

## Negative Management Attitudes No Barrier to CBI

Submitted by Wilbur L. Parrott, instructional designer, Digital Equipment Corporation, Nashua, N.H.

Computer-based instruction (CBI) flourishes in elementary and secondary school settings, but shows less acceptance in business and industrial training. Training programs continue to grow. Adult learning theory receives increasing prominence. The same potential exists for business training as for work with school children. All of this should have led to widespread use, but CBI in business and industrial training remains sparse.

In a recent survey of ASTD members, I discovered that factors other than negative attitudes were to blame. Of the 252 respondents, 39 (15.5 percent) had scores indicating negative attitudes. Two hundred respondents (84.5 percent) had scores indicating positive attitudes toward CBI. This is the opposite of what my review of the literature predicted. The scores ranged from 28 as the most positive to 66 as the most negative in a possible range of 18 to 90. The median score was 46.

Testing the variables in my questionnaire showed that:

- Trainers who have positive attitudes are more likely to attend conferences and workshops.
- Trainers with negative attitudes play video games more often.
- Trainers with positive attitudes use computers more often for such noneducational uses as word processing and budget control.
- The majority of respondents with positive attitudes live in the eastern North Central states (Illinois, Indiana, Michigan, Ohio and Wisconsin).
- The majority of trainers with negative attitudes live in the Southeastern states (District of Columbia, Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia).
- Women tend to have more positive attitudes than men.
- People with positive attitudes read

professional literature on a more frequent basis.

■ Trainers who have positive attitudes receive time off and reimbursement for job-related courses on a more regular basis than trainers with negative attitudes.

■ Trainers who have positive attitudes tend to have more years of experience in training (10 or more) than trainers with negative attitudes (four to nine years).

■ Trainers with negative attitudes take computer *programming* courses more often, and trainers with positive attitudes take computer *literacy* courses more often.

■ Trainers with positive attitudes take courses taught at least in part by CBI more often than trainers with negative attitudes.

■ Trainers whose children receive part of their instruction by CBI in school are more likely to have positive attitudes.

■ Respondents from smaller training departments (two to seven people) and smaller companies (301 to 1,500 employees) typically have negative attitudes. Trainers with a positive attitude tend to work in a training department with 8 to 25 people and a company over 3,000 employees.

■ The majority of trainers with a positive attitude fit into the 30-to-34 year-old age bracket. Trainers with a negative attitude tend to be a little older (35 to 39).

If the greatest barrier to CBI's adoption is not attitudes, what are the reasons that CBI is not being adopted?

Twenty-five respondents wrote that CBI is one training tool among many tools. CBI alone is not capable of a total training program. Typical comments were "CBI is just one more tool in a trainer's kit" and "CBI is an excellent tool for education, but not the only answer for it." Trainers expressed the need for human interaction in many types of training, particularly sales and human resources. In these areas CBI could only play a minor role. The consensus seemed to be that CBI is not universally applicable to all training situations.

The comments on cost (18) were the second most frequent category.

Several people mentioned CBI's high start-up cost. Others mentioned high continuing costs such as courseware development and modification. The majority of comments on cost centered around cost effectiveness. CBI becomes cost effective when the group of trainees becomes large. Several trainers from small companies or small training departments believed that CBI will never become cost effective for them. The majority of people commenting on cost mentioned their uncertainty about actual figures. Uncertainty about cost, not actual cost figures, causes the problems.

Comments on courseware (17) comprise the third group. Locating applicable off-the-shelf courseware and the amount of time, energy and money needed to develop good courseware appear as the problems. The rapidly changing nature of some subjects and the need for human interaction in such fields as sales training compound the problem. The same factors that harm other media also constrain the development of CBI. More specifically, CBI is only as good as the person who develops and programs it.

Twelve respondents mentioned the potential usefulness of CBI. Quotes describing CBI as "the future of the training industry" and "the wave of the future" summarize many of these positive comments. When coupled with other technologies such as videodiscs, CBI will grow.

The relationship of CBI to programmed instruction comprises a final group of comments. Five respondents stated that CBI must be disassociated with its heritage in programmed instruction before many trainers will accept it.

A dramatic shift has occurred in trainers' attitudes during the past few years. This shift resulted from extensive media coverage of the positive aspects of computers, the strong support of CBI in professional literature and meetings, and frequent contact with computers.

