDENTS PER CLASS SECTION VERSUS
BUSINESS TEACHER'S UTILIZATION OF IBM PC MICROCOMPUTERS
IN THE WRITTEN BUSINESS COMMUNICATION COURSE

Students Per Class Section	IBM PC Microcomputers Utilization				
	None	1-5	6-10	11-20	Over 20
0-29	17	4	2	0	3
21-30	43	4	1	3	25
31-40	17	1	1	3	9
41-50	1	0	0	0	0
Over 50	2	0	0	0	0
Total Column	80	9	4	6	37

Chi Square = 15.316   Significance = 0.502   d.f. = 16

[*]Because of small frequencies in several cells, Table XXIX was
collapsed and a Chi-Square was calculated for the collapsed table.
The conclusions were not changed.

Hypothesis 2c. There is no significant relationship between the

students per class section and the extent to which IBM compatible

microcomputers were used in the classroom setting.

The IBM compatible microcomputers were grouped into five cate-

gories: None, 1-5, 6-10, 11-20, and over 20. The Two-Way Table and

Chi-Square Test for Significance revealed no significant difference at

the .05 level when comparing the number of students per class section

and the use of IBM compatible microcomputers in the written business

communication course. The null hypothesis that there is no relation-
ship between the number of students per class section and the extent
to which IBM compatible microcomputers are used in the written business
communication course is therefore not rejected. Table XXX shows most
of the clsses are of class size of 21-30, and for this reason the
largest number of IBM compatible microcomputers are being used for
classes of this size.

TABLE XXX[*]

CONTINGENCY TABLE FOR STUDENTS PER CLASS SECTION
VERSUS BUSINESS TEACHER UTILIZATION OF IBM
COMPATIBLE MICROCOMPUTERS IN THE WRITTEN
BUSINESS COMMUNICATION COURSE

Students Per Class Section	IBM Compatible Microcomputers				
	None	1-5	6-10	11-20	Over 20
0-20	18	1	1	2	4
21-30	62	2	0	2	10
31-40	23	1	0	4	3
41-50	1	0	0	0	0
Over 50	0	0	0	1	1
Total Column	104	4	1	9	18

Chi Square = 18.522   Significance = 0.294   d.f. = 16

[*]Because of small frequencies in several cells, Table XXX was collapsed
and a Chi-Square was calculated for the collapsed table. The
conclusions were not changed.

Hypothesis 2d. There is no significant relationship between the students of written business communication and the extent to which they use WordPerfect software in the classroom setting.

The categories of "Yes" and "No" were used to analyze the teachers' responses relative to students' use of WordPerfect software in the written business communication class. The Two-Way Table and Chi-Square Test for Significance revealed no significant difference at the .05 level when comparing the number of students in the written business communication sections and their use of WordPerfect software. The null hypothesis that there is no relationship between number of students and the use of WordPerfect software in the written business communication class is, therefore, not rejected. Results reported in Table XXXI, page 59, indicate WordPerfect software is used in the instructional process, and apparently the largest number of users falls in the average range of 21-30 students.

Hypothesis 2e. There is no significant relationship between the number of students and the extent to which they use WordStar software in the written business communication class.

The categories of "Yes" and "No" were used to analyze responses by the business teachers indicating students' use of WordStar software in the written business communication class. The Two-Way Table and Chi-Square Test for Significance revealed no significant difference at the .05 level when comparing the number of students in the written business communication sections and their use of WordStar software. The null hypothesis is accepted that there is no relationship between the number of students and the use of WordStar software in the written

business communication class. Table XXXII, page 60, reports WordStar

software is used in the instructional process. The findings indicate

the largest number of users falls in the 21-30 student category.

TABLE XXXI

CONTINGENCY TABLE FOR NUMBER OF STUDENTS VERSUS
UTILIZATION OF WORD PERFECT SOFTWARE IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

| | Word Perfect Software | |
Number of Students	Yes	No
0-20	22	4
21-30	63	13
31-40	26	5
41-50	1	0
Over 50	1	1
Total Column	113	23

Chi Square = 1.821   Significance = 0.769   d.f. = 4

Hypothesis Three

There is no relationship between the number of microcomputers that

the written communication teacher has available and the level to which

he/she utilizes microcomputers instructional skills in the written

business communication course.

