

**The Use of Technology in the Marketing Classroom at  
The Pennsylvania State University  
and Louisiana State University**

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## **Introduction**

During the last decade and a half, American higher education has invested about \$70 Billion in information technology goods and services, as much as \$20 billion of which has gone to the support of teaching and learning (Geoghegan 1994). Although the investment in instructional technology is significant and there is a growing comfort level with technology among both faculty and students, instructional technology has not been widely adopted. By some estimates, no more than five percent of faculty utilize information technology in their teaching (Geoghegan 1994).

The adoption of technology into instructional settings can be significant and far-reaching. Methods of information delivery by instructors and reception by students in the future will be very different than traditional methods employed today. From a practical standpoint from the educator's perspective, Green and Gilbert (1995) suggest that technology in the classroom will allow the same number of faculty to teach more students at the current level of learning or allow campuses to serve the same number of students with fewer faculty.

This paper briefly reviews instructional technologies and then discusses results of a study of technology application in marketing classrooms at two universities, Penn State University and Louisiana State University.

### **Technology in the Marketing Classroom**

Many universities have made a commitment and investment for the hardware, software and support necessary to offer interactive multimedia educational instruction to marketing students. Interactive multimedia programs allow students to become more

involved in the learning process by fostering interaction with other students and the instructor (Tippins and Su 1996).

A variety of technology can be installed in classrooms so that faculty can use the latest software, incorporate electronic presentations into their teaching, present video, and/or connect to the Internet. Technology in high-tech classrooms may include computers, video, CD-ROMs, VCRs, laserdisc players, document cameras, and audiotape players. Capabilities in these rooms include networking, digital/video projection, and enhanced lighting

An integral component of the multimedia learning environment is the use of interactive CD-ROM. CD-ROM discs can store over 600 megabytes of information (one megabyte = one million characters). In addition to storing text, the CD-ROM is also capable of storing audio and visual graphics. Because of their speed and storage capacity, CD-ROM has become an ideal storage medium for interactive multimedia programs (Tippins and Su 1996). In describing benefits of interactive CD-ROM, Tippins and Su (1996) state that while a textbook or class lectures are usually rigidly structured, CD-ROM based learning tools possess very few limiting restrictions. Students are able to branch off in various directions learning as they venture through each program. By being able to move through different topics at a comfortable pace, students get the added benefit of not having to move on to new material until they are comfortable with the current task at hand. Additionally, they believe that CD-ROM allows for more student interaction. Whether in small groups or as a class, CD-ROM lessons encourage students to participate and discuss among themselves how best to proceed through the lesson. Students find that, in a team setting, they are able to work through problems and make

decisions more efficiently.

A number of integrated marketing courses that use both textbooks and CD-ROM have been developed. At Louisiana State University, some sections of the introductory marketing course are being offered using this format. A study is underway to evaluate the relative effectiveness of using CD-ROM only, textbooks only and a combination of CD-ROM and textbook in the teaching of marketing.

### **The Internet and Marketing Education**

The Internet offers marketing instructors and students the opportunity to communicate and exchange information nationally and internationally. The number of on-line courses offered over the Internet is expected to increase rapidly in the next few years (Service 1994). Internet communication can facilitate many learning opportunities for marketing students. In one example, a Purdue University pilot study instituted in Spring of 1996, had students in a marketing principles course augment textbook instruction with the Internet and E-mail (Seibert 1996). The Internet was used to access course-specific information (syllabus, announcements, handouts and assignments) and general information to complete assignments. E-mail was used for communication with the instructor and for course announcement distribution. Students in this pilot program found that the Internet and e-mail could be used to gather marketing intelligence from around the world and seek out information that may not be published. In the two short years since that pilot study, the use of e-mail and other Internet functions in marketing instruction are commonplace. Most marketing curricula include some element of Internet interaction including data acquisition, market research and collaborative research

projects. Table 1 conveys a small sample of the many opportunities that exist for Internet supported marketing instruction.

**Table 1. Internet Supported Marketing Instructional Activities**

<b>Links to Corporate Sponsors and Partners</b>
Would interact with students in an electronic mentoring role- (cyber mentors)
Answer general questions in the context of classroom activities
Technologies: e-mail, WWW, 2-way video/audio links
<b>Distance Learning</b>
Wide band access to students' homes
Interact with professors at host institution and at other institutions
Take tests interactively
Submit papers electronically
<b>Student/faculty Special Marketing Interest Groups</b>
Set up listserves
Encourage dialog with others in the field of interest
Exchange of ideas
<b>Cross Regional/National Classroom Project Teams</b>
Collaborate with professors so students can collaborate across universities
Electronic presentations
Linked via WWW, e-mail.