Yet barriers to the adoption of CBI still exist. Until the industry addresses them, cost and courseware will continue to obstruct adoption of CBI.



## Hide This Article From Your Staff

Who should a company's management blame when worker productivity is poor? The surprising answer, revealed in a nationwide survey of top corporate executives and personnel experts is . . . management.

According to the just-released survey, conceived and developed by Accountemps, an accounting, book-keeping and data processing temporary personnel service, poor management is directly responsible for poor productivity *more than half of the time*.

Conducted for Accountemps by an independent research organization, the study was based on interviews with vice presidents and personnel directors of one hundred of America's 1,000 largest companies. The participants were asked, "In your opinion, what are the main reasons for a company's poor productivity?" Fifty-five percent of the causes were linked to management, with lack of adequate supervision and failure to provide motivation, incentive and direction topping the list.

The other management-related factors cited for reduced productivity were inadequate working facilities, poor environment, absence of commitment to employees' welfare and insufficient or poorly planned communications.

## The Stuff of Dreams

*Submitted by John M. Williams, Technical Communications, Sterling, Va.*

At 31, muscular dystrophy victim Keith Fires is about to realize a dream most of us take for granted—being hired full time.

In August 1984, Fires completed a rehabilitation training program at Goodwill Industries in Santa Ana, Calif. There he learned to use CASH (Computer-Aided System for the Handicapped), a voice-activated computer system.

"I searched for a long time for the proper technology to help me with my education and in securing a job. CASH is that tool. It has and will open up a career for me," said Fires.

Fires spent 20 hours learning how to operate CASH. Step one in his training involved creating a vocabulary. Fires had to decide on the spoken word, key replacements and then create a script using the first option on the Voice Utility Program (VUP) menu—Build and Edit Vocabulary.

The script tells CASH what is going to be said and what to do—that is, which keys to press when each word or phrase is recognized. To build a script, Fires "had to tell CASH the words I would use to give commands. These spoken words are collectively called the training words of the vocabulary. Associated with each spoken word is a set of keys to press.

"Of course, the system needed to know the words associated with key placements. I accomplished this task simply by listing the spoken word and key replacements on the same line and using a semicolon to replace them."

Step two trains the system itself. Says Fires, "In this step, CASH is trained on how each of the words in the vocabulary sounds. The system needs multiple repetition to make sure it heard me correctly, allowing any words I might have mispronounced to be corrected."

In the next step, voice patterns are tested for accuracy. Of this step Fires said, "The voice patterns are a rough approximation of the complex sounds in speech. Mispronouncing a word or being interrupted when training may cause the creation of a bad voice pattern. Testing will find any voice pat-

tern that allows retraining of that one word."

Finally, recognition of the voice pattern files is begun. "This allows the system to compare the voice patterns created during training with the words being spoken," Fires explains. "When a match occurs, the key replacement for that word is entered as if those keys were being typed on the keyboard."

One exciting function of CASH, especially for a handicapped user, is the ability to control the work environment. In addition to all the user computer functions (including word processing and telemarketing), the system Fires was trained on controls air conditioning/heating, telephone (dialing, answer and hang up), solid state relays (turning pages, positioning an electric bed, opening and closing windows, turning lights on and off, dimming and brightening them) and turning other appliances on and off such as a stereo and television. It can even open and lock doors.

Such control, says Fires, gives him an "enhanced comfort, since environmental adjustments can be made at any moment. If I want to stay solely in the environmental control program, I can. This means, for example, if I want to relax, I can have the stereo on for background music, the air-conditioning unit on and the lights at the brightness I want all while reading. I do all this all by voice control. What a relief. What a great feeling of independence this gives me."

Easy to use, CASH operates in DOS (Disk Operating System—a computer operator system used with disk drives), CP/M (Control Program for Microcomputers—a widely used operating system developed and sold by Digital Research, Inc.) and Pascal—software used primarily in the mathematics area.

The system also, along with other features, comes complete with Wordstar (a word processing package), Supercalc electronic spreadsheet software and documentation (spreadsheet displays data in chart form while showing the effects of variables) and a printer.

