THE APPLICATION OF EDUCATIONAL TECHNOLOGY TO FUTURE LAW ENFORCEMENT CONTINUING PROFESSIONAL TRAINING

BY

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COMMAND COLLEGE 9

PEACE OFFICER STANDARDS AND TRAINING (POST)

SACRAMENTO, CALIFORNIA

1989

This Command College Independent Study Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future--creating it, constraining it, adapting to it. A futures study points the way.

The views and conclusions expressed in this Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

PART ONE - A FUTURES STUDY

"How can educational technology impact the effective delivery of continuing in-service training for patrol personnel by the year 2000?

PART TWO - STRATEGIC MANAGEMENT

A plan to implement effective educational technologies in local law enforcement jurisdictions in California.

PART THREE - TRANSITION MANAGEMENT

A planned transition from minimal use of educational technologies to optimal application of emerging technologies.

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Executive Summary

PART ONE - A FUTURE STUDY

In an age of rapid change, organizations which survive will have to be able to keep pace. In the new "Information Society," their most valuable resource will be their people. Human resource development, therefore, will continue to be a critical function.

Law enforcement agencies will have to be prepared to continuously train their line level personnel to ensure competency. This training will have to encompass not only the traditional training in laws, procedures and skills, but also attitudinal training that will determine how the service is delivered to the public and ultimately the public's satisfaction and support.

Traditional means will not be sufficient to meet future needs. Effective training will require the application of educational technology. The predictions are that educational technology will be available, will advance and will cost less in the future. The question for law enforcement is how to ensure that educational technology is incorporated into the training delivery system and that it is used appropriately.

Telecommunications offers the future ability to reach large audiences in the timely delivery of critical information.

Computer-Assisted Instruction allows students to learn at their own pace, to get immediate feedback and in many cases greatly expedites training. Interactive Video permits simulations of real life situations without the risks. Artificial Intelligence has great future potential for tutorial and rapid reference applications. Each of these technologies also has its weaknesses so the appropriate application of the best technology must be sought.

PART TWO - STRATEGIC MANAGEMENT

The Situation Audit demonstrated that many favorable factors will create opportunities for the change to multi-media technology including the projected decreased costs of educational technology, technology advances and a generally favorable political climate. Threatening conditions include limited government funding, a worsening public education system and unreasonable public expectations.

Law enforcement organizations are generally above average in manpower, skills, training, salaries and morale. Their deficiencies include technology, equipment and money. Law enforcement managers will seek low risk change while the organization, in general, tends to adapt to change but not to seek it.

Key stakeholders in the transition are the law enforcement top executives, POST and the local law enforcement trainers. POST leadership in a participative effort with local law enforcement agencies could help to bring about the transition to multi-media technology.

PART THREE - TRANSITION MANAGEMENT

Statewide consortiums and regional task forces are recommended to create a favorable environment for the transition, to design a planning framework within which the change could occur and to oversee the implementation. A phased approach is recommended because of the scope of the change and the resources required.

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INTRODUCTION

In 1971, Alvin Toffler alerted society to what he called "Future Shock," a drastically accelerated rate of change.[1] Later books such as Toffler's Third Wave[2], John Naisbitt's Megatrends[3], Tom Peters' Thriving on Chaos[4], have as a theme how coping with change as a pervasive challenge to leaders in industry and government. Today change at a dizzying pace, has become an accepted part of our everyday living. Probably no citizen or organization has been exempt from the impact of rapid change.

In Megatrends(1982), John Naisbitt describes two important trends: (1) The evolution of an "Information Society in which today's workers, rather than producing things, spend most of their time creating, processing and distributing information; (2) the rapid expansion of technology and the merger of technology with humanistic concerns which he calls "High Tech, High Touch." Naisbitt maintains that the greatest challenge facing mankind today is the ability to develop an ideal balance between technology and human potential.

The profession of law enforcement has been greatly impacted by the shift to an "Information Society." The amount and complexity of information which peace officers must master and apply is staggering. While technology such as computers has been used to assist law enforcement, its introduction and application

has generally lagged far behind the availability of the technology. In an information society, where "high-tech and high touch" are a crucial requirement, human development or training becomes a critical issue.

The criminal justice system's ability to address future change will largely hinge on its people -- the quality and appropriateness of the personnel recruited and their subsequent training. In the post-industrial work culture, the ability of law enforcement to conduct appropriate in-service training using the latest educational technology will determine its ability to maintain high standards of performance in meeting new public expectations. To maintain and upgrade organizational effectiveness, managers must develop human resources to ensure competent performance and productivity. Competency is a critical issue for law enforcement to ensure the public safety, to maintain the police department's credibility with the public it serves, and to safeguard the agency and its employees from civil liability claims.

PURPOSE OF RESEARCH

This study analyzes how emerging educational technologies can be matched and effectively applied to training needs to meet the challenges for relevant in-service training for patrol personnel by the year 2000.