## The Study

In order to better understand the dynamics of using technology in a marketing classroom environment, a study was undertaken in January of 1997 at the Pennsylvania State University in University Park, and Louisiana State University in Baton Rouge. A total of 557 marketing students were surveyed (311 at LSU and 246 at PSU). Since students in a number of marketing classes were surveyed, they were asked by their professors not to complete duplicate surveys. Faculty participation in administering the survey was voluntary although introductory letters from marketing department heads encouraging participation were sent to faculty the week before the survey was

administered. All questions were either categorical or Likert-type scales which facilitated the use of scan sheet forms. Completed scan sheets were machine-read and converted to SPSS, a statistical software package, for data analysis.

Survey elements included demographics, student proficiency in the use of technology, an evaluation of marketing programs and faculty in the context of technology capabilities and teaching effectiveness. (The survey instrument is included in this paper).

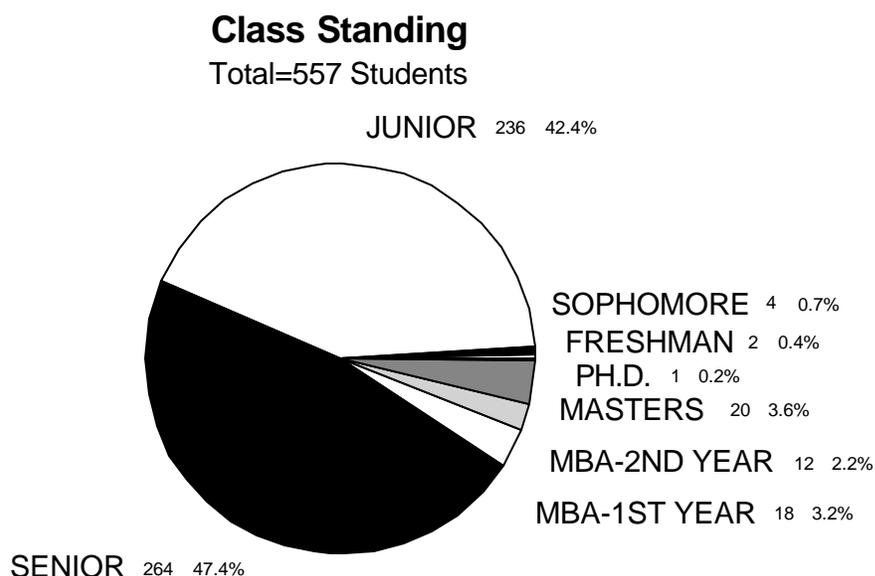
## Results

Although some differences did exist between the programs at the two universities, combined results are presented to convey an overall picture of how technology is impacting marketing instruction.

### Demographics

Nearly 90 percent of respondents were either juniors or seniors. This was desirable in the study because upperclassmen have had an opportunity to take a number of marketing courses (Figure 1). Less than 1 percent of respondents were freshman or sophomores.

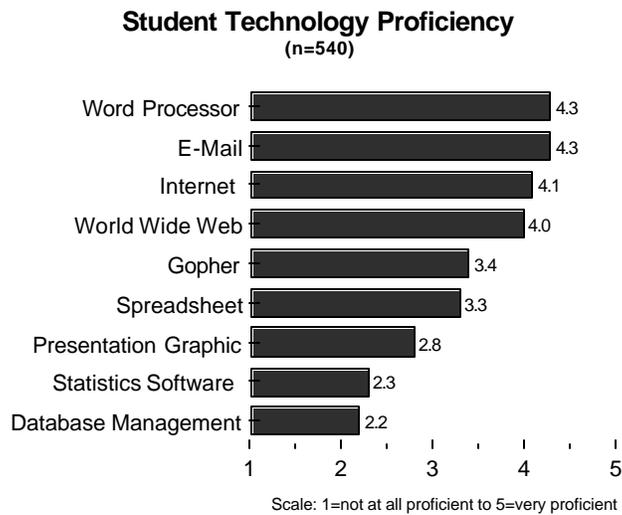
**Figure 1.**



Due to the fact that a number of marketing courses were targeted, not all respondents were marketing majors. Although 61 percent of respondents were marketing majors, a number were also in management (7.5 percent) , finance (7.2 percent) and accounting (4.6 percent). The majority (56.1 percent) of respondents was either 21 or 22 years old. 17.9 percent were 20 or younger and 26 percent were 23 or older. Forty-six percent were female.