TABLE XXXII

CONTINGENCY TABLE FOR NUMBER OF STUDENTS VERSUS
UTILIZATION OF WORD STAR SOFTWARE IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

Number of Students	WordStar Software	
	Yes	No
0-20	23	3
21-30	55	21
31-40	21	10
41-50	1	0
Over 50	1	1
Total Column	101	35

Chi Square = 4.538   Significance = 0.338   d.f. = 4

Hypothesis 3a. There is no significant relationship between

the number of available IBM PC microcomputers and the extent to which

business communication teachers use microcomputers in the instructional

process.

Responses were placed in the following five categories: None,

1-5, 6-10, 11-20, and Over 20. Using the Two-Way Table and Chi-Square

Test for Significance at the .05 level, the null hypothesis that the

number of available IBM PC microcomputers for instructional purposes

is not related to the respondents' utilization in the written business

communication classes is rejected. Results given in Table XXXIII

indicate the majority of respondents have available IBM PC microcomputers for instructional purposes. This phenomenon indicates respondents tend to utilize more IBM PC microcomputers as more become available for the instructional process.

TABLE XXXIII

CONTINGENCY TABLE FOR AVAILABLE IBM PC MICROCOMPUTERS
VERSUS BUSINESS TEACHER UTILIZATION IN THE
WRITTEN BUSINESS COMMUNICATION COURSE

Business Teacher Utilization	IBM PC Microcomputers				
	None	1-5	6-10	11-20	Over 2C
Yes	26	8	3	6	33
No	56	1	1	0	4
Total Column	82	9	4	6	37

Chi Square = 45.195   Significance = 0.000   d.f. = 4

Hypothesis 3b. There is no significant relationship between the number of available IBM compatible microcomputers and the extent to which business communication teachers use microcomputers in the instructional process.

Responses were placed in five categories: None, 1-5, 6-10, 11-20, and Over 20. Using the Two-Way Table and Chi-Square Test for Significance at the .05 level, the null hypothesis that the number

of available IBM compatible microcomputers for instructional purposes

is not related to the respondent's utilization in the written business

communication class is rejected.   Results given in Table XXXIV reveal

respondents tend to use IBM compatible microcomputers in the written

business communication classes where more are available.

TABLE XXXIV

CONTINGENCY TABLE FOR AVAILABLE IBM COMPATIBLE
MICROCOMPUTERS VERSUS BUSINESS TEACHERS
UTILIZATION IN THE WRITTEN BUSINESS
COMMUNICATION COURSE

Business Teacher Utilization	IBM Compatible Microcomputers				
	None	1-5	6-10	11-20	Over 20
Yes	46	4	1	9	16
No	60	0	0	0	2
Total Column	106	4	1	9	18

Chi Square = 25.581   Significance = 0.000   d.f. = 4

Hypothesis Four

There is no significant difference between the types of software

that the written communication teacher uses and the level to which

he/she utilizes microcomputer instructional skills in the written

business communication course.

Hypothesis 4a. There is no significant relationship between the written communication teacher microcomputer utilization and the extent to which WordPerfect software is used in the instructional process.

The categories of "Yes" and "No" were used to analyze responses by the respondents using WordPerfect software. Using the Two-Way Table and Chi-Square Test for Significance at the .05 level, the null hypothesis that the use of WordPerfect software in the instructional process is not related to the respondent's utilization of microcomputers in the written business communication classes is rejected. The results summarized in Table XXXV, page 64, reveal there was a greater proportion of respondents from the microcomputers utilizers who reported using WordPerfect than from the non-utilizers. This result is not only surprising; it seems contradictory. In fact, how can any of the respondents not utilizing microcomputers make use of software? Perhaps, the respondents do not consider using a word processor as utilizing a microcomputer.

Hypothesis 4b. There is no significant relationship between written communication teacher microcomputer utilization and the extent to which WordStar is used in the instructional process.

The categories of "Yes" and "No" were used to analyze responses by the respondents using WordStar software. Using the Two-Way Table and Chi-Square Test for Significance at the WordStar software in the instructional process is not related to the respondent's utilization in the written business communication classes. The results reported in Table XXXVI, page 65, show a greater proportion of respondents from the microcomputer utilizers who reported using WordStar than from the

non-utilizers. This finding, too, is as surprising as the results indicated in Table XXXV of the greater number of respondents using microcomputers versus non-utilizers of software in the written business classes.

TABLE XXXV

CONTINGENCY TABLE FOR WORDPERFECT SOFTWARE VERSUS
BUSINESS TEACHER UTILIZATION IN THE WRITTEN
BUSINESS COMMUNICATION COURSE

Business Teacher Utilization of Microcomputers	WordPerfect Software	
	Yes	No
Yes	55	21
No	60	2
Total Column	115	23

Summary

Chapter IV presented the findings for this study relative to eighteen questions.