The issue was examined as it would impact a large metropolitan law enforcement agency in California with a service population of 50 to 200,000. This agency's responsibilities encompass a wide

range of enforcement, investigative and deterrent activities. As is typical of urban law enforcement services, it performs these duties in ethnically and culturally diverse communities.

NEED FOR NEW HRD APPROACHES

Training falls within the broad category of professional development know as Human Resource Development (HRD). One way of defining that term is: "a series of organized activities, conducted within a specified time and designed to produce behavioral change." [5]

For the purposes of this report, training will be defined as those learning activities designed to improve one's knowledge, skills or attitudes related to the current job assignment. Under analysis here is that portion of the training designed for law enforcement patrol employees who have already received basic training equivalent to the POST Basic Academy requirements. While the paper is focused on the sworn patrol generalist, it will also be pertinent to those civilians and specialists who have assumed patrol responsibilities.

The training needs of law enforcement are very dynamic. In California in 1988, hundreds of new laws were passed affecting law enforcement. Every year, new case decisions alter our search and seizure, evidence handling and other procedures.

The changing and diverse demographic nature of our constituents constantly creates demands for new or expanded levels of service. Societal issues such as domestic violence, abuse of

the elderly, handling of the mentally ill, inadequate health care, and the homeless require that we impart the required coping skills, knowledge and attitudes to our personnel.

Advances in technology and changes in our environment such as electronic theft and hazardous wastes, dictate that we continually update our procedures and information to stay current. Alterations in the public's perceptions and priorities create crisis needs for training and performance emphasis on such things as gangs and drugs.

Another force driving the need for training is Departmental liability. The AELE Liability Reporter in 1987-1988 indicated in its review of damages awarded in liability cases against police departments to plaintiffs in 1987-88 that the mean award was $1,758,000.

In addition to these costs are the attorneys' fees, time devoted to case preparation, costs associated with injunctive relief and other indirect costs. Monetary limits on damage awards have been virtually eliminated and vicarious liability suits against police departments has become the norm in order to take advantage of the "deep pocket."[6] Civil suits can also bring about undesirable court-mandated changes in departmental management.

Poor officer judgment resulting in civil rights violations and officers who do not perform their duties in a responsible, professional manner are two of the more common liability issues. Remedies available to law enforcement managers include development of policies and procedures, enhancing disciplinary systems and

training. Often the training received will become an issue in a liability case.

The U.S. Department of Justice conducted a survey called "State and Local Law Enforcement Training Needs in the United States." Over 14,000 agencies were surveyed to determine training priorities. The training needs were classified into five job activities; those which were Common to all local law enforcement officers and those that related to specific areas such as Drug enforcement, Detective activities, Supervisory functions or Patrol/Traffic duties. The training categories studied that specifically relate to the scope of this study are Drug, Common, and Patrol/Traffic. For these three categories, the activities rated as the highest priority by large and small municipal, county and state law enforcement in rank order are shown in Figure 1.

Also added to the Department of Justice data is this writer's perceived classifications of the Cognitive (C), Psychomotor (P) and Affective (A) training modes required for each. These modes of training relate to the characteristics of the training. Training may be knowledge based requiring understanding and memorization of facts (Cognitive), skill or performance based (Psychomotor) or based on changing attitudes or beliefs (Affective). Most training topics encompass more than one of these modes. The training method and technology chosen should take these modes into account.

Exhibit 1
Priority Training Needs

Activity Rank Order	Training Mode (C)	(P)	(A)	
1.	X	X	X	Handle Personal Stress
2.	X	X	X	Maintain Physical Fitness
3.	X	X		Collect, Preserve Evidence
4.	X	X	X	Search Persons, Dwellings, and Transportation Conveyances for Illegal Drugs
5.	X		X	Testify in Criminal, Civil and Administrative Cases
6.	X	X	X	Drive Vehicle in Emergency/ Pursuit Situations
7.	X		X	Promote Positive Public Image
8.	X			Protect Crime Scene
9.	X			Understand the Capabilities of Forensic Science Laboratories
10.	X		X	Crime/Incident Reports

PART ONE - A FUTURES LOOK AT TRAINING

In an "information society" where knowledge is the critical factor, it behooves public agencies to make use of the latest media and educational technology to train high performing personnel. This research into the training field uses the futurist mode and methodology in forecasting tomorrow's training approaches for California law enforcement.

The term "futurist," in its current meaning, did not become part of our language until the 1960's according to Edward Cornish, President of the World Future Society. Since the sixties, futurists have acquired steadily increasing respect in government, business, education and other areas.[7] Along with these new futurists have come a body of techniques for forecasting the future.

THE ISSUES

The issue and sub-issues to be studied are:

How can educational technology impact the effective delivery of continuing professional training for patrol personnel by the year 2000?

Given the goal of maintaining police competency at a level that will gain public trust and credibility and minimize liability risk, how can future continuing in-service training needs for patrol best be met?

Given a diversity of training needs, what are the benefits and limitations of the various educational technologies in meeting these needs?

STEEP ANALYSIS

A literature search was conducted and a "futures file" was developed which used the "STEEP" acronym to categorize the trends or issues having a direct or indirect impact to law enforcement training.