Student and marketing faculty proficiency in the use of technology were evaluated across a number of technologies and applications. Likert-type scales anchored on 1=not at all proficient to 5=very proficient were used. Figure 2 indicates that students perceive themselves to be most proficient in the use of word processors, e-mail the Internet and the World Wide Web. Other applications ranked above 3 (neutral) are the use of Gopher and spreadsheet software.

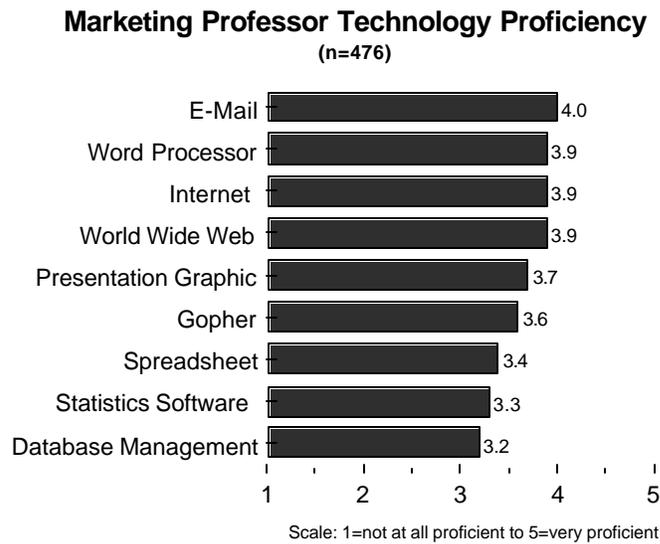
**Figure 2.**



Student perceptions of the marketing professors yielded results all above 3.0 (neutral) for all applications (Figure 3). Professors were perceived to be most proficient in e-mail, the Internet and use of the WWW. This is encouraging since these are

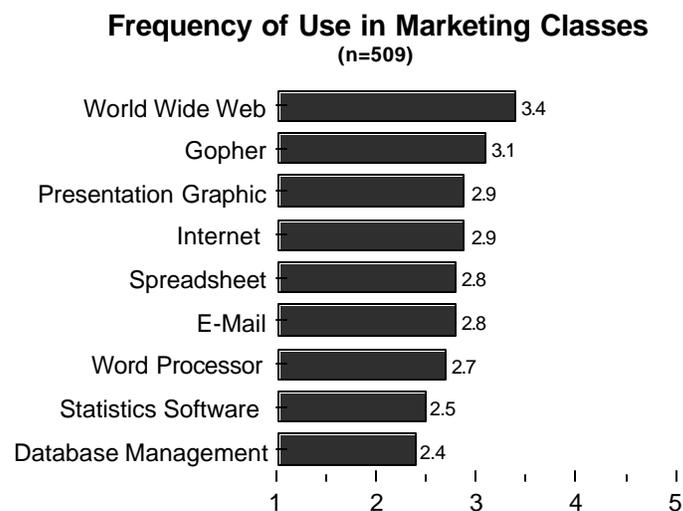
considered at the forefront of technology applications in the classroom.

**Figure 3.**



For the same applications, students were asked to evaluate the frequency of usage in marketing classes. Figure 4 shows that only the WWW and Gopher ranked above 3.0 (5-point scale from 1=never to 3=sometimes to 5=often). The indication of low frequency of technology use in marketing classes is bolstered by the fact that 43 percent of respondents said that they did not use computers in marketing classes taken at their respective universities. As seen in Figure 5, one-quarter of respondents did not use technology in any of their marketing classes and an additional 34 percent of respondents used technology in an estimated 25 percent of their classes.

