AN ANALYSIS OF ATTITUDES OF HIGH SCHOOL STUDENTS AND EDUCATIONAL PROFESSIONALS TOWARD KEYBOARDING SKILLS AND APPLICATIONS

MASTER'S PROJECT

Submitted to the School of Education
University of Dayton, in Partial Fulfillment of the Requirements for the Degree
Master of Science in Education

by

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CHAPTER I
INTRODUCTION

Purpose of the Study

Rapid changes have taken place in lifestyles, attitudes, education, technology, and business. "Over the centuries methods of processing data have changed from pictures on walls of caves by cavemen to the very sophisticated computer systems of the present day." (Headley, 1983, p. 18). The increased use of computers in the home, the school, and the workplace have made keyboarding skills necessary for all people.

Computers are used at home to calculate the budget, taxes, checkbook, and keep accurate records of home inventory for insurance purposes. Keyboarding skills are used when entering all the mentioned data. At school, keyboarding is used to format reports and projects for business, English, social studies, languages, computer, and science classes. At the workplace, currently available hardware and software enable business professionals to perform functions related to budgeting, forecasting, inventory, financial planning, statistical analysis, scheduling, document preparation, and many other functions important in the business world (Wentling, 1992). All the mentioned functions are entered by keyboarding skills on computers.

With computers on virtually every desktop, keyboarding skills are becoming a primary means of basic communication (Ober, 1993). Despite this growing recognition of the value of keyboarding skills, we know very little about the attitudes of keyboarding skills from high school students and educational professionals. There has been limited investigation of the subject--keyboarding
skills. This study is an effort to fill that gap by examining the attitudes of high school students and educational professionals toward keyboarding skills and applications.

With all the technological changes being made from day to day keyboarding skills will continue to be an important part of the modern world. Not all students and educational professionals agree that keyboarding is an important course in today's educational curriculum. This study will try to support the belief that keyboarding is a necessary and critical skill in today's society.

Statement of the Problem

The purpose of this study was to analyze the attitudes of high school students and educational professionals toward keyboarding skills and applications.

Assumptions

The author assumed the high school students and educational professionals involved in the study answered the survey honestly and thoughtfully. The author, also, assumed the survey results measured the general attitudes of other high school students and teachers in a similar environment.

Limitations

One limitation of the study was the sample size of the high school students and educational professionals. Another limitation was that all the high school students and educational professionals were from the same geographical area. A third limitation was that the terminology "keyboarding" may have been interpreted differently by the high school students and educational professionals surveyed. A final limitation of the study was the limited amount of literature on this topic.
Definitions of Terms

**Keyboarding skills** are skills needed to place information into the computer or typewriter/word processor involving the placement of fingers on designated keys on middle “home” row of the keyboard.

**Keyboarding applications** refers to keyboarding skills that will be applied to daily life and careers.

**Language skills** refers to the proper use of grammar, punctuation, and proofreading skills used in keyboarding.

**Attitude** refers to the participant’s positive or negative reactions to the topic area.

**Likert-type survey** refers to a simple and widely used survey to measure attitudes.

**High school students** are students in grades ten through twelve.

**Educational professionals** are teachers who have at least a bachelors degree in education.
CHAPTER II

REVIEW OF RELATED LITERATURE

Data Supporting the Need for Keyboarding Skills

The dramatic increase in the use of computers affects our personal and professional lives. This data supports the need for keyboarding skills. The keyboard is and will continue to be the most widely used input device in the communicating with computers. Keyboarding should be required of all students. With the rapid use of computers schools should require that all students develop keyboarding skills. It is critical that keyboarding instruction be provided over a wide range of grade levels. Keyboarding skills will allow students to interface more efficiently with the microcomputer in education, personal, and future employments settings (Policies Commission for Business and Economic Education, 1984).

As computers are used more widely in business, many business professionals are finding that they must develop basic keyboarding skills so they can use computers efficiently (Wentling, 1992). Spreadsheets and data bases have already improved the decision making and budgeting process for business. Touch-keyboarding skills will further speed the results. Speed will improve with keyboarding over the hunt-and-peck method and will allow data to be entered on the monitor faster.

A study in 1985 indicated that there is a difference between the mean production rate of hunt-and-peck typists and touch typists. Touch typists have a better production rate. Individual skills require less time on computers and more efficient use of time. Individuals who have had
adequate keyboarding skills use their time at the computer efficiently because they can concentrate on problem solving or composing rather than on the mechanics of typing. If frequent and repeated use of the keyboard is required to achieve goals, business professionals must be proficient at the keyboard. Keyboarding should support, not hinder, achievement of problem solving and composing (Wentling, 1992).

Keyboarding is the most popular form of data input and will continue to be the best input devise for many years to come. One can find computers in department stores, travel agencies, grocery stores, repair shops and many other areas in the world. Computer users with keyboarding skills are more efficient (University of Nebraska, 1983).

Schools need to include instruction in keyboarding skills in required courses if business administration graduates are to use microcomputers productively. Microcomputers are tools to solve problems and to help make decisions. Graduates should be able to communicate effectively on a microcomputer by using the English language correctly, using computers as a tool to solve problems, and make decisions. They should be able to use the keyboard with speed and accuracy. All these skills are needed by College of Business Administration graduates. There should be instruction provided in keyboarding skills and applications (Anderson, 1992).

The greatest impact of computers has been on business. The areas of research and development, engineering, manufacturing, distribution, communication, recording and reporting have had significant changes from manual to automated systems. Computer technology increased in the 1980's. Automation forced people to interact with
computers and each person has had to develop their own method for learning to keyboard. With technological development, everyone can expect to use a keyboard during some time of their lifetime (Artwohl, 1989).

There is a continuing debate regarding the importance of keyboarding skills for computer users. There are those who believe that keyboarding is a basic skill necessary for using the computer. It is beneficial to save time, reduce errors, and improve quality of work (Artwohl, 1989).

Keyboarding is not only a major means of written communication in business today, it has become essential to one's personal life. No longer is it a skill needed only by secretaries. Many professionals find it enhancing to productivity. Those who have learned the skill have an important advantage over those who have not learned to keyboard. They are considered more valuable to a business organization. Homemakers and students find a need for the skill, also. The increasing use of electronic communication in business and in homes continues to make keyboarding a necessity (Parker, 1992).