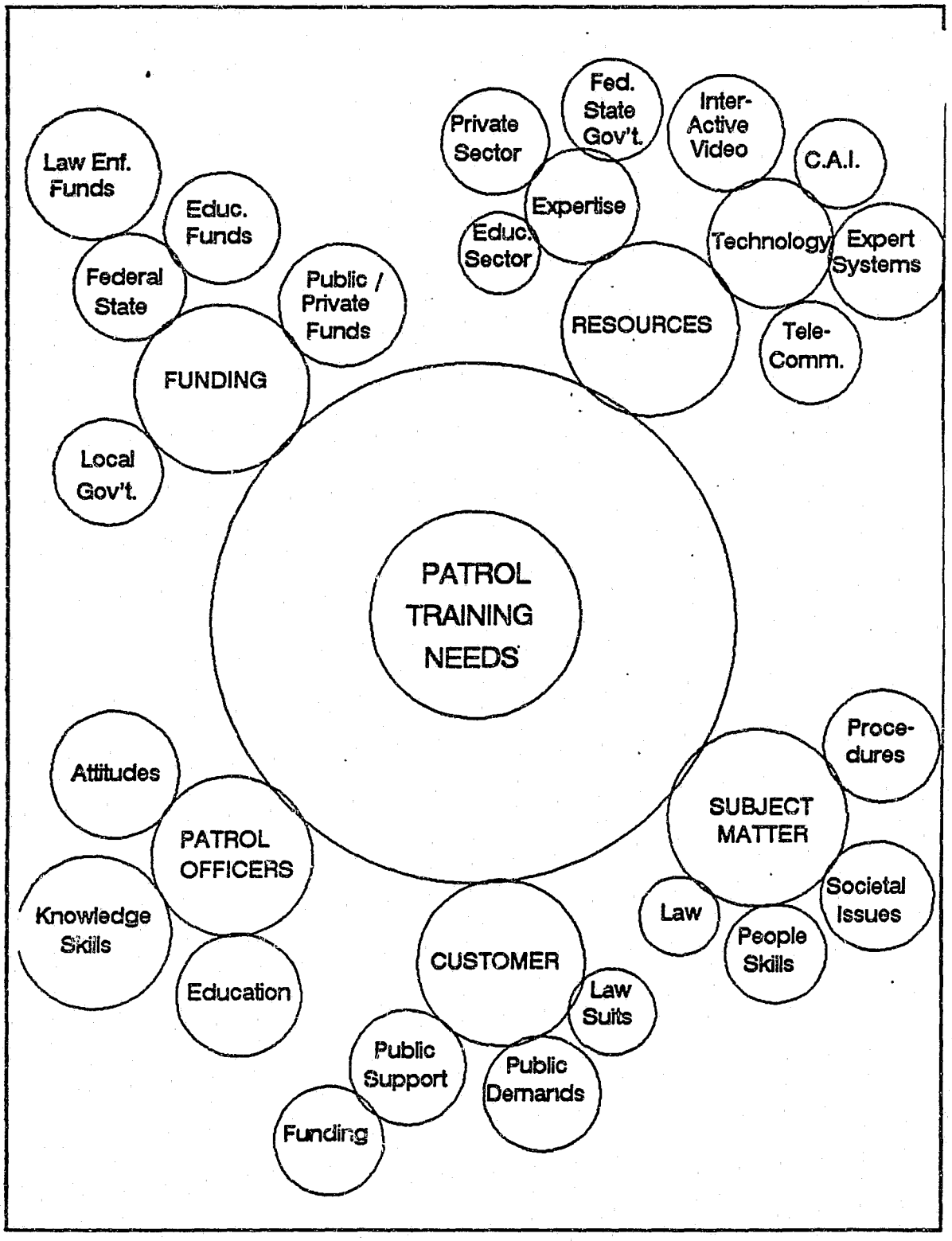
Exhibit 2
S.T.E.E.P.
Training Related Issues

A STEEP ANALYSIS

SOCIAL	TECHNO-LOGICAL	ECONOMIC	ENVIRON-MENTAL	POLITICAL
Demographic Diversity	Computer Advances	Taxes	Urban Blight	Diversity
Information Society	User Friendly	Govt. Deficit	Congestion	Law Enf. Support
Substance Abuse	Expert Systems	Inflation/ Recession	Housing Availability	Civil Lawsuits
Crime Rate	Distance Learning	Technology Costs	Water Shortages	Public Expectation
Education Quality	Portability	Employment Levels	Air Pollution	Privitization
Family Stability	Voice Inputs to Computers	International Economy	Hazardous Materials	Public Health Care
Changing Community Values	Space Travel	Cashless Society	City Planning	State Fed. Roles

The trends and issues were then condensed and organized according to their interrelationships into a "Futures Wheel" (Exhibit 3).