As future technology changes in the next two decades, members of the teaching profession must rejuvenate their commitment to the personal learning of microcomputer competencies for integration into the written business communication curriculum. As a result, teacher

educators' continual advances in microcomputer technology can be

transmitted to students through those written business communication

curriculum competencies needed to meet the high tech world of the

future.

TABLE XXXVI

CONTINGENCY TABLE FOR WORDSTAR SOFTWARE VERSUS
BUSINESS TEACHER UTILIZATION IN THE WRITTEN
BUSINESS COMMUNICATION COURSE

Business Teacher Utilization of Microcomputers	WordStar Software	
	Yes	No
Yes	44	32
No	59	3
Total Column	103	35

Chi Square = 25.051   Significance = 0.000   d.f. = 1

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to present the summary, conclusions, and recommendations that resulted from this study. The summary reviews the purpose of the study and the design and procedures used for the study. The analysis of the data are presented in the findings. Conclusions are derived from reported findings of the study. Recommendations are made based on the findings and conclusions.

Summary

The purpose of the study was to provide valuable information for the improvement of curriculum design and development in the business communication area.

The data received from respondents to a questionnaire mailed to current members at the collegiate level of the Association for Business Communication were analyzed. The data on the returned questionnaires were interpreted and analyzed to determine the present status and trends in microcomputer technology in the written business communication courses.

The Questionnaire

In keeping with the purpose of the study, a three-page questionnaire was designed. The questionnaire was developed after studying

the literature, reviewing similar questionnaires concerned with written

business communication courses and microcomputer technology, and con-

sulting the doctoral committee members and statistician at Oklahoma

State University. The questionnaire was mailed to 278 Association for

Business Communication members. Twenty-four were eliminated from the

165-member population, leaving a total population of 141 members.

Over 50.7% of the members contacted responded to and returned the

questionnaire.

Analysis of the Data

The responses to the questionnaire were analyzed by computer tabu-

lations. Frequency counts and percentages were calculated for the

descriptive data. The Two-Way Table and Chi-Square Tests were utilized

to analyze items on the questionnaire and to compare selected items on

the questionnaire.

Results of the Study

The results of the study are summarized for Questions 1-18 in

five parts of the questionnaire and for the Two-Way Table and

Chi-Square Tests for Significance.

Questions 1-6 of the questionnaire were designed to gather data

concerning general information about the Association for Business

Communication teacher educators and written business communication

courses at their institutions. Questions 7-13 of the questionnaire

were designed to request information in seven areas. Respondents were

asked to indicate the department, college, or school the business

communication is located, the number of years they had taught written

business communication at the collegiate level, the number of written

business communication sections offered at their institutions, the

students per class section of written business communication at their

institutions, the system of credits used at their institutions, the

credit awarded for written business communication at their institu-

tions, and the semesters written business communication is taught at

their institutions.

Questions 14-15 of the questionnaire were designed to obtain

information regarding the instructional potentials for microcomputer

integration in the written business communication course and the per-

ceived barriers in microcomputer implementation in the written business

communication course. Questions 16-18 of the questionnaire were

designed to request respondents to indicate if they used microcomputers

in teaching their written business communication courses, the numbers

and brands of available microcomputers in their department, and the

types of software they use in teaching the written business

communication course.

The Two-Way Table and Chi-Square Test for Significance were used

to analyze selected items on the questionnaire to determine if differ-

ences were significant. The Two-Way Table and Chi-Square Test for

Significance were used to compare selected items on the questionnaire.

General Information About Association for

Business Communication Respondents

Respondent's Gender Category. Sixty-eight members (48.2%) who

responded were males, while 73 (51.8%) of the members who responded

were females.

Respondent's Age Classification. The majority of respondents were in the 50 and above (41.8%) range, while over one-third were in the 40-49.9 (36.2%) range.

Enrollment Status at Respondent's Institution. Fifty-one respondents (36.2%) reported their institution has an enrollment of 10,000-19,999. Five respondents reported their institution has an enrollment of less than 999 (3.5%), while seven respondents reported their institution has an enrollment of 30,000 or more (5.0%).

Respondent's Regional Location. Over one-third of the respondents, 38 (27.0%) reported from the North-Central Region, while 32 (22.7%) reported from the Southern Region. Additionally, about one-fourth of the respondents reported from the Mountain-Plains Region (16.3%), 23. Twenty-two (15.6%) respondents reported from the Western Region.

