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TECHNOLOGY APPLIED TO BUSINESS, LEISURE AND  
EDUCATION PROGRAMS

BY

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ABSTRACT

Technology in today's society is directly dependent upon hardware. This advancement has and will continue to change lifestyles in business and leisure. This lifestyle change relies on the understanding of the instrument and the individual's adaptability to the use process.

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INTRODUCTION

We are constantly being told about and shown how technology is going to make our lives easier. We are going to:

- \* travel safer;
- \* eat better prepared meals;
- \* buy goods and services cheaper;
- \* have access to a variety of educational information;
- \* be entertained at home; and
- \* live healthier life styles.

Several advances in technology are making a difference in the information we can obtain and use for business, education, health and leisure purposes. Specifically, the computer, videodiscs, and touch screen television are three items which are being used to enhance our abilities to learn, make decisions and problem solve.

## ON SITE OBSERVATIONS AND PROGRAM REVIEWS

During the past year the author visited several organizations and reviewed programs which were utilizing technology for a variety of purposes . . . training, health education, business and leisure. Funding for this observation effort was provided by the W. K. Kellogg Foundation through a grant to the University of Georgia for developing leaders and expanding the information base regarding lifelong learning and adult continuing education.

Technology used at several of these facilities are described to illustrate how computers, videodiscs, television (CRT's) and simulators are changing lifestyles. It is understood that these are only a few of the many different advances in technology that are currently available. By the time this article is published new uses of these tools will undoubtedly have been developed!

### Education - Military - Fort Gordon, Georgia

The U.S. Army Signal School maintains a training center at Fort Gordon near Augusta, Georgia. Military trainers have long used the "hands on" and practical experience methods for training and have obtained outstanding results. However, when sophisticated and costly communications equipment is to be used for training, as well as ongoing operations, there may be a need for adjustments in training methods. By combining a small computer, a laser video-disc and touch sensitive television equipment the military has been able to enhance their communications training. The videodisc has been designed to hold approximately 54,000 individual images or slide frames, or approximately 30 minutes of motion pictures or a combination of individual and motion images. Individual slides are taken of each item, step or procedure which is being learned. The images are placed on the videodisc, which looks like a silver long-play phonograph record, and copies can be made relatively inexpensively. The majority of expenses are incurred in the planning, design, photography and formatting the videodisc. Copies made from an original disc are inexpensive (e.g. \$15-\$30 per copy).

The instructor has a file of visuals, voices, and text material (in brief outline form) at his or her disposal to be used as needed. An infinite number of plans, curricula guides, and training formats can be programmed into the computer. In the Fort Gordon example, a team of individuals including the instructor, subject matter specialists, curriculum developers, media experts, computer programmers, and possibly former students describe, in minute details, the actual training needs. The computer allows for programming this information into several formats using visual and voice communications which can be accessed as linear (e.g. like a slide show or movie), branching (e.g. you can select from any location on the disc), looping (e.g. you can recycle to review information) and combinations of formats.

The videodisc is used in combination with existing lectures, simulations, and field experiences to enhance training. At Fort Gordon, it is not used by itself as the single format for a training program.

Military instructors report faster learning and higher retention rates of knowledge since using the videodisc, computer, and touch sensitive cathode ray tube (CRT) or television screen as a mechanism for indicating answers, procedures, and options. Record keeping and learning response data can be programmed for immediate feedback to students as well as for use by the instructor to determine weak areas in the curriculum design and for longitudinal data analyses.

Colleges and universities currently use similar hardware and software for individuals to explore career options. These programs provide the student instant feedback on personal interests and abilities as they relate to career interests.

#### University of Georgia - Veterinary School

The veterinary school at the University of Georgia has utilized visuals (e.g. slides) for many years to enhance instruction. Individual students, practicing veterinarians and faculty have access to an extensive slide and resource library for studying animal diseases and conditions. Students use these resources for independent and small group study.