Exhibit 3
A Futures Wheel



EDUCATIONAL TECHNOLOGY TRENDS

Educational or instructional technologies are the tools used by educators and trainers to accomplish the goals of learning. Educational technology includes the application of the science of learning coupled with the use of computers, telecommunications and other technologies.

Telecommunications. Telecommunications, the ability to communicate at a distance, is rapidly expanding. Through the use of telecommunications technology, global communications using voice, video and digital modes are all available. Through the infusion of new technologies such as fiber optics, cable networks and satellites, the capabilities are increasing rapidly while the costs come down. The potential for sharing of information and learning are almost unlimited.

1. Distance Learning

Distance learning uses television for instruction, usually accomplished through the use of satellite or other telecommunication links.

Today there are thousands of satellite sites throughout the United States where high school students are enrolled in view-for-credit programs. Hundreds of universities use teleconferencing for credit and non-credit courses. Television networks such as C-Span and PBS offer educational

programming.

Recently the federal government funded a multi-million dollar "Star School" program to expand the delivery of televised educational services to an even larger audience of schools.[8] Another teleteaching effort, started back in 1981 and now linked to NASA and over 400 classrooms, Classroom Earth has monitored NASA launches and covers a wide variety of topics ranging from U.S. space stations to desk-top publishing.

A Law Enforcement Satellite Training Network (LESTN) was established in 1986 through a joint effort between the Kansas City, MO, Police Department and the Kansas City FBI Field Office. This network sponsors six programs a year through satellite teleconferencing which are viewed at 1,500 viewing sites by an estimated 20,000 law enforcement personnel.

A private firm, Law Enforcement Television Network (LETN) out of Dallas, Texas broadcasts 24 hours daily on training topics including officer survival, crime control and prevention, civil liability and job-related stress. Programs designed by law enforcement training professionals are presented in a slick broadcast television format.

The California Commission on Peace Officer Standards and Training (POST) recently launched a satellite programming effort. Two of the programs being tested are satellite training tape distribution and training via teleconferencing.

Satellite-delivered instruction is a cost-effective

mechanism providing quality programming to many sites. Probably one of the most lucrative markets for this technology will be in the continuing education field.

2. **Teleconferencing.**

There are many configurations of teleconferencing; some are one-way video only like conventional television. One-way video with two-way audio is probably the most common today. Its advantages are that it provides an opportunity for feedback from the student audience while being much less costly than two way video. Its disadvantage is that it fails to provide the visual clues that are a integral part of our communication and learning process.

3. **Educational Networks**

Telecommunications can also be used as a method for developing educational networks, linking computers through electronic bulletin boards as a media of instruction.

Educational institutions are being linked together by computer networks, such as EDUCOM, which nationally serves higher education. Another form of education networking is distance tutoring using a computer bulletin board system.

Computer-Assisted Instruction. Computer-Assisted Instruction (CAI) is the use of a computer to help teach a learner. Another term often used is CBT or Computer Based Training. While the literature does not make a clear distinction between these terms, "computer-based" implies that the instruction or training is

primarily accomplished by the use of a computer, while computer assisted implies that the computer is but one tool in the instruction and learning process. This distinction is not always clear: generally the terms are used as synonyms.

Still another term, which should be distinguished from the other two is CMT or CMI, Computer-Managed Training or Computer-Managed Instruction, which relate to the record keeping and tracking of student performance. CMT may be a component of CAI or CBT or an independent system. There are other variants of these acronyms, but we need not belabor them here.

Computers are being used more extensively for teaching and learning in many educational institutions and training settings. Early CBT was largely text oriented using drill and practice or tutorial type teaching. "CBT occurs when a learner sitting at a computer observes information, receives a task or question, individually makes a decision, and receives feedback as to the correctness of the decision."[9] Facts, concepts and some skills can be taught using this media.

More recent additions of graphics, sound and animation have made computer-assisted training more appealing. With these additions, computer-assisted training can be used for demonstrations with visual representations of phenomenon, for simulations where a real or imaginary system is portrayed or for instructional games where the concept, knowledge or skill to be taught is embedded in the game.

Hundreds of computer-assisted instruction programs are

marketed and used in public schools to teach science, mathematics, and many other basic education courses. At the Sloan School of Management at Massachusetts Institute of Technology students use "economic flight simulators" to learn how to run a company by applying economics and management theories. Private industry, including Arthur Young, Union 76, and IBM, use CAI as an integral part of their training.

A few law enforcement agencies are using CAI. The University of Illinois offers computer-assisted instruction courses through its PLATO CBT system as a part of the Police Training Institute. [10] The F.B.I. uses computer-assisted instruction for its National Academy, New Agent Training and various other training.

Interactive Video. Early Computer-assisted instruction was little more than an electronic page turner. As mentioned earlier, the addition of graphic representation and sound made CAI more flexible and interesting.

Optical disc technology has provided another significant enhancement to CAI. This technology allows a marriage between video technology and computer technology. True pictures, photographs and video can be put into interactive training programs and controlled by a personal computer. Interactive video is the linking of CAI with full color pictures or motion sequences using optical technology.[11] Optical technology is the recording of video on a platter, which has the advantage of random access, higher resolution and longer play life.