Types of Educational Institution of Respondents. The majority of the respondents, 106 (75.2%) reported their institution was public, while 29 respondents (20.6%) stated their institution was private.

Employment Status of Respondents. The majority of the respondents reported their employment status was full time, 127 (90.1%), while 13 (9.2%) respondents said their employment status was part time.

<u>Written Business Communication Course Department</u>

<u>Location, Sections Offered, Class Sizes,</u>

<u>Credit System, Credit Hours, and</u>

<u>Semesters Courses Are Offered</u>

<u>Respondent's Business Communication Course Location.</u> One hundred
and one (72.1%) respondents reported their business communication
course was located in the department, college, or school of business.
Two respondents (1.4%) reported their business communication course was
located in the department, college, or school of education, while 37
respondents (26.4%) reported their program was located in other
departments.

<u>Number of Years Respondents Have Taught at the Collegiate Level.</u>
The majority of the respondents reported 6-10 years, (35.0%) of
teaching written business communication at the collegiate level.
Thirty-five (25.5%) respondents reported teaching between 11-19 years.

<u>Number of Written Business Communication Sections Offered.</u>
Ninety-one respondents (66.9%) indicated having seven or more written
business communication sections offered at their institution per
semester, while 22 (16.2%) said their institution offered 3-4 written
business communication sections.

<u>Class Size of Written Business Communication.</u> Seventy-six
respondents (55.9%) reported their written business communication
class size was 21-30, while 31 respondents (22.8%) stated their class
size was 31-40. Only two respondents (1.5%) reported a class size of
over 50.

System of Credit Hours Used. The majority of the respondents, 110 (79.7%) reported their institution was on a semester hour system of offering credit, while 23 respondents (16.7%) stated that their school uses a quarter hour system.

Credit Hours Awarded. One hundred sixteen (85.3%) indicated three credit hours were awarded for the written business communication course. Eight respondents (5.9%) reported four credit hours were awarded, while five respondents, respectively, reported one credit and five credits (3.7%) were awarded. Two respondents reported two credits (1.5%) were awarded.

Semesters Written Business Communication Courses Are Offered. One hundred six (100.0%) of the respondents reported written business communication is offered the first and second semesters and during the summer session.

Specific Areas for Potential Integration of
Microcomputer Technology and Barriers in
Implementing Microcomputer Technology

Instructional Potential Areas. Seventy-four (52.5%) of the respondents checked four of the potential instructional areas. Twenty-four (17.0%) of the respondents checked three areas.

Number of Times Respondents Checked Instructional Potential Areas. One hundred twenty-two of the 141 respondents checked word processing/ text editing as the key instructional potential area.

Letter/memorandum writing skills were checked by 116 respondents, while report writing skills were checked by 114 respondents.

Perceived Barriers. Forty-one respondents (29.1%) checked two perceived barriers. Twenty-nine (20.6%) checked three barriers.

Number of Times Respondents Checked Perceived Barriers. Seventy-six of the 141 respondents checked limited access to microcomputer equipment as the major barrier. Limited access to laboratory facilities was checked by 65 of the respondents. Fifty-two respondents checked limited faculty facilities in using microcomputers, while 51 checked limited microcomputer software.

Microcomputer Utilization, Brands, and Numbers of Microcomputers Available, and Types of Software Utilized

Microcomputer Utilization. Seventy-six of the respondents (55.1%) indicated they use microcomputers in teaching their written business communication class. Sixty-two (44.9%) indicated they did not use microcomputers in teaching the written business communication class.

Brands and Numbers of Available Microcomputers. Thirty-seven (26.2%) of the respondents indicated over 20 IBM PC Microcomputers are available in their department. Eighteen (12.8%) respondents indicated over 20 IBM Compatible Microcomputers are available. One hundred twenty-five (88.7%) respondents indicated the Apple II and Macintosh Microcomputers are not available in their department.

Types of Software Utilized. Thirty-five (24.8%) of the respond-
ents indicated they use WordStar software in the written business
communication class. Twenty-three (16.3%) of the respondents indicated
they use WordPerfect software.

Comparison of Selected Items With the Two-Way
Table and Chi-Square Test in the Study

Hypothesis 1. There is no significant relationship between the
age of the business teacher and the level to which he/she utilizes
microcomputer instructional skills in the written business communi-
cation course.

1. Relationship between business teachers utilizing microcom-
puters in the written business communication course and their age
classification. A comparison was made using the Two-Way Chi-Square
Test for Significance between the business teachers utilizing micro-
computers in the written business communication course and their age
classification. No significant difference was found at the .05 level.