"Technology is the great equalizer for disabled people," Fires observes. "We need more access to it. We need the opportunity to show what we can do with it. Business and government should make it accessible to us. It benefits them, us and the country now and in the future."



## Sales, Marketing and Sex

Lest anyone think (as some of our readers implied in their letters) that love in the office is a subject best left to the gossipmongers among us, let us call your attention to the May/June issue of *Personal Selling Power* and its theme, "Sex in Selling."

To examine the ways that sexuality influences sales and productivity, *PSP*, a publication aimed at sales and marketing executives, contacted 500 male and 500 female subscribers to participate in a confidential survey. Here are some of the results *PSP* reported:

- 52 percent of the women reported that sexual pressure has been exerted on them in exchange for a sale.
- 72 percent of all respondents revealed that their companies have no clear-cut policy that explains inappropriate sexual behavior with co-workers or clients.
- Over 13 percent of the men and 7 percent of the women reported having had romantic involvement with someone working in a client's company.

- Only 28 percent of those surveyed prefer to sell to a female buyer.

Other findings showed that twice as many women as men reported experiences they've had with clients or co-workers which made them feel uncomfortable or confused. The females described such problems as bosses who sexually harass them in front of clients and describe sexual dreams to them, co-workers who push for intimacy and clients who want sexual favors before signing a contract. For their part, males reported being tempted by co-workers, clients and even the wives of clients.

Unlike many such surveys, this one asked respondents to come up with solutions to what is obviously a widespread phenomenon. Most said a professional attitude and support from management would go a long way toward minimizing the "sex for business" problem.

## Survey Sinks Myths About Office Automation Revolution

Is office automation taking away jobs? Are computers and word processors and telecommunications systems erasing established positions and throwing people out of work?

No, says a new survey by Adia Personnel Services, in Menlo Park, Calif. But the survey also revealed that, while most companies can justify their purchase of office electronics equipment, few are overly enthusiastic about what they bought.

The survey asked a battery of questions of nearly 1,000 companies in eight of the countries in which Adia does business. These companies used more than 50,000 different pieces of office automation hardware, as well as more than 10,000 computer terminals. The U.S. respondents were divided almost evenly among manufacturing, professional and service firms, and nearly half employed more than 200 people.

It has become an accepted convention that computers and automation take away jobs. Yet, in the eight countries (USA, Canada, United Kingdom, Australia, France, Germany, Switzerland and Belgium), 58 percent of the respondents said there had been *no change* in staffing levels as a result of office automation. In the United States, this number was 59 percent. The highest was Australia, with 72 percent of the firms seeing no staffing changes.

Moreover, 16 percent of the U.S. firms (12 percent overall) experienced actual *increases* in staffing as a result of automation. This counters the commonly held belief that office automation reduces labor overhead across the board. The survey found—not unexpectedly—that programmers, word processing operators and data entry clerks were the most common new hires. Meanwhile, clerks, typists, secretaries and accounting department workers were the most likely to be laid off. Employment in a newly automated office might not seem to change, but considerable displacement of one type of worker by another is occurring.

However, this displacement has little impact on salary overhead. When



asked if they paid higher salaries for employees with office automation training, only 7 percent of U.S. firms (13 percent internationally) said yes. Of those that answered in the affirmative, the amount of that award was 8.4 percent (8.6 percent overall). Most companies polled replied that since familiarity with office automation equipment was part of the job anyway, there was no reason to treat presently trained employees differently.

If the claim of reducing labor costs has been disproven by the survey, another claim was given considerable support. This is that office automation is a cost-effective addition to the work place. Eighty-two percent of U.S. respondents considered their office automation equipment to be cost-effective, while only 5 percent did not. Overall, 76 percent of the companies responded affirmatively, with only German firms having fewer respondents agreeing (38 percent) than disagreeing (48 percent). This clearly indicates equipment is here to stay.

Nevertheless, the views of the companies polled may not be pleasing to equipment manufacturers. Asked to list positive features of office automation, the respondents listed productivity, speed of work, time savings and ability to handle increased workload, among others. But given a chance to sound off about the down side of office automation, the firms voiced their dismay over high capital and operating costs, unused capacity, unrealistic managerial expectations, poor software and equipment failures.