Hyper-Card is one of a group of new software packages that have created "hypertext" or "hypermedia databases"; this technology makes it possible to jump from essay to encyclopedia to picture to map and to incorporate words, drawings, sound and even motion video all using the computer and videodisc technology.

In private industry, Ford Motor Company has launched its Intelligent Video Learning System (IVLS). This library of training courses will be distributed to its dealerships nationwide.

POST has developed an interactive video program for recruit training. The Los Angeles County Sheriff's Department is in the process of developing an interactive video version of "Laser Village" to address "Shoot, Don't Shoot" training.

Artificial Intelligence. Artificial intelligence is the attempt to build computers that perform in such a way that the machines' responses will be indistinguishable from the responses of a human mind. To fully do this, computers would have to be able to perceive and learn, to recognize patterns, to comprehend writing and speech and to make judgments in inexact situations for which all the facts are not in hand. While much research has been conducted, there is not yet a machine that can accomplish all of these tasks and some skeptics say there never will be.

Artificial intelligence research is also attempting to emulate the human functions of natural language processing and physical functioning to make it possible for robotic machines to perform these functions. Despite the skeptics, much progress has been made

toward making computers "smarter" and more able to accomplish analytical tasks.

1. **Expert Systems.**

One of the outgrowths of this research is the creation of "Expert Systems." These computer programs are designed to supply both the knowledge and the reasoning gathered from experts in a given field. A typical expert system is composed of two parts, the knowledge base and the inference engine. Facts, sometimes thousands, and rules of thumb, make up the knowledge base. The inference engine determines in what order to make associations and inferences and manipulates the information in the knowledge base.[12]

Usually these expert systems are developed by teaming a subject matter expert with a knowledge engineer(an expert system "expert"). The knowledge expert extracts every detail of how the human subject matter expert handles different situations in the particular field and then translates these into the expert system technology.

One of the most well-known "expert systems" is a rule-based system called "MYCIN," which is used by the medical profession to diagnose meningitis. MYCIN uses about 450 rules and 1000 facts for diagnoses, assigns a confidence factor to the finding, and then suggests proper treatment.[13]

There are other medical expert systems as well as expert systems used in mining, computer analysis, the credit card industry, accounting, tax auditing, banking, financial

planning, brokerage firms and countless others. The F.B.I. has developed Rape and Serial Murder Profiling Systems using artificial intelligence technology.

While many of these applications do not directly relate to a training function, artificial intelligence technology definitely has potential for training. Most expert system software, for instance, allows for not only direct "yes and no" questioning but also for "how and why" questions. Thus, as a training device, an expert system could be used to explain the rationale or logic behind decisions and the relationships of facts.

Artificial intelligence has already co-mingled with CAI and a new acronym has been created called Intelligent Computer-assisted Instruction (ICAI) to signify the marriage of the two technologies.

Learning Technology. Learning is a process through which the behavior of human beings can be changed. Traditionally, learning theory has involved some time-tested learning principles. To achieve a "High-Tech, High Touch" balance, the infusion of the electronic technologies must incorporate sound learning techniques and technology.

Traditionally law enforcement training has been predominately accomplished by means of classroom "lecture" delivered in four or eight hour blocks. This method has severe limitations where large volumes of information need to be memorized, skills later applied

or where attitudinal changes such as being "service-oriented" are desired. If the technology does nothing more than use telecommunications to delivery dry lectures to large audiences or deliver uninspired text via computers, then its use is highly questionable.

Learning theory tells us that repetition, reinforcement and practice are all essential to learning. Further, good instruction requires extensive pre-planning, including the setting of objectives, analysis of the best strategies for the mode of training (e.g. cognitive, psychomotor, or affective) assessment of the learner's capabilities and measuring devices to assess what students have learned.

John Naisbitt in his 1985 book The Year Ahead optimistically predicted that "Education as Entertainment" would fast become the modus operandi for America's schools. Whether entertaining education is truly being realized in today's schools is debatable but the philosophy behind it, that "if information is not entertaining, it won't be absorbed - not by preschoolers or postgraduates" has great relevance for the future of law enforcement training.

Major adjustments to traditional teaching methods are required to use educational technology tools effectively. Most trainers and teachers need to be sold on the advantages of the technology and to be trained in its use. Technology, when used appropriately, can improve teacher efficiency, creativity, productivity and professionalism. Emphasis must be placed on the education of

faculty (and training staff) and this education must be ongoing to fully take advantage of the tools currently available and being planned for the future.[14]

The challenge for the criminal justice system is not only to use these new educational technologies to facilitate learning by its personnel, but to prepare for a new type of trainee who is the product of this innovative communication and instruction.

Another opportunity for law enforcement is to use this same media capability of network agencies and training programs at the regional, national and international levels. For example, a University of the World has been founded in La Jolla which is a global electronic network uniting institutions of higher education around the planet. It is promoting electronic work stations for study, a clearinghouse of educational software and hardware, electronic books, teleconferencing and other innovations in international exchange. There should be a role for police science curriculum in such an enterprise. Law enforcement educators and trainers might use some of the University of the World models and procedures.