2. Relationship between number of IBM PC microcomputers available
and the age of business teachers. The number of IBM PC microcomputers
available and the age of the business teachers were compared using the
Two-Way Chi-Square Test for Significance. No significant difference
was found at the .05 level.

3. Relationship between number of IBM compatible microcomputers
available and age of business teachers. The number of IBM compatible
microcomputers available and the age of the business teachers were
compared using the Two-Way Chi-Square Test for Significance. No
significant difference was found at the .05 level.

4. Relationship between number of business teachers utilizing microcomputers and WordPerfect software. The number of business teachers utilizing microcomputers and WordPerfect software in the written business communication course were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

5. Relationship between number of business teachers utilizing microcomputers and WordStar software. The number of business teachers utilizing microcomputers and WordStar software were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

Hypothesis 2. There is no significant relationship between the number of students the business communication teacher instructs and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

1. Relationship between number of students business communication teacher instructs and microcomputer utilization. The number of students the business communication teacher instructs and use of microcomputers in the written business communication course were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

2. Relationship between the number of students in written business communication classes and use of IBM PC microcomputers. The number of students in written business communication classes and the use of IBM PC microcomputers were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

3. Relationship between the number of students in written business communication classes and use of IBM compatible microcomputers. The number of students in written business communication and the use of IBM compatible microcomputers were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

4. Relationship between number of students in written business communication courses and the use of WordPerfect software. The number of students in written business communication courses and the use of WordPerfect software were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

5. Relationship between number of students in written business communication courses and the use of WordStar software. The number of students in the written business communication courses and the use of WordStar software were compared using the Two-Way Chi-Square Test for Significance. No significant difference was found at the .05 level.

Hypothesis 3. There is no significant relationship between the number of microcomputers that the business communication teacher has available and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

1. Relationship between number of IBM PC microcomputers available and microcomputer utilization. A comparison was made using the Two-Way Chi-Square Test for Significance between the approximate number of IBM PC microcomputers available and the number of business teachers using them for instructional purposes. A significant difference was found at the .05 level.

2. Relationship between number of IBM compatible microcomputers available and microcomputer utilization. A comparison was made using the Two-Way Chi-Square Test for Significance between the approximate number of IBM compatible microcomputers available and the number of business teachers using them for instructional purposes. A significant difference was found at the .05 level.

Hypothesis 4. There is no significant difference between the types of software that the business communication teacher uses and the level to which he/she utilizes microcomputer instructional skills in the written business communication course.

1. Relationship between number of WordPerfect software packets available and microcomputer utilization. A comparison was made using the Two-Way Chi-Square Test for Significance between the approximate number of WordPerfect software packets available and the number of business communication teachers using them for instructional skill purposes. A significant difference was found at the .05 level.

2. Relationship between number of WordStar software packets available and microcomputer utilization. A comparison was made using the Two-Way Chi-Square Test for Significance between the approximate number of WordStar software packets available and the number of business communication teachers using them for instructional skill purposes. A significant difference was found at the .05 level.

Conclusions

The following conclusions are based on the findings from the analysis of the data collected in this study:

1. Of the brands of microcomputer hardware available, the IBM PC and IBM compatible microcomputers are preferred by those business teachers' departments who have a written business communication course.

2. Of the types of microcomputer software available, WordStar and WordPerfect software are preferred by those business teachers' departments who have a written business course.

3. Microcomputer hardware can be utilized by business teachers as an instructional tool in the written communication course.

4. Microcomputer software can be utilized by business teachers as an instructional tool for composing in written business communication learning materials.

Recommendations

Based on the results of this study, the following recommendations are made:

1. Because this study was limited to a sample of written business communication teachers at the collegiate level of the Association for Business Communication members, the study should be replicated at other institutions to provide a means of comparison.

2. Written business communication teachers who utilize microcomputer technology need continual updating in this field.

3. Additional studies of business teachers' attitudes toward microcomputers need to be researched.

4. Further research should be conducted to determine what impact the integration of microcomputer technology is having on other related business courses.

SELECTED BIBLIOGRAPHY

Anadam, et al. "RSVP: Feedback Program for Individualized Analysis of
    Writing." Miami Dade Junior College, Florida, 1979, ERIC On-Line
    Document Reproduction Service. No. ED 191 511.

Bararestan, Mahmood. "Perception of Barriers to Curriculum Change in
    Computer Courses at Four-Year Schools of Technology: A Comparison
    of Faculty and Administration." Doctoral dissertation, Rutgers
    University the State University of New Jersey, New Brunswick, 1985.