In the future keyboarding proficiency will be necessary within almost any occupational area. Present and future uses of keyboarding will allow students to be ready to enter the work force (Headley, 1983). Business, industry, and health areas will have a need for employees to have a general keyboarding skill.

Teaching and Learning of Keyboarding Skills

There seems to be a continuing debate regarding the importance of
keyboarding skills necessary for computer use. Some individuals believe that keyboarding is a basic necessary skill. Yet there are others who want to preserve the hunt-and-peck method of keyboarding use. Keyboarding is not an easy skill to learn. Extensive use of the computer without this training develops bad habits which may become difficult or even impossible to break for those receiving keyboarding instruction at a later time. People who use the hunt-and-peck method develop high levels of frustration by not being able to produce information quickly. This becomes time-consuming and costly. This fosters feelings of anxiety and resistance to technology in general (Artwohl, 1989).

Learning touch keyboarding on a computer terminal can be fun as well as productive for both student and teacher. Experience with computers can prepare students for the electronic office of the future. Students improve their technique, accuracy, and speed in keyboarding programs. How students perform are important factors in a keyboarding program (Sunkel & Cooper, 1982).

Touch-keyboarding skills benefit individuals. They will have adequate keyboarding skills and can make more efficient use of their time. One can concentrate on problem solving or composing, rather than on the mechanics of keyboarding. Business professionals cannot afford to waste time with inefficient keyboarding operations (Wentling, 1992).

The technology progress has had a great impact on the lives of all people, especially office workers who handle the information flow. Keyboarding skills are being taught on typewriter, word processor, and computer. Davidson conducted a study and found students on
microcomputers exhibited superior performance on letters in terms of completed time. The study did not present a definite answer to whether teachers should change their expectations for those keying on microcomputers (Davidson, 1990).

Keyboarding skills are becoming a primary means of basic communication. Keyboarding courses seem assured a healthy future at elementary, secondary, and post secondary levels. Students must know how to read fairly fluently before beginning to keyboard and be physically mature enough to make reaches easily. Schools must have sufficient equipment, software, and print materials for learning at the particular age level. Adequate time must be devoted to the course and frequent access to computers after instruction must be available to enable students to retain and apply their keyboarding skills (Ober, 1993).

While learning a keyboarding skill, a student should acquire both speed and accuracy. Both of these are encouraged to use the skill efficiently. Employment for office workers requires testing involving speed and accuracy at the keyboard. Straight-copy keyboarding is also becoming important in the automated office and accuracy is a must (Ober, 1993).

Good technique involves touch control of the keyboard without the need of visual guidance or looking. The ability to compose at the keyboard saves time. Individuals who learn good technique will be able to compose at the computer and have a high productivity rate (Parker, 1992).

Proofreading is a part of keyboarding applications. After documents are processed, they must have proofings. Critical work should be
proofread by more than one person. New hardware and software have made it possible to check spelling errors, but they cannot detect all errors. If words are left out in documents or numbers are incorrect, all the new technology software cannot check these types of errors (Kupsh and Rhodes-Hanna, 1983).

Grammar and punctuation are included in keyboarding applications. Both are important in composition applications at the keyboard. There is a continuing need to teach the two basic skills and they should not be overlooked (Parker, 1992).

Effects of Keyboarding on Attitudes

Research on the relationship between keyboarding skills and computer anxiety is scarce. Literature reviewed indicates that keyboarding is a basic skill for the efficient use of computers. Attitudes of keyboarding are changing because of the increased use of computers in everyday life. There is a growing recognition of the value of keyboarding. When one is familiar with keyboarding, one seeks to stimulate interest and can concentrate on the task to be accomplished (Artwohl, 1989).

Literature on keyboarding skills and attitudes is limited. Individuals with both keyboarding and word processing ability were more likely to understand computer use and its application than those with no experience (Artwohl, 1989). Others without experience foster feelings of anxiety and resistance to learn how to use computers. Resistance is closely related to fear of anything new.

Attitudes toward keyboarding skills are changing. Where, when, and how should keyboarding be taught? Who should be responsible for
teaching keyboarding? Introduction of the computer into the elementary classroom means each student will have to develop his own system, if curriculum does not teach it. The goals and objectives will not be the same at this level. The primary goal should be to develop computer keyboarding through touch type. Business education teachers are best equipped to do this job. Instruction should still be offered at the junior and high school level. Keyboarding can be considered as a communication skill and it can be used daily by students as they move through the education system (Headley, 1983).

Business education should become involved in developing keyboarding courses. A willingness to work with elementary teachers in developing a course is critical (Rigby, 1983). If students are not exposed at the elementary level or junior high level, the need for basic keyboarding skills will increase enrollments at the secondary level.

As computers are used more widely in business and industry, people learn quickly that to use computers efficiently they need basic keyboarding skills. Teachers and students may not agree when keyboarding skills should be taught. High school business teachers must modify their teaching strategies to accommodate the levels of the students that will be entering their classes. The need for keyboarding will continue and exposure at the secondary level will be necessary (Rigby, 1983).

Moving from the industrial age to an information society has caused people to make changes and become familiar with the keyboard. People believe that keyboarding is a necessary skill. Failure to acquire basic skills necessary to function in a computerized society will act as a disadvantage.
Keyboarding skills have an important influence on the rate of performance which affect individuals (Artwohl, 1989).

Effects of Keyboarding Skills on Daily Life and Careers

In today’s fast-paced world more people work with keyboards, and the knowledge of basic keyboarding skills become advantageous. Keyboarding skills may hasten the process of achieving career goals and open the door to jobs that may have otherwise been closed. Today, not only secretaries need to have keyboarding skills. To enter the job market, it is to the applicant’s benefit to have basic keyboarding skills. For example, a recent college graduate was interviewing for a job as a mortgage loan officer. The job required processing loans, and the bank is entirely computerized. Each employee had a terminal, which generated all the paper work. A requirement for the job was a basic knowledge of keyboarding. If the graduate did not have basic keyboarding skills required for the job, he or she missed a significant opportunity (Buckner, 1988).