Technology Strengths and Weaknesses. A literature search was conducted to gather opinions on the relative applicability of existing educational technology to law enforcement training. In addition, seven interviews of training and educational technology practitioners (Appendixes A,B) were conducted to augment the literature information. The results are summarized in Exhibits 4 through 7.

Exhibit 4.
Teleconferencing
Strengths and Weaknesses

TELECONFERENCING

STRENGTHS	WEAKNESSES
REACH LARGE AUDIENCES AT GREAT DISTANCES	LIMITED TEACHER/STUDENT INTERACTION
ACCESS TO VALUABLE EXPERTISE	CAN'T BE SURE THAT STUDENT UNDERSTOOD
DELIVER MESSAGE DIRECT WITHOUT INTERPRETATIONS	REQUIRES HIGH LEVEL OF EXPERTISE FOR PRODUCTION
COST PER STUDENT VERY LOW, SAVE TRAVEL COSTS	CAPITAL INVESTMENT INITIALLY VERY HIGH
TIMELY DELIVERY OF CRITICAL INFORMATION	PREPARATION TIME FOR 3 HOUR PROGRAM UP TO SIX MAN WEEKS
PROGRAMS CAN BE TAPED FOR LATER VIEWING	LOSS OF PRIVACY IN INFORMATION DISSEMINATION
CAN BE MADE ENTERTAINING AND INFORMATIVE	OFTEN PRESENTED IN DULL LECTURE OR PANELIST FORMAT
CAN BE USED FOR BOTH COGNITIVE AND AFFECTIVE TRAINING	LIMITED TO DEMONSTRATIONS FOR SKILL BASED TRAINING

Exhibit 5
Computer-Assisted Instruction
Strengths and Weaknesses

COMPUTER-ASSISTED INSTRUCTION

STRENGTHS	WEAKNESSES
STUDENT LEARNS AT OWN PACE	REQUIRES AVAILABILITY OF COMPUTERS
TRAINING CAN BE WIDELY DISTRIBUTED AT LOW COST	LACKS INSTRUCTOR/STUDENT INTERACTION
BRANCHING PERMITS MORE SOPHISTICATION AND FLEXIBILITY	SOME CBT DESIGN BORING ELECTRONIC PAGE TURNING
TRAINING RESULTS EASILY DOCUMENTED	LONG SESSIONS AT COMPUTER NOT CONDUCIVE TO LEARNING
CAN TRAIN SINGLE STUDENT OR A GROUP; TIME FLEXIBLE	HAS THE LIMITATIONS OF A WRITTEN WORD MEDIA
STUDENT GETS IMMEDIATE FEEDBACK	DEVELOPMENT TAKES CONSIDERABLE TIME AND EXPERTISE
STUDENTS LEARN FASTER	INITIAL DEVELOPMENT COSTS MORE THAN TRADITIONAL LESSONS
VERY EFFECTIVE FOR COGNITIVE MATERIAL AND REINFORCEMENT OF INFORMATION	LESS EFFECTIVE FOR AFFECTIVE AND SKILL TRAINING

Exhibit 6
Interactive Video
Strengths and Weaknesses

INTERACTIVE VIDEO

STRENGTHS	WEAKNESSES
HAS THE BENEFITS OF CBT PLUS VIDEO AND GRAPHICS	LACKS STUDENT/INSTRUCTOR INTERACTION
CAN BE USED FOR COGNITIVE, AFFECTIVE AND SKILL TRAINING	REQUIRES MORE EXPERTISE AND DEVELOPMENT TIME THAN COMPUTER BASED TRAINING
CAN BE USED TO SIMULATE REAL LIFE SITUATIONS WITHOUT REAL LIFE RISKS	INITIAL DEVELOPMENT COSTS HIGHER THAN TRADITIONAL LESSONS

Exhibit 7
Artificial Intelligence
Strengths and Weaknesses

ARTIFICIAL INTELLIGENCE

STRENGTHS	WEAKNESSES
PROVIDES MORE FLEXIBILITY IN DEVELOPMENT OF CBT	EXISTING TECHNOLOGY LIMITED IN ITS CAPABILITIES
HAS GREAT POTENTIAL FOR TUTOR AND RAPID REFERENCE APPLICATIONS	REQUIRES SOPHISTICATED PROGRAMMING

MODIFIED CONVENTIONAL DELPHI

A Modified Conventional Delphi Panel was selected to forecast trends and events and their probable impact on the issues being studied. Eleven members were selected and included:

1. Law Enforcement Training Manager
2. Law Enforcement Generalist Manager
3. POST representative
4. Private sector trainer
5. University - Continuing Education representative
6. Attorney - Law Enforcement Civil Liability
7. Chief of Police
8. Local Elected Official
9. City Manager
10. Teleconferencing Expert
11. Computer-assisted Instruction Expert

The modified convention delphi process allows for the use of various individuals' expertise and opinions through the use of questionnaires and mailed responses. This delphi process consisted of two rounds.