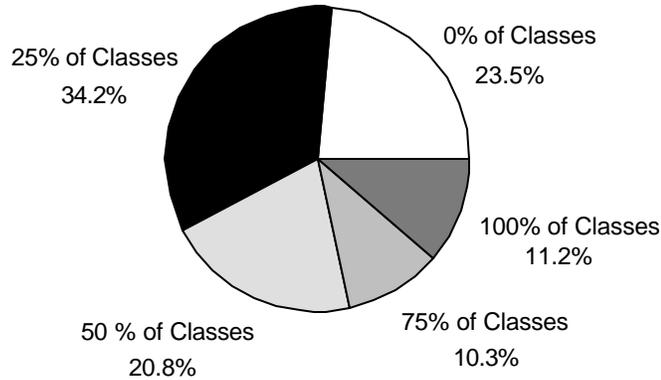
**Figure 4.**



**Figure 5.**

**Percentage of MARKETING COURSES  
that used technology in the classroom.**

Total Students=553

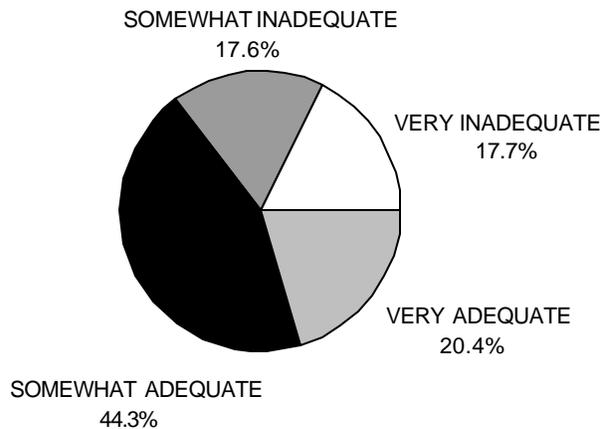


Students were asked to comment on the availability of computer facilities and training for students at their university. Over a third of respondents felt that training and instruction in computers and software were either somewhat or very inadequate. Only 20 percent said this training was very adequate (Figure 6). Availability of computer resources was also identified as an issue with marketing students (Figure 7). Only 20 percent of respondents felt that resources were always available while over 29 percent said resources were sometimes/never or never available.

**Figure 6.**

**Adequacy of computer and software training  
for students at your university.**

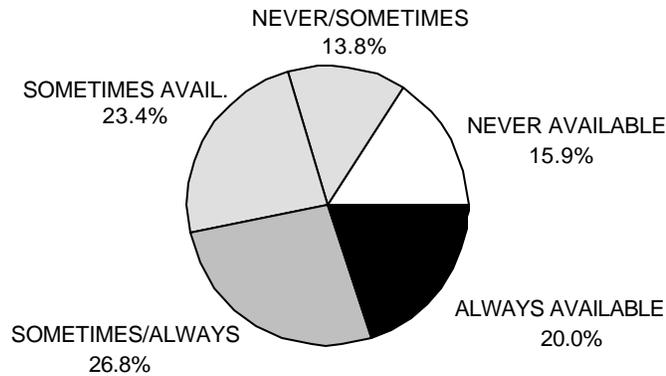
Total Students=524



**Figure 7.**

**Availability of computer hardware & software resources  
for marketing students at your university.**

Total=529 Students

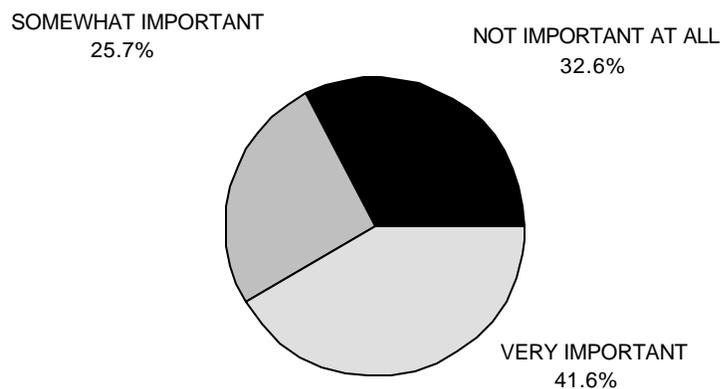


The last set of questions deal with the importance of using technology in the classroom and the effectiveness that students experienced in their marketing courses. Over forty percent of respondents felt that technology was very important in the teaching of marketing (Figure 8). Surprisingly, almost one-third of respondents said that technology was not important to teach marketing. However, when asked about the importance of using technologies in marketing classes tied to competitiveness in the job market, over half of the students said technology was very important while an additional 38 percent said technology was somewhat important (Figure 9).