Baumgardner, Mary. "Business Communication and Microcomputer Technol-
    ogy." Business Education Forum, Vol. 38 (April, 1984), pp. 14-16.

Boes, Orville F. and Ray Bernardi. "Using the Computer To Teach Spe-
    cific Communication Skills." Business Education Forum, Vol. 36
    (May, 1982), pp. 14-15.

Briand, P. L., Jr. "Technology in the Teaching of Composition." Paper
    presented at the Annual Meeting of the Conference on College
    Composition and Communication—Twenty-Ninth, Denver, Colorado,
    March 30-April 1, 1978. ERIC On-Line Document Reproduction
    Service. No. ED 162 324.

Burns, H. L., Jr. "Stimulating Rhetorical Invention in English Compo-
    sition Through Computer-Assisted Instruction." Doctoral disserta-
    tion, University of Texas at Austin, 1979. ERIC On-Line Document
    Reproduction Service. No. ED 188 245.

Campbell, Patty G. "The Use of Modern Office Technology in Teaching
    Business Communication Letters." Journal of Business Education,
    Vol. 60, No. 3 (December, 1984), pp. 101-103.

Christensen, G. Jay. "Data Communication: Rationale for Enrichment in
    Business Communication." The Journal of Business Communication,
    Summer, 1970, p. 19.

Cochran, Daniel S., Michael C. Giallourakis, and J. P. Shim. "PC's in
    the Business Communication Classroom: Present and Future Percep-
    tions." The Bulletin of the Association of Business Communication,
    Vol. XLIX, No. 1 (March, 1986), pp. 7-11.

Conlan, Roberta. Understanding Computers. Chicago, Ill.: Time-Life
    Books, Inc., 1986, pp. 122-123.

Conley, James H. "Curricular Myopia in Business Communication." The ABCA Bulletin, September, 1982, p. 7, citing W. Donald Heisel, "Sprint Culture," Bell Magazine, April/May, 1979, pp. 12-13.

Cox, Homer and Larry Hartman. "Issues in Teaching Business Communication: Business Education Yesterday, Today, and Tomorrow." National Business Education Yearbook, No. 148, 1976, pp. 216-223.

Crawford, Marian C., Robert B. Mitchell and R. Burt Madden. "An Analysis of the Impact of Electronic Communication in Management and Curricular Implications for Business Communication." Proceedings, American Business Communication Association International Convention, 1983, pp. 71-78.

Gilsdorf, Jeanette W. and Martha H. Rader. "Preparing for the Technological Revolution in Business Communication." Business Education Forum, Vol. 36 (October, 1982), pp. 24-27.

Giovannini, M. and F. M. Miller. "A Comparison of Teaching Business Communication by the Traditional Writing and the Word Processing Methods." The Delta Pi Epsilon Journal, Vol. 25, No. 4, pp. 155-163.

Groneman, Nancy and Susan Owen. "Kansas Business Education Curriculum Guide: Vocational Education and Postsecondary." Topeka: Kansas State Department of Education, 1984.

Harcourt, Jules, A. C. "Buddy" Krizan, and John Aldridge. "Research on Content of the Basic Business Communication (and Related Issues)." Proceedings, American Business Communication Association Southeast Regional Convention, April, 1984, pp. 253-262.

Hennings, D. "Input: Enter the Word-Processing Computer." Language Arts, No. 58 (1981), pp. 18-22.

Herbert, Mellanie. "Microcomputer-Assisted Instruction: Equal May Be Better." Business Education Forum, Vol. 36 (February, 1982), pp. 31-33.

Hergenroeder, Angela Dolores. "The Business Communication Program in Ohio Community Colleges and Technical Institutions." Doctoral dissertation, Ohio State University, 1973.

Hillestad, Mildred. Research: Process and Product. St. Peter, Minnesota: Delta Pi Epsilon, 1975.

Holder, Birdie. "Expanding Computer Usage in Business Education." Journal of Business Education, Vol. 59, No. 8 (May, 1984), pp. 310-313.

Kachigan, Sam Kash. Statistical Analysis: An Interdisciplinary Introduction to Univariate and Multivariate Methods. New York, N.Y.: Radius Press, 1986, pp. 556-559.

Keifer, K. E. and C. R. Smith. "Textual Analysis With Computers: Tests of Bell Laboratories' Computer Software." Research in the Teaching of English, Vol. 17, No. 8 (1983), pp. 201-214.

King, Margaret. "A Program for Computer Education." The Balance Sheet, Vol. 62 (September, 1980), pp. 31-34, 47.