Obviously, office automation is not the cure-all it has been touted to be. This was reflected in another poll question, in which the respondents were asked how much of an impact office automation had on company efficiency. While 88 percent of the U.S. firms (89 percent overall) saw improvement, only 52 percent considered the efficiency to be "much more" improved. Hardly a resounding vote of confidence.

A further note: In the written replies to these questions, the U.S. was the only country that appeared concerned about a secondary effect of office automation: information overload. A number of American firms were alarmed that their equipment was so efficient that it was swamping managers with too much good information!

As already noted, the arrival of office automation may not change total employment, but it certainly affects the composition of that employment. Interestingly, little of that change is in the management ranks. In fact, according to Adia, the great majority of secretaries in the U.S. (84 percent) have desktop terminals, but only 25 percent of executives do.

Thus, it is at the lower employment levels that office automation is having its most profound impact. Here jobs are disappearing and new positions are being created. And for those jobs that endure, the qualifications for hiring have changed. Fifty-seven percent of all firms surveyed have changed their educational requirements for new hires because of office automation.

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That's only the beginning. Eighty-one percent of U.S. firms polled said they now had a deliberate policy to recruit higher qualified staff because of office automation (82 percent of German firms agreed, but only 50 percent did among all eight countries). Further, 86 percent of U.S. respondents said they either train or retrain newly hired employees on their equipment—indicating a considerable educational expense for companies and the possibility that in time the lack of trained operators could hinder the growth of the office automation market.

The survey also showed that many firms will fill this shortfall of trained people with temporary hires. Asked where their need for temporary employees is the greatest, 53 percent of the U.S. firms (44 percent in the eight countries) pinpointed either word processing staffers or office automation secretaries. This compares, in the U.S., to just 13 percent of the firms who say they need to hire traditional clerks.

The report on the results of the Adia survey is available without cost from Adia Personnel Services, P.O. Box 2768, Menlo Park, CA, 94026; phone 415/324-0696.

## Columbia Business School Enters New Frontier of Management

*Submitted by Fred A. Jacobi, director of public affairs, Columbia Business School, New York*

Radical changes in the influential Columbia Business School executive programs are being made this year. Two new and innovative programs, "New Frontiers of Management" and "Managing the Enterprise," will set the pattern for a three-tier design of residence courses for high-level executives.

These changes are being made in anticipation of a widespread restructuring of executive development activities during the next decade. "Two forces are at work," explains Hoke S. Simpson, associate dean for executive education at Columbia Business School. "One is the need for lifelong career development to cope with our rapidly shifting environment. This calls for more, shorter programs. Second,

more is expected of our business leaders. Society looks to business to help solve an ever-widening array of economic and social problems. This means that new issues must be tackled."

In shifting to its new format, Colum-

bia is discontinuing its highly successful executive program in business administration. For 33 years this program has been oversubscribed, highly rated by participants and profitable. "Dropping a winner takes nerve," says Simpson.

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Impetus for the change grew during Columbia's active involvement in a three-year study of "managers of the future," a joint venture by the American Association of Collegiate Schools of Business and the European Foundation for Management Development. Boris Yavitz, then dean of Columbia's Graduate School of Business, was a central figure in the project. Among the important conclusions that emerged from this extended study were the following:

- The typical profit-and-loss functions of a business will become increasingly constrained by social and political forces (rising public expectations, fear of environmental hazards, segmented social demands).
- To continue to operate—and especially move in and out of markets and innovate with new technology—business firms will have to make their peace with a wide group of "stakeholders" such as government agencies, advocacy groups, the media, industry organizations and others.
- Business firms must develop mutually acceptable operating practices which provide a range of mutual benefits because money alone can no longer purchase cooperation.
- Moreover, the desires of various constituents will often conflict, thereby putting unusual pressures on managers to devise creative, mutually advantageous solutions if the firm is to maintain health and growth.
- The agreements necessary to operate will come out of involvement and participation, negotiation and bargaining, consensus building, cautious use of power, evoking visions and inspiring.
- Managerial skill in developing workable agreements with multiple constituencies cannot be learned in one place, at one time, by one method. Instead, managers will need *lifelong learning* meshed with *individual career paths*.
- Universities can best help in development of the skill that managers will need by offering more short programs, and by more joint ventures with business firms. The new skills should be in addition to, not in place of, traditional managerial competencies.