**Figure 8.**

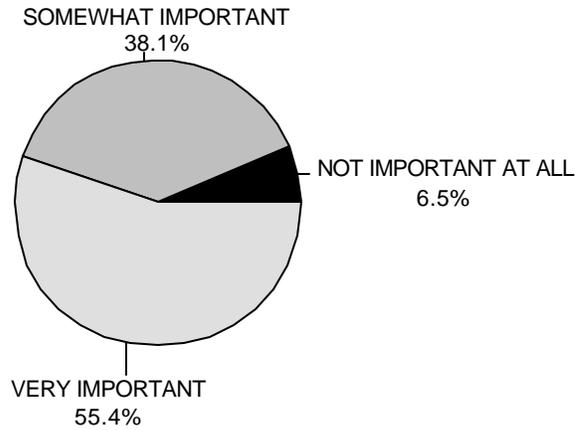
**Importance of technology use in teaching marketing.**

Total Students=535



**Figure 9. Importance that technology in the marketing classroom has on future competitiveness in the job market.**

Total Students=538

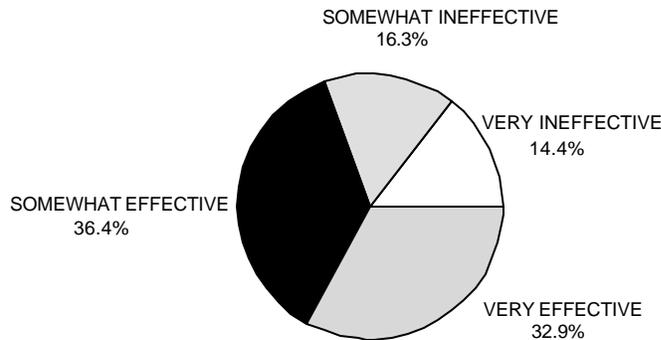


This level of important of technology was cast against the effectiveness of marketing programs in using technology to teach. Figure 10 indicates that overall, students believe that their marketing programs are either very effective (32.9% of respondents) or somewhat effective (36.4 percent) in effective use of technology. However, of concern is the 30 percent of respondents that said their marketing programs use of technology was ineffective.

**Figure 10.**

**Effectiveness that technology has on your learning of marketing.**

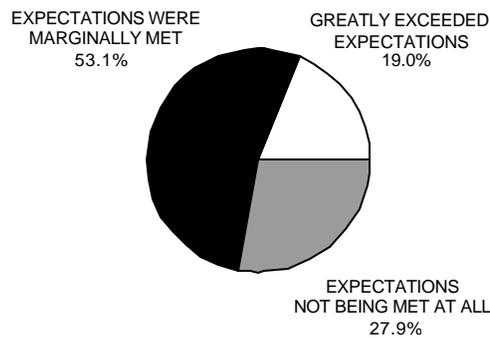
Total Students=535



Expectations of the use of computers as teaching aids in marketing classes were to a great degree not being met effectively (Figure 11). Over half of the respondents said their expectations were being marginally met while 27.9 percent said their expectations were not being met at all. Nineteen percent said that their expectations were exceeded.

**Figure 11.**

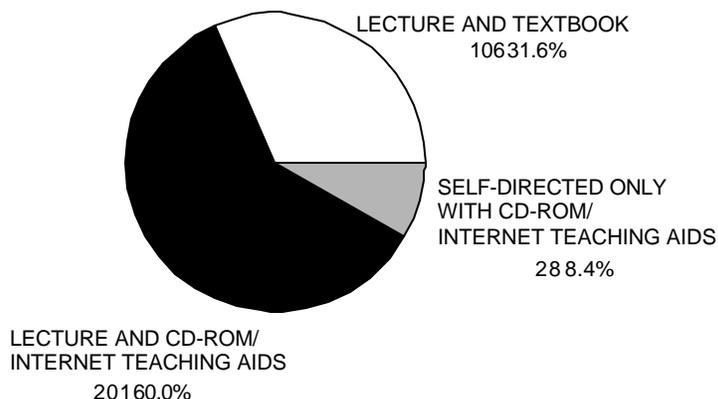
**How your expectations of using computers as teaching aids in your marketing classes have been met.**  
Total Students=326



Finally, students were asked what their preferred methods of learning would be for their marketing courses. Choices included textbook only, self-directed study only using CD-ROM and Internet teaching aids or a combination of the two. Sixty percent of students indicated that a combination of traditional textbook/lecture and technology assisted learning was preferred (Figure 12). Less than 10 percent preferred self-directed technology driven instruction.