Many commercial banks that have invested in computer technology found that the bank’s overall productivity has been limited. Crocker Bank (San Francisco, California) found that their people had not been trained to operate the equipment and the data system. A 1981 survey by Crocker found that too many employees lacked proficiency in basic keyboarding skills. Crocker set up a 36-hour training program to teach fundamentals of keyboarding to employees and limit their bad habits. After the training program, there was an average of 40% increase in the employee’s productivity. This lead to a savings of nearly $1 million annually in reduced
overhead (Crocker, 1983).

Many accountants have discovered a need for basic keyboarding skills since the keyboard is the most widely used input device in communicating with computers. A group of accounting graduates of Illinois State University were surveyed about the importance of keyboarding skills. Some thirty-two of one hundred fifty-five responses indicated they did not have keyboarding skills. Keyboarding was not required in their program of study and they were not given the opportunity. Touch-keyboarding has enhanced productivity. Companies have to try to provide keyboard training for their employees if needed (Wentling, 1990).

Corporations are recognizing that keyboarding is an important skill for managers. Keyboarding was associated with secretaries and it is changing to a positive influence on high productivity for computer users at all levels (Prychidny, 1988). At Apple Canada there are no secretaries and all managers do their own keyboarding as word processing, spreadsheets, and electronic mail. Apple developed a computer-based keyboarding program that can be used at work or at home. Users can progress at their own rate (Prychidny, 1988).

Companies are willing to provide assistance to employees when keyboarding skills are lacking because they are important to their productivity. General Telephone Company of Florida (Tampa) provided their customer contact personnel with training they needed to keyboard more efficiently. A computer-instruction typing tutor program was used. The instructor, also, provided constant monitoring and assistance while working on the program. (Matthews, 1984). Keyboarding skills are
valuable to employers or they would not invest in the training programs.

Combining the teaching of keyboarding and word processing has offered both opportunities and challenges. Keyboarding can promote word processing skills which are needed for college-bound students and vocational students. Graduates are extremely likely to use computers in the office, also. Desktop publishing has changed the way documents are formatted. Many jobs required the knowledge of word processing in some form, without keyboarding skills an individual will not be prepared for the workplace (Van Huss, 1991).

Students who were proficient with keyboarding skills were efficient at word processing when applying the skill to written composition. The absence or presence of effective keyboarding skills will be an important factor affecting the use of word processing for a learner in a writing lab. English, journalism, social studies, science, and business projects are composed at the computer in writing labs. Word processing aids the writing process and helps with the development of writing skills. Keyboarding skills will be used in the daily lives of students in all areas and their future careers (Dalton, Hannafin, 1987).

Keyboarding skills are used when E-mailing at home or at the workplace. E-mail is exploding. Its growth is faster than any other communication technology. Using today's systems require typing ability, a skill many senior-level executives lack (Flatley, 1992).

Computers have been so well-integrated into daily life that they are often completely invisible. Computers are used in banking, business, transportation, manufacturing, design, retailing, health, medicine, research,
government, legal fields, and education. Keyboarding skills are used in all these areas. No matter what career you choose, no matter where you live, your future will involve computers and computing. An important place in that future belongs to people who can operate computers and interpret computer-generated information. Keyboarding is a positive skill that will be necessary today and tomorrow (Sumner, 1988).

In considering the present applications of keyboarding skills, one cannot help but remember when typewriting was a skill required only by secretaries. Gone are the days when a typewriting course was designed primarily to prepare women for secretarial jobs. "Today's keyboarding course must prepare men and women for their careers." (Goodrich, 1979) The growing use of keyboards in business, industry, government, and education has made them the tools for many future careers. The importance of keyboarding has been established as a fact—a fact of our everyday life and a fact of our students' lives for today and for tomorrow (Goodrich, 1979).
CHAPTER III
PROCEDURE

Subjects

The subjects chosen for this study were high school students and educational professionals from three Warren County Ohio schools. The high school students and educational professionals were randomly selected.

The high school students and educational professionals were from three different schools. These schools were called School A, School B, and School C. The high school students were from grades ten through twelve.

Setting

Schools. (School A) The first high school for this study is located in southwestern Ohio. It is the only high school in the community. The high school has an enrollment of seven hundred fifty (750) students in grades nine through twelve.

(School B) The second high school for this study is located in southwestern Ohio. It is the only high school in the community. The high school has an enrollment of nine hundred sixty (960) students in grades nine through twelve.

(School C) The third high school for this study is located in southwestern Ohio. It is the only high school in the community. The high school has an enrollment of five hundred thirty (530) students in grades nine through twelve.

Communities. (School A) The suburban community of the chosen high school is a residential community in southwestern Ohio. It has a population of nine thousand four hundred (9,400) people. The community encompasses 9.2
The suburban community of the chosen high school is a residential and industrial community in southwestern Ohio. It has a population of thirteen thousand two hundred forty (13,240) people. The community encompasses fifteen square miles.

(School C) The chosen high school is a rural community in southwestern Ohio. It has a population of five thousand (5,000) people. The community encompasses six square miles.

Data Collection

Construction of the Data Collecting Instrument. The instrument was constructed by the author using information gathered from the review of the literature which established content validity. The measurement instrument used in this study was a Likert-type survey composed with open-ended questions. (See Appendix A) The format of the survey used five ratings: strongly, agree, agree, undecided, disagree and strongly disagree. The survey was reviewed by colleagues.

Administration of the Data Collecting Instrument. The survey was hand carried to Schools A, B, and C by the author. The survey was administered to high school students grades ten through twelve by teachers from Schools A, B, and C. The author instructed one teacher from each school to randomly distribute the surveys to 50 sophomores, 50 juniors, and 50 seniors. One teacher from Schools A, B, and C distributed 25 surveys randomly to their colleagues. There were a total of 450 students surveyed and 331 responded. A total of 75 teachers were surveyed and 58 responded.
CHAPTER IV

FINDINGS

Presentation of Results

Table I shows the attitudes of high school students toward keyboarding skills and applications from School A. Table II shows the attitudes of high school students toward keyboarding skills and applications from School B. Table III shows the attitudes of high school students toward keyboarding skills and applications from School C. Table IV shows the educational professionals (teacher) attitudes toward keyboarding skills and applications from Schools A, B, and C.