Lambrecht, Judith C. "Special Competency Requirements: Data Processing Personnel, The Changing Office Environment." NBEA Yearbook, No. 18, Reston, Virginia: National Business Education Association, 1980, pp. 166-169.

Lambrecht, Judith. "New Microcomputer Teaching Competencies." The Balance Sheet, Vol. 63 (March, 1982), pp. 233-236, 278.

Molnar, A. "The Challenge of the 80's: Computer Literacy." Address presented at the microcomputer conference, Microcomputers in Education: Getting Started, Tempe, Arizona, January, 1981, p. 1.

Mott, Dennis L. and Zane K. Quible. "Integrating Information Processing Into Business Communications." Business Education Forum Yearbook Issue, Vol. 39, No. 8 (1985), p. 47.

Munter, Mary. "Using the Computer in Business Communication Courses." The Journal of Business Communication, Vol. 23, No. 1 (1986), pp. 31-42.

Naiman, Adeline. Microcomputers in Education: An Introduction. Cambridge, MA: Technical Education Research Centers, 1982, p. 2.

Naisbitt, John. Megatrends: Ten New Directions Transforming Our Lives. New York: Warner Books, 1984, p. 28. Reviewed by Daniel J. Burke (Adams State College Chapter), Dean, College of Education, University of Northern Colorado, Greeley, Phi Delta Kappan, January, 1984, p. 371.

Pibal, Darlene C. "Utilization of Microcomputers in Business Education and Implications for Business Education." NATE Review, No. 13, 1986-1987, pp. 20-23.

Schwartz, H. J. "Teaching Writing With Computer Aids." College English, Vol. 46, No. 3 (1984), pp. 239-247.

Sekuler, R. "From Quill to Computer." Psychology Today, Vol. 19, No. 2 (1985), pp. 37-42.

Toffler, Alvin. The Third Wave. New York, N.Y.: Bantam Books, 1981, p. 182.

APPENDIXES

APPENDIX A

DATA QUESTIONNAIRE

A QUESTIONNAIRE SURVEY OF MICROCOMPUTER INTEGRATION IN
COLLEGIATE WRITTEN BUSINESS COMMUNICATION COURSES

Instructions: A recent survey from the Association for Business
Communication identified you as a member and as a collegiate level
instructor. This questionnaire is designed to determine the current
status of microcomputer integration in the written business communica-
tion courses at the collegiate level. Please check each of the
following statements.

1. Gender

    __Male   __Female

2. Age

    __20-29 yrs.   __30-39 yrs.   __40-49 yrs.   __50 and above

3. What is your school's total enrollment?

    ___ 999 or under   __10,000-19,999
    __1,000-4,999   __20,000-29,999
    __5,999-9,999   __30,000 or more

4. What is your region? (Please check one)

    __ EASTERN (CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT)

    __ SOUTHERN (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)

    __ NORTH-CENTRAL (IA, IL, IN, MI, MN, MO, OH, WS)

    __ MOUNTAIN-PLAINS (CO, KS, ND, NE, NM, OK, SD, TX, WY)

    __ WESTERN (AZ, CA, HA, ID, MT, NV, OR, UT, WA)

5. What is your educational institution? (Please check two of the
    following)

    __Four-year college   __University   __Public   __Private

6. Do you teach on a full-time or part-time basis?

    __Full time   __Part time

7. In which department, college, or school is your business
    communication program located?

    __Department, College, or School of Business
    __Department, College, or School of Education
    __Other (Please specify where) _____

8. How long have you been teaching written business communication at the collegiate level?

   __Less than 1 yr.   __11-19 yrs.
   __1- 5 yrs.   __20 yrs. or more
   __6-10 yrs.

9. How many written business communication sections are taught at your institution during the school year? (Including the summer)

   __0-2 sections   __3-4 sections
   __5-6 sections   __7 or more sections

10. How many students are taking written business communication at your institution?

   __0-20 __21-30 __31-40 __41-50 __over 50

11. What system of credit hours does your institution use for business courses?

12. How many total credits does your institution award for the written business communication course?

13. Which semester is written business communication taught at your institution?

   __1st semester __2nd semester __summer

14. For each of the following content areas, please indicate a check mark (✓) in the appropriate column you believe have instructional potential for using microcomputers to assist your students in the written business communication course.

   __Word Processing/Text Editing
   __Basic Communication Skills
   __Letter/Memorandum Writing Skills
   __Report Writing Skills
   __Others (Please specify) _____

15. For each of the following barriers, please indicate a check mark (✓) in the appropriate column which you see in implementing microcomputer instruction in the written business communication course.