**Figure 12.**

**Preferred method of learning marketing courses.**  
Total Students=335



## Summary

Technology is rightly so being touted as a significant aid in the delivery of instruction at the university level. Marketing programs across the country are adopting technology in their programs with varying degrees of intensity and success. This study offers a glimpse into marketing student perceptions about the quality of technology aided instruction at Penn State University and Louisiana State University. This insight can help administrators to probe more deeply into the reasons students responded as they did but, more importantly, modify and improve programs to meet the needs of the student.

## References

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**Survey Instrument**  
**Marketing Student Use of Technology in the Classroom**

Please indicate which university you attend. (Circle only one).

1. Penn State University
2. Louisiana State University

2. Please indicate your current university standing. (Circle only one **or** go to Question 3).

1. FRESHMAN
2. SOPHOMORE
3. JUNIOR
4. SENIOR

3. Please indicate your current university standing. (Circle only one).

1. MBA-FIRST YEAR
2. MBA-SECOND YEAR
3. IN A MASTERS PROGRAM
4. IN A PH.D. PROGRAM

4. What degree program/concentration are you currently in? (Circle only one **or** go to Question 5).

1. MARKETING
2. FINANCE
3. MANAGEMENT
4. ACCOUNTING

5. What degree program/concentration are you currently in?

1. ECONOMICS
2. MANAGEMENT INFORMATION SYSTEMS
3. PUBLIC ADMINISTRATION
4. OTHER

6. What is your age?

1. 18 OR UNDER
2. 19-20
3. 21-22
4. 23-24
5. 25 OR HIGHER

7. Gender (Circle only one).

1. FEMALE
2. MALE

**Please rank your current level technology proficiency by application listed.**

	<b>Not at All Proficient</b>		<b>Somewhat Proficient</b>		<b>Very Proficient</b>
8. Spreadsheet (i.e. Excel, Lotus 1-2-3)	1	2	3	4	5
9. Word Processor (i.e. Word, WordPerfect)	1	2	3	4	5
10. Database Management (i.e. dBase, Access, Paradox)	1	2	3	4	5
11. Presentation Graphics (i.e. Powerpoint, Freelance, Harvard Graphics)	1	2	3	4	5
12. PC Based Statistics Software (i.e.. SPSS, SAS, MINITAB)	1	2	3	4	5
13. Using E-Mail	1	2	3	4	5
14. Using the Internet	1	2	3	4	5
15. Using the World Wide Web	1	2	3	4	5
16. Using Gopher	1	2	3	4	5

17. Where did you learn how to use computers? (Please circle all that apply).

1. ON MY OWN AT HOME
2. IN HIGH SCHOOL
3. AT COLLEGE
4. ON THE JOB
5. OTHER (PLEASE SPECIFY)

18. Have you used computers in marketing classes that you have taken at this University? Please circle the correct response).

1. NO
2. YES

19. Please estimate the percentage of MARKETING COURSES you have taken at this university that used technology in the classroom as teaching aids.

1. NONE OF THE MARKETING COURSES I HAVE TAKEN
2. 25% OF THE MARKETING COURSES I HAVE TAKEN
3. 50 % OF THE MARKETING COURSES I HAVE TAKEN
4. 75% OF THE MARKETING COURSES I HAVE TAKEN
5. ALL OF THE MARKETING COURSES I HAVE TAKEN

**How would you rank the proficiency of your marketing professors in the knowledge and application of the following technologies in the classroom.**

	<b>Not at All Proficient</b>		<b>Somewhat Proficient</b>		<b>Very Proficient</b>
20. Spreadsheet (i.e. Excel, Lotus 1-2-3)	1	2	3	4	5
21. Word Processor (i.e. Word, WordPerfect)	1	2	3	4	5
22. Database Management (i.e. dBase, Access, Paradox)	1	2	3	4	5
23. Presentation Graphics (i.e. Powerpoint, Freelance, Harvard Graphics)	1	2	3	4	5
24. PC Based Statistics Software (i.e.. SPSS, SAS, MINITAB)	1	2	3	4	5
25. Using E-Mail	1	2	3	4	5
26. Using the Internet	1	2	3	4	5
27. Using the World Wide Web	1	2	3	4	5
28. Using Gopher	1	2	3	4	5

