SESSION IV
FACULTY COMPUTER LITERACY

A Symposium
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A survey of microcomputer use
in small psychology departments

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A survey of microcomputer use in psychology showed equal frequency of use for teaching, research, and administration. Respondents with computer experience evaluated microcomputer contributions more highly than did those respondents without experience but with an interest in using computer systems. Apple IIes were the most popular machines, word processing the most popular use, and experimental and statistical psychology the most popular courses for using computers. Sixty percent of the users wrote their own software.

As a psychologist at a small private university, I am particularly interested in the impact of microcomputer technology on small- to moderate-sized psychology departments across the country; a search of the literature failed to turn up any information about the application of this technology to psychology since Castellan's (1982) report of a 1979 survey. Since Castellan's survey preceded the widespread availability of microcomputers, I decided to conduct a survey to determine current usage in psychology.

METHOD

The Sample

I obtained from the Guidance Information System (Houghton Mifflin Co., 1984) addresses for 835 schools (within the continental 48 states) with psychology departments having enrollments between 500 and 5,000 students. A random sample of 415 of these was selected for mailings.

Procedure

A two-part questionnaire was developed. Part I contained a checklist to measure the extent of use (past, present, or future) in each of 25 applications divided into three general categories (teaching, research, and administration); it also included a 7-point scale to evaluate the effectiveness of each application. Part II requested infor-

mation about the particular types of computer and software used.

Questionnaires were sent early in the summer of 1984 to each of the 415 chairpersons, with a request that they survey faculty members who had experience with microcomputers or who planned to work with the machines.

RESULTS
Part I
Overall Evaluation of Microcomputer Use

Microcomputer use received a mean evaluation of 6.0 on the 7-point scale when teaching, research, and administration were combined; mean evaluations based on experience with microcomputers were 6.2. Respondents without experience, but with plans to use computers in the future, gave lower evaluations (5.9) than did those with experience. This pattern of higher evaluations by experienced users was consistent throughout.

Comparisons Between Teaching, Research, and Administration

There was no significant difference among experienced respondents in the number reporting use of microcomputers for teaching, research, and administration (123, 115, and 102, respectively). The mean overall evaluation for research (6.2) was higher than for teaching (5.8) and for administrative uses (5.9).

Evaluations Within Teaching, Research, and Administration

Within the three application areas, experienced users

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consistently gave higher evaluations than did other respondents.

Teaching applications. In teaching, microcomputers were evaluated lowest for instruction and for drill and test item selection. They were valued most highly for word processing and keeping records.

Research applications. There was no basis for concluding that microcomputers differ in their value for the various research uses sampled.

Administrative applications. For administrative applications, word processing was rated significantly higher than were budgeting, course scheduling, and student recruiting. Although used almost three times as frequently for word processing, microcomputers were considered equally valuable for keeping inventories, for developing and using mailing lists, and for administrative record keeping. Their use in student recruitment was evaluated lowest.

Part II

Machines in Use

Of the machines reported, various Apple and Franklin models accounted for 53%, IBM models for 17%, TRS models for 10%, and a group of miscellaneous machines for 20%.

Software in Use

Word processing software was used slightly more often than software for teaching or statistical analyses. Less popular software included programming languages, data bases, and spreadsheets.

Hardware and Software Selection Criteria

Hardware was selected primarily on the basis of cost, capabilities, and the availability of software. As expected, software was selected primarily for its capabilities and proven compatibility with the computer (Table 1).

Courses

Three course areas accounted for 64% of microcomputer use: experimental psychology (including sensation, perception, cognition, and memory), statistics and

Table 1
Criteria for Selecting Hardware and Software

Criterion	Hardware No.	Hardware %	Software No.	Software %
Cost	97	20	65	21
Capabilities	102	21	101	33
Availability of Software	90	18	NA	
Compatibility with Hardware	NA		85	28
Compatibility with What Others Are Using	70	14	NA	
Reputation	62	13	32	11
Convenience of Service	46	9	NA	
Other	26	5	21	7
Total	493	100	304	100

research methods, and general and introductory psychology. The rest of the applications were scattered over virtually every topical area in psychology.

Origin of Software

Sixty percent of the respondents reported that they write their own software. This suggests that support from the commercial software houses is not meeting the needs of academics.

Of the 84 individuals writing their own software, 56% developed software for laboratory interfacing, 40% for statistical analyses, and 27% for instructional purposes. These three areas accounted for 87% of the software being written.

SUMMARY

Since 1979, the availability of relatively cheap microcomputers has changed the pattern of computer use in psychology departments. The frequency of use in teaching and administration has increased to equal the frequency of use in research. This appears to be due to the tremendous increase in use of word processing over that reported in previous surveys (e.g., Castellan, 1982). In teaching, respondents to the present survey reported microcomputers to be most helpful for developing/printing handouts and for keeping records, although Castellan reported demonstrations to be the most common use. Overall, word processing software was the most popular type of software, in contrast to Castellan's finding that it was the least popular. Programming languages, data bases, and spreadsheets have also become popular.

In spite of the changes, microcomputers are still most highly valued for their contributions to research, although software for laboratory interfacing is in short supply.

Throughout the survey, experienced users consistently gave higher evaluations than did inexperienced users, even those with plans to use computers in the future. This bodes well for the future of computing in academic psychology. Limiting teaching applications to word processing however, does not realize the potential of the technology Until instructors can obtain instructional software withou committing the resources necessary to develop it them selves, or until they can get additional support for develop ment (see Ingersoll & Smith, 1984; Weinstock, 1984) they will not highly evaluate the contributions of com puters to instruction.

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