Table V shows the combined attitudes of all high school students toward keyboarding skills and applications from Schools A, B, and C. Table VI shows the combined attitudes of educational professionals (teachers) toward keyboarding skills and applications from Schools A, B, and C.

Explanations of abbreviations on tables:

SA = Strongly Agree,  A = Agree,  U = Undecided,  D = Disagree,
SD = Strongly Disagree
### TABLE 1
**SCHOOL A**
**ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD KEYBOARDING SKILLS AND APPLICATIONS EXPRESSED AS PERCENTS**

<table>
<thead>
<tr>
<th>Question</th>
<th>Sophomores</th>
<th>Juniors</th>
<th>Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA A U D SD</td>
<td>SA A U D SD</td>
<td>SA A U D SD</td>
</tr>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>32 66 0 0 2</td>
<td>30 45 25 0 0</td>
<td>39 50 11 0 0</td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>36 44 18 2 0</td>
<td>25 60 15 0 0</td>
<td>32 64 4 0 0</td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>18 62 18 0 2</td>
<td>10 55 30 5 0</td>
<td>25 57 18 0 0</td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>22 58 18 0 2</td>
<td>35 35 30 0 0</td>
<td>32 64 4 0 0</td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>26 54 16 2 2</td>
<td>40 35 15 10 0</td>
<td>39 50 11 0 0</td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding course.</td>
<td>32 42 22 4 0</td>
<td>55 30 10 5 0</td>
<td>46 43 7 4 0</td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>2 24 38 26 10</td>
<td>10 20 25 25 20</td>
<td>7 32 32 29 0</td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>2 36 48 10 4</td>
<td>45 15 40 0 0</td>
<td>43 29 14 14 0</td>
</tr>
<tr>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>40 30 28 2 0</td>
<td>45 30 25 0 0</td>
<td>39 36 18 7 0</td>
</tr>
<tr>
<td>10. A knowledge of keyboarding skills is useful in other classes.</td>
<td>26 64 6 2 2</td>
<td>40 40 15 5 0</td>
<td>50 36 7 7 0</td>
</tr>
<tr>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>44 44 12 0 0</td>
<td>35 40 20 5 0</td>
<td>57 43 0 0 0</td>
</tr>
<tr>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>38 48 12 2 0</td>
<td>35 40 20 5 0</td>
<td>57 32 7 4 0</td>
</tr>
<tr>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>12 32 40 12 4</td>
<td>10 30 35 25 0</td>
<td>14 36 36 14 0</td>
</tr>
<tr>
<td>Question</td>
<td>Sophomores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>SA A U D SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td>18 64 12 2 4</td>
<td>35 35 30 0 0</td>
<td>21 50 29 0 0</td>
</tr>
<tr>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td>62 34 4 0 0</td>
<td>50 35 15 0 0</td>
<td>64 29 7 0 0</td>
</tr>
<tr>
<td>16. Knowledge of keyboarding skills decrease computer anxiety.</td>
<td>16 44 32 4 4</td>
<td>25 35 40 0 0</td>
<td>50 21 29 0 0</td>
</tr>
</tbody>
</table>
### TABLE II
SCHOOL B
ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD KEYBOARDING SKILLS AND APPLICATIONS EXPRESSED AS PERCENTS

<table>
<thead>
<tr>
<th>Question</th>
<th>Sophomores</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Juniors</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Seniors</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>55</td>
<td>36</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>82</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>55</td>
<td>41</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>93</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>73</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>57</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>55</td>
<td>45</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>75</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>36</td>
<td>55</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>68</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>86</td>
<td>11</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding course.</td>
<td>68</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>60</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>89</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>9</td>
<td>14</td>
<td>4</td>
<td>18</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>20</td>
<td>65</td>
<td>7</td>
<td>4</td>
<td>25</td>
<td>7</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>4</td>
<td>18</td>
<td>55</td>
<td>9</td>
<td>14</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>25</td>
<td>14</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>59</td>
<td>23</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>88</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>64</td>
<td>25</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10. A knowledge of keyboarding skill is useful in other classes.</td>
<td>23</td>
<td>77</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>57</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>32</td>
<td>64</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>15</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>46</td>
<td>43</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>60</td>
<td>36</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>90</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>71</td>
<td>18</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>9</td>
<td>39</td>
<td>50</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>90</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>43</td>
<td>7</td>
<td>7</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

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### Table II

**School B**

**Attitudes of High School Students Toward Keyboarding Skills and Applications Expressed as Percents**

<table>
<thead>
<tr>
<th>Question</th>
<th>Sophomores</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Juniors</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Seniors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td>32</td>
<td>64</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>85</td>
<td>10</td>
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<td>0</td>
<td>25</td>
<td>64</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td>32</td>
<td>36</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>85</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>86</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16. Knowledge of keyboarding skills decrease computer anxiety.</td>
<td>23</td>
<td>50</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>80</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>32</td>
<td>29</td>
<td>18</td>
<td>21</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE III

**SCHOOL C**

**ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD KEYBOARDING SKILLS AND APPLICATIONS EXPRESSED AS PERCENTS**

<table>
<thead>
<tr>
<th>Question</th>
<th>Sophomores</th>
<th>Juniors</th>
<th>Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA A U D SD</td>
<td>SA A U D SD</td>
<td>SA A U D SD</td>
</tr>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>30 54 12 4 0</td>
<td>55 45 0 0 0</td>
<td>65 32 3 0 0</td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>20 42 22 14 2</td>
<td>35 45 15 5 0</td>
<td>48 42 10 0 0</td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>30 50 16 4 0</td>
<td>40 45 15 0 0</td>
<td>29 48 23 0 0</td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>40 44 14 2 0</td>
<td>45 40 15 0 0</td>
<td>32 55 10 3 0</td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>54 34 4 4 4</td>
<td>70 25 5 0 0</td>
<td>61 29 10 0 0</td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding course.</td>
<td>38 30 16 14 2</td>
<td>65 20 10 5 0</td>
<td>58 23 19 0 0</td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>8 4 20 26 42</td>
<td>5 10 15 35 35</td>
<td>19 3 32 23 23</td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>20 26 36 6 12</td>
<td>50 25 15 0 10</td>
<td>32 39 23 3 3</td>
</tr>
<tr>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>52 30 12 4 2</td>
<td>60 25 15 0 0</td>
<td>58 29 13 0 0</td>
</tr>
<tr>
<td>10. A knowledge of keyboarding skills is useful in other classes.</td>
<td>24 38 32 6 0</td>
<td>40 35 5 5 15</td>
<td>32 55 13 0 0</td>
</tr>
<tr>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>50 32 14 2 2</td>
<td>70 30 0 0 0</td>
<td>45 52 3 0 0</td>
</tr>
<tr>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>50 42 4 0 4</td>
<td>70 30 0 0 0</td>
<td>61 29 10 0 0</td>
</tr>
<tr>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>24 34 28 10 4</td>
<td>20 30 15 30 5</td>
<td>13 29 35 13 10</td>
</tr>
</tbody>
</table>