The most obvious action the school is taking is establishing a new three-week program called "New Frontiers of Management," and it will be given this October. One major thrust of the program is "managing multiple constituent

cies." Tomorrow's general manager will have to deal effectively with a wider spectrum of "contributors" or "stakeholders." In addition to direct transactions with customers, bankers, suppliers and the like, the manager must get support, or least tolerance,

from government agencies, special interest groups, the media, industry groups, labor sources, the financial community and, of course, people on the board of directors. Today many managers who do an excellent job of running the shop are inept in dealing

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with that wider public, and business all too often gets a black eye because of that weakness.

There are several identifiable approaches to winning support, forming coalitions, negotiating more workable accommodations, knowing when and where to pick a fight. Examining and practicing these approaches will help develop valuable skills and attitudes. For example, Fred Friendly, the noted television news executive, will use live cases of business executives confronting experienced news reporters who want a story on a sensitive, hot issue. Also, members of Congress will participate in a give-and-take discussion of ways managers should, and should not, take part in legislative and regulatory activities.

A second major thrust is "tailored leadership." In the past, most attention in executive development focused on selecting and managing growing businesses. Tomorrow's executives, operating in a more mature economy and facing world competition, must *also* be skilled at managing a stable or even declining business and, at the same time, at managing innovation and new ventures.

The style of management and the corporate culture that is best suited for innovation differs from the optimum for growth, and maturity calls for yet another design. To compete effectively we must learn better how to tailor our leadership to such diverse requirements.

A further leadership task is to move from one set of requirements to another. In addition to modifying the formal organization, announced goals, control standards and perhaps technology, softer elements such as values, commitment, social structure and rewards have to be reshaped. And with the "new breed" of managers and employees this sort of shift cannot be merely commanded. Such adaptability of managing is further stretched when a company operates internationally or when a crisis arises.

Twenty-five high-potential executives who already have significant experience in managing total businesses will attend the program. This experience might be managing a single-product company, or managing self-contained SBUs (Strategic Business Units) in a diversified corporation. Another program dealing with strategic management of SBUs is

open, under the assumption that participants have that (or its equivalent) under their belt before coming into the New Frontiers program.

New Frontiers of Management is being designed by Columbia Professors Boris Yavitz and William H. Newman, chairman of the Strategy Research Center. They are assisted by a panel of experts from Columbia's other graduate schools—law, journalism, international affairs, education, arts and science. At least a dozen other leaders, drawn from both the world of practice and various universities, will provide a rich variety of knowledge and viewpoints. These will include legislators, journalists, corporate lawyers, CEOs, as well as researchers and consultants. They will be people who can provide hard-nosed, practical counsel. The participants, who themselves will have wider experience, will be asked to write up guidelines that they can apply back in their companies.

Our three-tier concept calls for programs dealing with management of functions (marketing, finance, production, human resources, etc.) at the first tier. Strategic management of a total business (single-line firm, or SBU) the second tier. A high degree of competence at both of these levels is vital for every enterprise. Such competence will be assumed for participants in the third tier—the New Frontiers of Management program. Instead of combining material from several tiers in one or two long programs, we are dividing our offerings into more, shorter bites. This separation fits into the growing pattern of lifelong career development.

For the shorter, more concentrated programs to be most effective, all participants should have the assumed background and proficiency. There is not time for remedial work. As noted, participants in the New Frontiers program will be required to have several years of overall management experience and will have attended a residential course such as our new Managing the Enterprise program. For that four-week program, we are stipulating proficiency in finance, economics, marketing and organization behavior. Moreover, we will provide guidance to future participants on how they can remedy weak spots in their backgrounds. Currently we are experimenting with self-evaluation and reading kits for our revised Managing the Enterprise program. If necessary,

we will develop more computer-aided teaching programs and/or visual aids.

Business is on a hot spot. Individual companies must be more adaptive to survive. And the business system as a whole must be more responsive if it is to retain its legitimacy and freedom of action.

Executive education, in turn, must assist in lifelong career development. And it must help managers relate effectively to a broader array of stakeholders and pressure groups. Executive development is facing another watershed opportunity, as it did following World War II. So the changes Columbia is making in its executive program are a leading part of what it forecasts will be a major shift in business education.



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