During the first round, the panel was sent 10 trends and 10 events that had been distilled from the previous processes (Appendix C). They were asked to predict trend levels and the probability that certain events would occur.

The group results were then tabulated and the trends and events reduced to the five which seemed to be the most relevant, have the most impact and be most probable. For round two the group results were sent back to the participants. They were asked to again predict trend levels and events and also to determine the cross-impacts of the events on the trends and events forecast.

Trend Evaluation. Trends were selected from the previous processes including literature search and the STEEP, Futures Wheel, and Issues Analysis. Trend levels were identified by the delphi group, and five trends were forecast which had the most relevance and impact on the study issue. The list of trends and the median results are shown in Exhibit 8.

Exhibit 8
Predicted Trend Levels

"Will Be"		Five Yrs Ago	Today	5 Yrs From Now 1994	10 Yrs From Now 1999
Trend 1 Quality of Education. Education proficiency level produced by the public school system.	High	110	100	110	120
	Median	95	100	100	105
	Low	90	100	90	80
Trend 2 Cost of Educational Technology. The cost trend for educational technology.	High	130	100	110	125
	Median	120	100	90	80
	Low	90	100	90	75
Trend 3 People Skills for Officers. Level of the public's expectation that Officers be "service-oriented."	High	100	100	110	120
	Median	90	100	110	120
	Low	75	100	105	110
Trend 4 Number of New Training Requirements. Rate at which change necessitates updated training for patrol personnel.	High	90	100	125	150
	Median	85	100	115	130
	Low	75	100	100	115
Trend 5 Use of Educational Technology, Public Sector. Level of the application of educational technology to law enforcement training.	High	100	100	150	200
	Median	80	100	110	120
	Low	50	100	85	85

The median results as well as the high and low responses are indicated on the graphs. Each trend was predicted both on what it "will be" if there is no intervention and what it "should be." The

five trends and their high, median and low forecasts are shown in Exhibit 9.

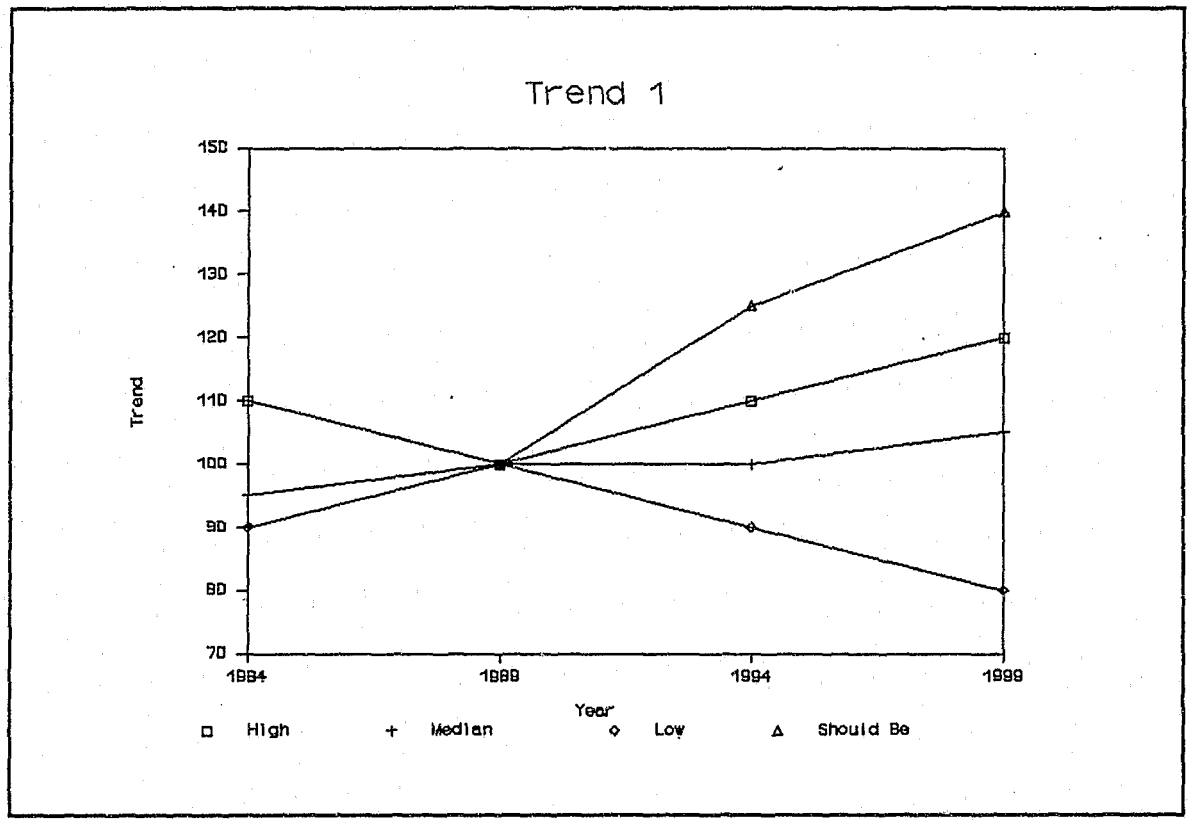
Exhibit 9
Trend Predictions

"Should Be"