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**TABLE III**

SCHOOL C

ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD KEYBOARDING SKILLS AND APPLICATIONS EXPRESSED AS PERCENTS

<table>
<thead>
<tr>
<th>Question</th>
<th>Sophomores</th>
<th>Juniors</th>
<th>Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
<td>A</td>
<td>U</td>
</tr>
<tr>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td>34</td>
<td>52</td>
<td>14</td>
</tr>
<tr>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td>56</td>
<td>28</td>
<td>16</td>
</tr>
<tr>
<td>16. Knowledge of keyboarding skills decrease computer anxiety.</td>
<td>38</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Question</td>
<td>Teachers from School A</td>
<td>Teachers from School B</td>
<td>Teachers from School C</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>75 20 0 5 0</td>
<td>94 6 0 0 0</td>
<td>81 19 0 0 0</td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>75 25 5 0 0</td>
<td>94 6 0 0 0</td>
<td>57 19 10 14 0</td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>60 25 15 0 0</td>
<td>88 6 6 0 0</td>
<td>71 24 5 0 0</td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>70 20 5 5 0</td>
<td>88 6 6 0 0</td>
<td>62 33 5 0 0</td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>75 15 10 0 0</td>
<td>88 6 6 0 0</td>
<td>86 14 0 0 0</td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding course.</td>
<td>60 30 10 0 0</td>
<td>100 0 0 0 0</td>
<td>71 24 0 5 0</td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>15 15 25 25 20</td>
<td>12 6 82 0 0</td>
<td>0 10 48 29 14</td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>25 20 50 0 5</td>
<td>0 6 94 0 0</td>
<td>29 33 33 5 0</td>
</tr>
<tr>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>35 35 30 0 0</td>
<td>82 0 18 0 0</td>
<td>57 24 19 0 0</td>
</tr>
<tr>
<td>10. A knowledge of keyboarding skills is useful in other classes.</td>
<td>50 40 0 10 0</td>
<td>76 24 0 0 0</td>
<td>76 24 0 0 0</td>
</tr>
<tr>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>70 20 10 0 0</td>
<td>58 18 24 0 0</td>
<td>57 38 5 0 0</td>
</tr>
<tr>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>60 30 10 0 0</td>
<td>24 29 47 0 0</td>
<td>67 33 0 0 0</td>
</tr>
<tr>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>20 35 25 15 5</td>
<td>0 29 53 18 0</td>
<td>42 29 14 5 10</td>
</tr>
<tr>
<td>Question</td>
<td>Teachers from School A</td>
<td>Teachers from School B</td>
<td>Teachers from School C</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 50 5 10 5</td>
<td>29 65 6 0 0</td>
<td>48 38 14 0 0</td>
</tr>
<tr>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 30 5 0 5</td>
<td>24 58 18 0 0</td>
<td>76 24 0 0 0</td>
</tr>
<tr>
<td></td>
<td>35 35 10 10 10</td>
<td>18 53 29 0 0</td>
<td>71 24 5 0 0</td>
</tr>
<tr>
<td>Question</td>
<td>Student Responses</td>
<td>Question</td>
<td>Student Responses</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>S A 49 A 43 U D 7 SD 1 0</td>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>S A 56 A 26 U D 16 SD 2 0</td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>S A 46 A 41 U D 10 SD 3 0</td>
<td>10. A knowledge of keyboarding skills is useful in other classes.</td>
<td>S A 29 A 56 U D 11 SD 3 1</td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>S A 31 A 53 U D 15 SD 1 0</td>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>S A 50 A 40 U D 9 SD 1 0</td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>S A 35 A 52 U D 12 SD 1 0</td>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>S A 46 A 43 U D 9 SD 1 1</td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>S A 50 A 40 U D 7 SD 2 1</td>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>S A 15 A 41 U D 29 SD 11 4</td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding</td>
<td>S A 51 A 34 U D 11 SD 4 0</td>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td>S A 26 A 59 U D 14 SD 0 1</td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>S A 7 A 12 A 23 U D 23 SD 35</td>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td>S A 54 A 36 U D 9 SD 0 1</td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>S A 24 A 34 A 31 U D 7 SD 5</td>
<td>16. Knowledge of keyboarding skills decrease computer anxiety.</td>
<td>S A 26 A 41 U D 25 SD 6 2</td>
</tr>
</tbody>
</table>
### TABLE VI
ATTITUDES OF TEACHERS FROM SCHOOLS A, B, AND C TOWARD KEYBOARDING SKILLS AND APPLICATIONS EXPRESSED AS PERCENTS