   __Insufficient Microcomputer Software
   __Lack of Microcomputer Equipment
   __Insufficient Facilities for Teaching
   __Insufficient Faculty Skills in Using Microcomputers
   __Insufficient Faculty Knowledge About Microcomputers
   __Negative Attitude of Faculty

16. Do you use microcomputers in connection with your written business communication classes?

___Yes   ___No

If Yes, go to Question 17.

17. For Items A-F, please indicate the number of microcomputers of each brand which is available to your department.

Brand	None	1-5	6-10	11-20	Over 20
A. Commodore (All Models)	___	___	___	___	___
B. IBM PC (Compatible)	___	___	___	___	___
C. Macintosh	___	___	___	___	___
D. Apple II (All Models)	___	___	___	___	___
E. TRS 80 (All Models)	___	___	___	___	___
F. Other _____	___	___	___	___	___

18. Would you like a copy of the results of this study?

___Yes   ___No

Name and Address (If a copy of the results is desired)

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR TIME AND INPUT

APPENDIX B

LETTERS TO SELECTED ASSOCIATION FOR

BUSINESS COMMUNICATION MEMBERS

OSU

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

STILLWATER, OKLAHOMA 74078-0555
BUSINESS 201
405-624-5064

As a member of the Association for Business Communication, you have
been randomly selected to participate in a study designed to identify
the current status of microcomputer integration in the collegiate
written business communication class.

Your help is needed in the undertaking of a doctoral research study
being conducted in the Department of Administrative Services and
Business Education at Oklahoma State University.

Please assist us in this research by responding to the enclosed
questionnaire which is designed to take approximately 15 minutes to
complete. Questionnaires are numbered to facilitate a follow-up
should one be necessary. A postage-paid envelope is enclosed for
your convenience in returning the completed questionnaire.

We will appreciate your returning the questionnaire by April 24.

Sincerely yours,

Christine M. Irvine
Researcher

Dennis L. Mott, Dissertation Adviser
Professor and Department Head
Administrative Services &
   Business Education

Enclosures: Questionnaire
             Postage-paid envelope

**CENTENNIAL
DECADE**
1980 • 1990

OSU

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

Approximately April 15, 1987, you should have received a letter and questionnaire seeking information on the current status of micro-computer integration in the written business communication courses at your institution.

If you have completed and returned the questionnaire, please accept our sincere thanks. If not, we would appreciate your completing and returning the questionnaire enclosed with this letter.

The initial response to our questionnaire was excellent, but your input is extremely important to this study.
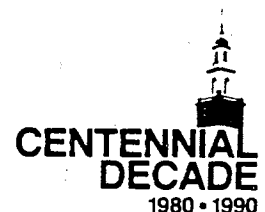
We realize that this is a busy time of the year, but we would appreciate your taking the time to complete and return the completed questionnaire in the attached postage-paid envelope by May 25, 1987.

Sincerely,

Christine M. Irvine
Researcher

Dennis L. Mott, Dissertation Adviser
Professor and Department Head
Administrative Services & Business
   Education

Enclosures

**CENTENNIAL
DECADE**
1980 • 1990

VITA

Christine Monica Irvine

Candidate for the Degree of

Doctor of Education

Thesis: INTEGRATION OF MICROCOMPUTERS IN COLLEGIATE WRITTEN BUSINESS
          COMMUNICATION COURSES

Major Field: Business Education (Communication)

Biographical:

　　Personal Data: Born in Lynchburg, Virginia.   The daughter of
　　　　Mr. Columbus C. Irvine and the late Mrs. Willie W. Irvine.

　　Education: Received diploma from Campbell High School; received
　　　　Associate of Arts degree from Smith-Madden Business College;
　　　　received Bachelor of Science degree from Virginia State
　　　　University; received Master of Arts degree from University of
　　　　Northern Iowa; completed requirements for Doctor of Education
　　　　degree from Oklahoma State University, May, 1988.

　　Professional Experience: Graduate Assistant, Department of
　　　　Administrative Services and Business Education, University
　　　　of Northern Iowa; Teacher Educator, Central Virginia Commu-
　　　　nity College; Teacher Educator, Virginia State University,
　　　　(1984--sabbatical leave); Graduate Teaching Associate,
　　　　Oklahoma State University, 1984-1987; Teacher Educator,
　　　　Virginia State University, 1987.

　　Professional Organizations: Delta Pi Epsilon, Phi Delta Kappa,
　　　　Golden Key Honor Society; The Association for Business
　　　　Communication.