**How would you rank the frequency that your marketing professors used the following technologies in the classroom.**

	<b>Never</b>		<b>Sometimes</b>		<b>Often</b>
29. Spreadsheet (i.e. Excel, Lotus 1-2-3)	1	2	3	4	5
30. Word Processor (i.e. Word, WordPerfect)	1	2	3	4	5
31. Database Management (i.e. dBase, Access, Paradox)	1	2	3	4	5
32. Presentation Graphics (i.e. Powerpoint, Freelance, Harvard Graphics)	1	2	3	4	5
33. PC Based Statistics Software (i.e.. SPSS, SAS, MINITAB)	1	2	3	4	5
34. Using E-Mail	1	2	3	4	5
35. Using the Internet	1	2	3	4	5
36. Using the World Wide Web	1	2	3	4	5
37. Using Gopher	1	2	3	4	5

38. Please rate the availability of computer hardware and software resources to marketing students at your university.

<b>Never Available</b>		<b>Sometimes Available</b>		<b>Always Available</b>	<b>No Computer Resources Exist</b>
1	2	3	4	5	N/A

39. Please rate the adequacy of computer and software training for students at your university.

1. VERY INADEQUATE
2. SOMEWHAT INADEQUATE
3. SOMEWHAT ADEQUATE
4. VERY ADEQUATE
  
5. NO TRAINING EXISTS

40. Please rate the effectiveness that technology has on your learning of marketing.

1. VERY INEFFECTIVE
2. SOMEWHAT INEFFECTIVE
3. SOMEWHAT EFFECTIVE
4. VERY EFFECTIVE

41. Please rate the importance of technology use in the classroom teaching marketing.

1. NOT IMPORTANT AT ALL
2. SOMEWHAT IMPORTANT
3. VERY IMPORTANT

42. Please rate where you believe your university's Marketing Department is in the application of technology in the classroom relative to where it should be.

**MY UNIVERSITY'S MARKETING DEPARTMENT:**

1. WAS THE FIRST TO USE TECHNOLOGY IN THE CLASSROOM
2. WAS AMONG THE FIRST USE TECHNOLOGY IN THE CLASSROOM
3. WILL BE BEHIND MOST TO USE TECHNOLOGY IN THE CLASSROOM
4. WILL BE LAST TO USE TECHNOLOGY IN THE CLASSROOM

43. Please rate the level of importance that technology in the marketing classroom has on your future competitiveness in the job market.

1. NOT IMPORTANT AT ALL
2. SOMEWHAT IMPORTANT
3. VERY IMPORTANT

**Please indicate your level of agreement with the following statements:**

	<b>Strongly Disagree</b>		<b>Neither Agree/ Disagree</b>		<b>Strongly Agree</b>
44. I worry about making mistakes on a computer.	1	2	3	4	5
45. I enjoy working with computers.	1	2	3	4	5
46. I would rather type a paper on a word processor than on a typewriter.	1	2	3	4	5
48. I feel overwhelmed whenever I work on a computer.	1	2	3	4	5
49. I feel anxious when working on a computer.	1	2	3	4	5
50. I like to play video games.	1	2	3	4	5
51. I prefer not to learn how to use a computer.	1	2	3	4	5
52. I feel that using a computer helps me with my studies.	1	2	3	4	5

53. Please indicate how your expectations of using computers as teaching aids in your marketing classes have been met. (Please circle one response)

1. MY EXPECTATIONS ARE GREATLY EXCEEDED
2. MY EXPECTATIONS ARE BEING MARGINALLY MET
3. MY EXPECTATIONS ARE NOT BEING MET AT ALL

54. Please tell us about your personal computer access (Please circle all that apply)

1. I HAVE ACCESS TO A COMPUTER LAB AT SCHOOL.
2. I OWN/HAVE ACCESS TO A PERSONAL COMPUTER.
3. I HAVE ACCESS TO A LAPTOP COMPUTER.
4. I HAVE ACCESS TO A COMPUTER WITH A CD-ROM DRIVE.

55. My preferred method of learning materials for marketing courses would be:

1. LECTURE AND TEXTBOOK.
2. LECTURE AND CD-ROM/INTERNET TEACHING AIDS.
3. SELF-DIRECTED ONLY WITH CD-ROM/INTERNET TEACHING AIDS.