<table>
<thead>
<tr>
<th>Question</th>
<th>Teacher Responses</th>
<th>Question</th>
<th>Teacher Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Keyboarding is an important skill for all students.</td>
<td>83 15 0 2 0</td>
<td>9. Keyboarding skills should be taught on a computer.</td>
<td>57 21 22 0 0</td>
</tr>
<tr>
<td>2. Keyboarding is beneficial to you at the present time.</td>
<td>73 17 5 5 0</td>
<td>10. A knowledge of keyboarding skills is useful in other classes.</td>
<td>67 30 0 3 0</td>
</tr>
<tr>
<td>3. Grammar is important in keyboarding applications.</td>
<td>73 17 10 0 0</td>
<td>11. Keyboarding skill is useful to an individual's career.</td>
<td>62 26 12 0 0</td>
</tr>
<tr>
<td>4. Punctuation is important in keyboarding applications.</td>
<td>73 20 5 2 0</td>
<td>12. A knowledge of keyboarding skills will be necessary for future careers.</td>
<td>53 30 17 0 0</td>
</tr>
<tr>
<td>5. Proofreading is important in keyboarding applications.</td>
<td>83 12 5 0 0</td>
<td>13. Students should be exposed to keyboarding at the elementary level.</td>
<td>22 31 30 12 5</td>
</tr>
<tr>
<td>6. Proper keyboarding technique should be stressed in a keyboarding</td>
<td>46 19 3 2 0</td>
<td>14. Students should be exposed to keyboarding at the junior high level.</td>
<td>34 51 9 4 2</td>
</tr>
<tr>
<td>7. Keyboarding skills should be taught on a typewriter.</td>
<td>9 10 50 19 12</td>
<td>15. Students should be exposed to keyboarding at the high school level.</td>
<td>55 36 7 0 2</td>
</tr>
<tr>
<td>8. Keyboarding skills should be taught on a word processor.</td>
<td>19 21 56 2 2</td>
<td>16. Knowledge of keyboarding skills decrease computer anxiety.</td>
<td>45 40 15 0 0</td>
</tr>
</tbody>
</table>
Discussion of Results

There were 50 sophomores, 40 juniors, and 28 seniors from School A who answered the survey on attitudes of keyboarding skills and application. From School B there were 44 sophomores, 40 juniors, and 28 seniors who answered the survey. From School C there were 50 sophomores, 20 juniors, and 31 seniors who answered the survey. A total of 331 students responded.

Teachers also responded from Schools A, B, and C. There were 20 teachers who answered the survey from School A, 17 teachers from School B, and 21 teachers from School C.

Prior to this study it was anticipated that there would be a definite geographical distinction in the results. This did not occur. The results were similar in all three schools and these results will be discussed in this section of the paper.

Discussion of Student Attitudes

High school students from Schools A, B, and C believed that keyboarding is an important skill for all students. Seniors from all schools strongly agreed or agreed from eighty-nine percent to ninety-seven percent agreement. One hundred percent of the juniors from Schools B and C strongly agreed or agreed and seventy-five percent of the juniors from School A strongly agreed or agreed. At least 84 percent of the sophomores from all schools strongly agreed or agreed. Generally the students surveyed agreed with the research. Sumner (1988) thought keyboarding was essential in everyday life.

A significant percentage of students considered keyboarding beneficial to them at the present time. In the research Sumner (1988) stated keyboarding was a positive skill for today. The highest percentage on the strongly agree and
agree selection were indicated by seniors. They responded ninety-six percent from School A, ninety-six percent from School B, and ninety percent from School C. Juniors indicated eighty-five percent from School A, one hundred percent from School B, and eighty percent from School C. Eighty percent of the sophomores from School A strongly agreed or agreed. Ninety-six percent sophomores from School B strongly agreed or agreed and sixty-two percent of the sophomores from School C. This could indicate that seniors have more typewritten projects required than the juniors or sophomores. These results could vary a little because Schools A, B, and C require typewritten projects at different high school levels depending on their classes and teachers.

Approximately ninety percent of the seniors, juniors, and sophomores from Schools A, B, and C strongly agreed or agreed that grammar, punctuation, and proofreading were important in keyboarding applications. Parker (1992) stated that punctuation and grammar should not be overlooked. Kupsh & Rhodes (1983) noted that proofreading is a part of keyboarding applications.

At least eighty-nine percent of seniors from all schools strongly agreed or agreed that proper technique should be stressed in a keyboarding course. Eighty-five percent or more of the juniors from all schools strongly agreed or agreed that proper technique should be stressed in a keyboarding course and seventy-four percent or more of the sophomores from all schools strongly agreed or agreed. Parker (1992) stressed that proper technique and teaching of keyboarding saves time.

Thirty-two percent of the seniors from School A and School C were undecided if keyboarding skills should be taught on a typewriter. Fifty-seven percent of the seniors from School B strongly disagreed. Students in School B
have used computers during high school years. This could have affected their selection. Twenty-five percent of the juniors were undecided from School A and at least thirty-five percent of juniors from Schools B and C strongly disagreed that keyboarding skills should be taught on a typewriter. Thirty-eight percent of the sophomores from School A were undecided and forty-two or more percent of the sophomores from Schools B and C strongly disagreed that keyboarding should be taught on a typewriter.

At least seventy-one percent of seniors strongly agreed or agreed that keyboarding should be taught on the word processor. Sixty percent or more juniors strongly agreed or agreed that keyboarding should be taught on the word processor. Thirty-six percent of sophomores from all schools were undecided.

As a whole, seniors believed keyboarding skill should be taught on a computer. Seventy-five percent of all seniors from Schools A, B, and C strongly agreed or agreed. Seventy-five percent of all juniors from Schools A, B, and C strongly agreed or agreed. While seventy percent or more sophomores also strongly agreed or agreed that keyboarding should be taught on a computer. This question showed a strong attitude toward keyboarding and computers. According to Sunkel & Cooper (1982) learning to keyboard on a computer makes the subject more enjoyable and ultimately more profitable.

Eighty percent of seniors and juniors from Schools A, B, and C strongly agreed or agreed that a knowledge of keyboarding skills is useful in other classes. Ninety percent of sophomores from School A and B strongly agreed or agreed while only sixty-two percent strongly agreed or agreed from School C. Sophomores in School C may not be required in some classes to type assignments or projects. Wentling (1992) felt that keyboarding skills are very
supportive to student's composition skills.

Seniors from Schools A, B, and C strongly agreed or agreed by at least eighty-nine percent that keyboarding is useful to an individual's career and will be necessary for future careers. Eight-six percent of sophomores from School A strongly agreed or agreed. At least ninety-two percent of the sophomores from Schools B and C strongly agreed or agreed keyboarding was important for careers. Overall, the majority of the students indicated that keyboarding was important for their future careers. Goodrich (1979) felt very strongly that keyboarding prepares people more effectively for their careers.