In the past two years the UGA School of Veterinary Medicine has been conducting an international effort to acquire a more extensive collection (i.e. several thousands) of visuals (e.g. slides) which can be transferred to the videodisc. Each disc can hold over 50,000 images (e.g. individual slides). It is anticipated that veterinarians could acquire multiple videodiscs and use this technology in their offices to scan through literally hundreds of thousands of diseases, lesions and animal conditions. Access to instant visual images could assist in diagnosis as well as gather information for treatment of animal diseases and conditions.

#### Health Education - Nursing School - University of Alabama at Birmingham (UAB)

Integrating technology into the classroom has been successfully achieved at the Nursing School at UAB. Educational technologists have assisted instructors and students to utilize selected health related problem solving software programs that are keyed to lecturers and discussion group exercises. The "computer lab" is located adjacent to the library and classroom area of the nursing school. Students and faculty can walk in and select required and supplemental learning programs . . . visuals, audio and printed resources for specific lessons or assignments.

Commercially prepared videodiscs were reviewed by the author. One, in particular, featured the art of Vincent Van Gogh and letters he wrote to his brother about his work. The videodisc has two visual tracks, one displaying Van Gogh's art and the other describing his letters and correspondence. There is a separate audio track for each video track. Viewing the videodisc of Van Gogh's art prior to a trip to a major museum or a visit to Europe would be extremely helpful in learning about the artist, his artwork, and his lifestyle.

### Business and Industry

Business/Industry - Utility Company . A large southern utility company (i.e. Georgia Power Company) has applied technology to the training and continuing education of its employees. A variety of video tapes and audio cassettes are available to employees at easily accessible resource learning centers. Employees are encouraged to check out and use materials on job related and other topics of general interest. Desk top computer terminals are available to employees for information scanning and interactive uses. As well as selected audio, video and computer programs may be purchased for use by groups of employees. In some instances programs (e.g. Economic Development - Board Governance) have been developed using video and audio technology.

Taxes and Money Management . Tax laws get more complicated each year. There are several tax changes currently being considered by congress this year (1986). Investment counselors, publishers and tax return preparation firms are marketing programs that can be run on home or business computers. These "canned" programs are relatively inexpensive and provide the taxpayers with a fast and accurate method for preparing their tax return. Individual programs provide the taxpayer with immediately revised figures for a variety of options such as the purchase of an Individual Retirement Account (IRA) or the benefit of itemizing deductions versus lump sums (i.e. using the short form). As the taxpayer becomes more sophisticated he or she can use the program to keep up to date records for the next year's taxes and examine options for reducing taxable income by considering the purchase of rental property or making charitable tax deductible donations. There are a variety of print resources available for the individual to help identify and select tax and money management assistance. One such document is Changing Times 1986 Financial Services Directory .

Business/Industry - Communications . A large communications organization (i.e. Bell South) uses simulations to assist in training employees to use and/or repair equipment. Instructors are employees with extensive field experience. Field conditions are simulated in the classroom or laboratory where performance is evaluated using industry-wide standards.

Technology in the communications industry is constantly changing (e.g. standard wire to fiber optics to laser beams to . . .?) and managers

must continually review, select and design sophisticated technical training tools and equipment.

#### SUMMARY

Almost everyone is effected by some form of new technology . . . especially by the computer. Bills for utilities are often computer generated. Shopping at grocery and "department" stores is (usually) facilitated by computer readable pricing codes. Retail stores which sell auto parts, hardware and clothing automatically reorder using a computer system. Information about plant closings, employment opportunities and job training needs are computerized for each state and the nation by the State Employment Security Offices. Making reservations at resorts and other vacation spots is facilitated by the use of credit cards which are computer dependent for approving credit and payment of bills. Microwave ovens, clocks, appliance timing devices and almost any other item which you can mention have computer parts (i.e. "chips") in them.

Applications of technology - especially the computer, videodisc and touch sensitive CRT - are powerful tools that are being used to facilitate learning. The impact of technology has many implications for learning . learning for understanding, for job related skills, for investments or business purposes and for leisure or entertainment reasons.