Only approximately forty percent of seniors, juniors, and sophomores from Schools A, B, and C strongly agreed or agreed that students should be exposed to keyboarding at the elementary level. Only juniors from School B strongly disagreed or disagreed. Overall the students were undecided about this topic. The results of this survey may have been undecided because some students have had no use of computers in elementary school. The usual results from School B may have been due to the early exposure to computers at an early age. Policies Commission for Business and Economic Education (1984) thought schools would benefit from keyboarding at all levels.

Seventy-one percent of the seniors from School A strongly agreed or agreed that students should be exposed to keyboarding at the junior high level. Eighty-nine percent of the seniors from School B strongly agreed or agreed that students should be exposed to keyboarding skills at the junior high level. Ninety-four percent of the seniors from School C strongly agreed or agreed students should be exposed to keyboarding skills at the junior high level. Ober (1993) believed it was important to expose students to keyboarding at all levels.
Seniors from all schools believed students should be exposed to keyboarding at the high school level. At least ninety-three percent of the seniors from all schools indicated strongly agreed or agreed. At least sixty percent strongly agreed or agreed as juniors from Schools A, B, and C. Ninety-six percent of the sophomores from School A believed students should be exposed to keyboarding at the high school level. Sixty-eight percent of the sophomores from School B strongly agreed or agreed and eighty-four percent of sophomores from School C strongly agreed or agreed with this content. Rigby (1983) believed that exposure to keyboarding at the high school level is critical.

Seniors, juniors, and sophomores from Schools A, B, and C felt that a knowledge of keyboarding skills decrease computer anxiety. At least sixty percent or more of all students strongly agreed or agreed. This percentage showed a consistent number believed that keyboarding knowledge reduced computer anxiety. According to Artwohl (1989) lack of keyboarding skills increases computer anxiety. Good keyboarding skills tend to reduce computer anxiety.

Discussion of Teacher Attitudes

The total number of educational professionals (teachers) surveyed from Schools A, B, and C was fifty-eight.

The results from this survey compared favorably with the author's personal experience concerning the attitudes toward keyboarding skills and applications. The educational professionals that were surveyed viewed keyboarding skills as a critical skill.

Educational professionals (teachers) from Schools A, B, and C thought keyboarding was an important skill for all students. One hundred percent of
teachers from Schools B and C strongly agreed or agreed. Ninety-eight percent of teachers from School A strongly agreed or agreed. Sumner (1988) stated that keyboarding was a positive skill for all people.

Most of the teachers responded that keyboarding was beneficial to them at the present time. One hundred percent of the teachers from Schools A and B strongly agreed or agreed. Seventy percent of teachers from School C strongly agreed or agreed. Sumner (1988) believed that keyboarding skills are necessary now and the future.

Grammar, punctuation, and proofreading was important to keyboarding applications. Eighty-five percent of the teachers from Schools A, B, and C strongly agreed or agreed. Parker (1992) believed that punctuation and grammar should not be overlooked. Kupsh & Rhodes (1983) stated that proofreading is a part of keyboarding applications.

Ninety percent or more of the teachers from all schools strongly agreed or agreed that proper technique should be stressed in a keyboarding course. Parker (1992) stressed proper technique be used.

Teachers from Schools A, B, and C were undecided about keyboarding skills being taught on a typewriter. Teachers were also undecided about keyboarding being taught on a word processor. Fifty percent of the teachers from School A were undecided. Ninety-four percent of the teachers from School B were undecided and thirty-three percent of teachers from School C were undecided.

The teachers did believe keyboarding skills should be taught on a computer. Seventy percent of the teachers from School A strongly agreed or agreed. Eighty-two percent of the teachers from School B strongly agreed or
agreed and eighty-one percent of the teachers from School C strongly agreed or agreed. These results paralleled those of the high school students. Sunkel & Cooper (1982) thought learning on a computer was fun and profitable.

Ninety percent or more of the teachers from Schools A, B, and C indicated a knowledge of keyboarding skills was useful in other classes. Composition was required in classes. Keyboarding skills help with composition skills at the computer. Wentling (1992) believed that keyboarding skills were supportive to composition skills.

Ninety percent of the teachers from Schools A and C strongly agreed or agreed that keyboarding skills were useful to an individual's career and was necessary for future careers. Seventy-six percent of the teachers from School B indicated strongly agreed or agree that keyboarding skills were useful to an individual's career. Fifty-three percent of the teachers from School B strongly agreed or agreed that keyboarding skills were necessary for future careers. Goodrich (1979) stated that keyboarding prepares people for their careers.

Teachers had different views about the topic of keyboarding being taught at the elementary level. Fifty-five percent of the teachers from School A strongly agreed or agreed. Only twenty-nine percent of the teachers from School B strongly agreed or agreed, while seventy-one of the teachers from School C strongly agreed or agreed that keyboarding was important at the elementary level.

Eighty percent of the teachers from Schools A, B, and C strongly agreed or agreed that students should be exposed to keyboarding skills at the junior high level. Eighty-two percent or more of the teachers strongly agreed or agreed that students should be taught at the high school level. Teachers from all schools
believe that students should be exposed to keyboarding at all grade levels especially at the junior high and high school levels. Ober (1993) stressed it was important to expose students to keyboarding at all levels.

Seventy percent of all teachers from Schools A, B, and C strongly agreed or agreed that a knowledge of keyboarding skills decreases computer anxiety. Artwohl (1989) stated that good keyboarding skills tend to reduce computer anxiety.

Discussion of Attitudes of Students and Teachers

The following analysis with regards to Tables V and VI on pp. 27-28 used combined attitudes from high school students and educational professionals (teachers) from all Schools A, B, and C.

The author would like to make some comparisons about the combined high school student responses versus the teacher responses from Schools A, B, and C.

In question one through five the teachers responded with a strongly agreed much more frequently than did the high school students. However, overall all the students generally responded positively with the same frequency as did the teachers.

In questions six through nine the responses of the students closely paralleled the responses of the teachers. On question ten through fourteen and question sixteen the teachers responded with strongly agreed somewhat more frequently than the students. The percentage of positive responses (strongly agreed or agreed) were almost the same for educational professionals (teachers) and high school students.

In question fifteen the high school students and the teachers agreed
almost exactly with each other. Both high school students and teachers strongly agreed or agreed by the same percentage.

The survey indicated that the attitudes of high school students and educational professionals (teachers) were very similar. In other surveys, there was usually a greater difference between teacher attitudes and student attitudes. The author noted that the research mentioned in the paper was very supportive of the findings of this survey. Future research would be interesting to compile as technology continues to improve.
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The value of keyboarding skills and applications is generally considered important in today’s education and in all career areas. The growing use of keyboards in schools, business, industry, and government will continue to grow (Goodrich, 1979).

There is a lack of literature to support that keyboarding is a critical skill. With computers everywhere in today’s society, people are using more keyboarding skills. In order to help students and teachers realize the necessary need for keyboarding, we need to know how high school students and teachers feel about keyboarding skills and applications.

The purpose of this study is to identify the attitudes of high school students and educational professionals toward keyboarding skills and applications.

The survey was given to randomly selected sophomore, junior, and senior high school students from three high schools in one county. A survey was also given randomly to educational professionals (teachers) from the same three high schools. Using a Likert scale with five responses: strongly agree, agree, undecided, disagree, and strongly disagree, students and teachers recorded their attitudes regarding keyboarding skills and applications.

Comparisons were made between sophomores, juniors, and seniors. It was found that the majority of high schools students have very positive attitudes about keyboarding skills and applications. Comparisons were made between teachers and it was found that the majority of the teachers indicated a positive
attitude about keyboarding skills and applications.

Conclusions

The author concludes that keyboarding skills and applications are important and critical to high school students.

High school students and educational professionals (teachers) in Schools A, B, and C displayed a positive attitude toward keyboarding skills and applications. The author is surprised that the results from all the questions were generally very positive.

Teachers and high school students do think students should be exposed to keyboarding skills at the elementary level, junior high level, and high school level. This will allow students to retain and use their keyboarding skill. They will feel more comfortable and confident to continue use of the skill throughout their lifetime.

Both high school students and teachers had strong feelings that keyboarding skills and applications should be taught on a computer. With technological changes and improvements, high school students and teachers should be trained on computers and introduced to them in all areas.

Keyboarding skills are used in many career areas at the present time. These skills will continue to be used in the future in everyone's life. The results of the study showed there is still a need for keyboarding skills and applications. The value of keyboarding skills is growing and this skill will become critical to high school students as they enter employment.

Recommendations

The author would like to recommend that teachers emphasize a need for keyboarding skills and applications to their students. High school students who
have had a good experience with keyboarding skills will be able to advise other students the importance of keyboarding.

The author believes that schools should use computers in the classroom when teaching keyboarding skills and applications. The results of this survey indicated that most high school students and teachers believe that keyboarding should be taught on a computer.

The author would like to recommend that more research be done to support the need for keyboarding skills and applications. Administrators, counselors, parents, and teachers in all content areas need to be informed that high school students need keyboarding skills and applications for a better opportunity to achieve in today's world.
SURVEY

Your cooperation is appreciated in filling out this survey. Please do not sign your name. Thank you for your help.

Please mark your year in school  ____10  ____11  ____12

DIRECTIONS:

Please read the following statements about keyboarding, and circle the number which best describes your views.

5 = Strongly Agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

1. Keyboarding is an important skill for all students.  
   5 4 3 2 1

2. Keyboarding is beneficial to you at the present time.  
   5 4 3 2 1

3. Grammar is important in keyboarding applications.  
   5 4 3 2 1

4. Punctuation is important in keyboarding applications.  
   5 4 3 2 1

5. Proofreading is important in keyboarding applications.  
   5 4 3 2 1

6. Proper keyboarding technique should be stressed in a keyboarding course.  
   5 4 3 2 1

7. Keyboarding skills should be taught on a typewriter.  
   5 4 3 2 1

8. Keyboarding skills should be taught on a word processor.  
   5 4 3 2 1

9. Keyboarding skills should be taught on a computer.  
   5 4 3 2 1

10. A knowledge of keyboarding skills is useful in other classes.  
    5 4 3 2 1

11. Keyboarding skill is useful to an individual's career.  
    5 4 3 2 1

12. A knowledge of keyboarding skills will be necessary for future careers.  
    5 4 3 2 1
13. Students should be exposed to keyboarding at the elementary level.  5 4 3 2 1
14. Students should be exposed to keyboarding at the junior high level.  5 4 3 2 1
15. Students should be exposed to keyboarding at the high school level.  5 4 3 2 1
16. Knowledge of keyboarding skills decrease computer anxiety.  5 4 3 2 1

Comments:
TEACHER SURVEY

Your cooperation is appreciated in filling out this survey. Please do not sign your name. Thank you for your help.

DIRECTIONS:

Please read the following statements about keyboarding, and circle the number which best describes your views.

5 = Strongly Agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

1. Keyboarding is an important skill for all students. 5 4 3 2 1
2. Keyboarding is beneficial to you at the present time. 5 4 3 2 1
3. Grammar is important in keyboarding applications. 5 4 3 2 1
4. Punctuation is important in keyboarding applications. 5 4 3 2 1
5. Proofreading is important in keyboarding applications. 5 4 3 2 1
6. Proper keyboarding technique should be stressed in a keyboarding course. 5 4 3 2 1
7. Keyboarding skills should be taught on a typewriter. 5 4 3 2 1
8. Keyboarding skills should be taught on a word processor. 5 4 3 2 1
9. Keyboarding skills should be taught on a computer. 5 4 3 2 1
10. A knowledge of keyboarding skills is useful in other classes. 5 4 3 2 1
11. Keyboarding skill is useful to an individual’s career. 5 4 3 2 1
12. A knowledge of keyboarding skills will be necessary for future careers. 5 4 3 2 1
13. Students should be exposed to keyboarding at the elementary level.

14. Students should be exposed to keyboarding at the junior high level.

15. Students should be exposed to keyboarding at the high school level.


Comments:
BIBLIOGRAPHY


This we believe about keyboarding. *Business Education Forum*, 39(1), 8-9.