		Today	Five Years From Now 1994	Ten Years From Now 1999
Trend 1 Quality of Education. Education proficiency level produced by the public school system.	High	100	150	160
	Median	100	125	140
	Low	100	110	120
Trend 2 Cost of Educational Technology. The cost trend for educational technology.	High	100	110	125
	Median	100	85	75
	Low	100	75	50
Trend 3 People Skills for Officers. Level of the public's expectation that Officers be "service-oriented."	High	100	200	200
	Median	100	120	140
	Low	100	110	120
Trend 4 Number of New Training Requirements. Rate at which change necessitates updated training for patrol personnel.	High	100	200	250
	Median	100	120	140
	Low	100	110	120
Trend 5 Use of Educational Technology, Public Sector. Level of the application of educational technology to law enforcement training.	High	100	200	300
	Median	100	130	150
	Low	100	100	100

Graphs were developed for each of the five trends showing the high, median and low trendlines for the nominal "will be" forecast and the median prediction for the normative "should be" forecast.

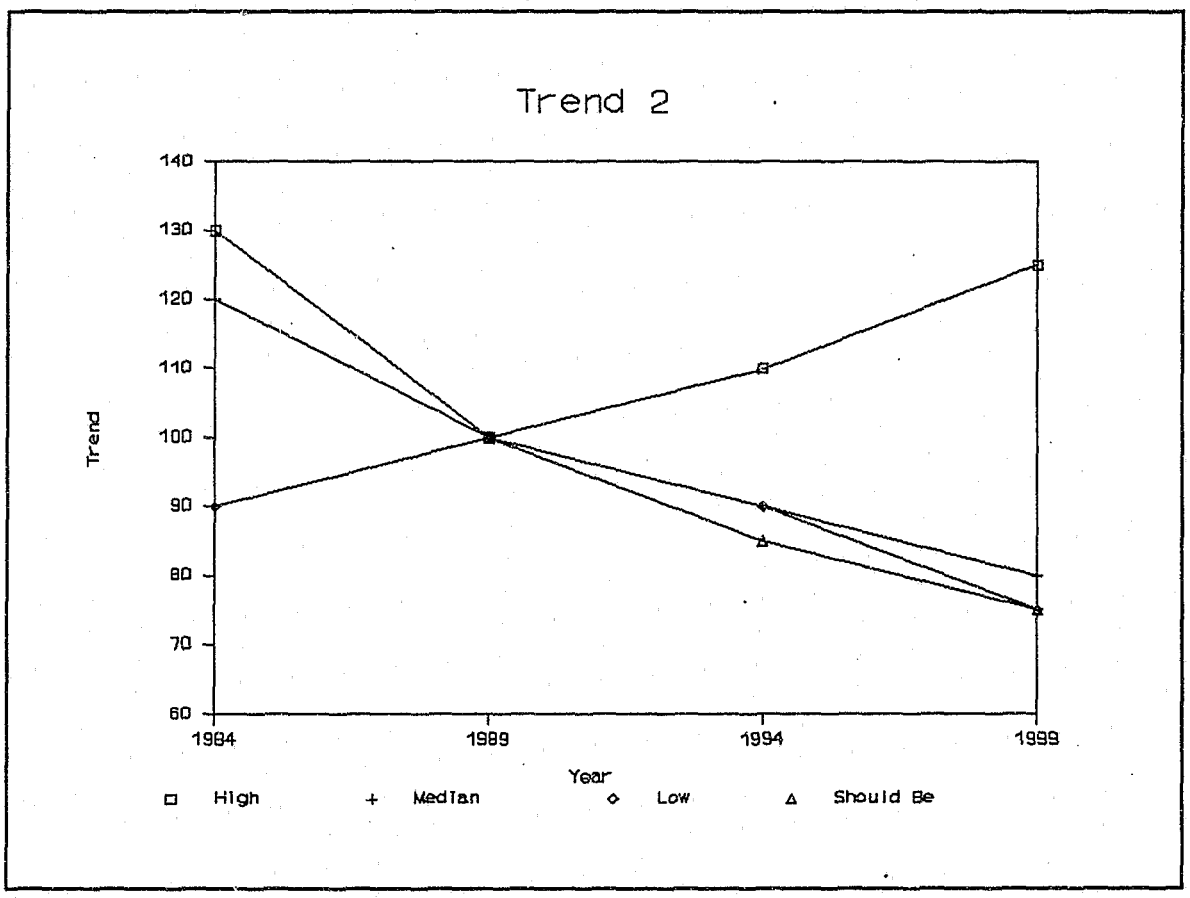
Exhibit 10
Trend 1
Quality of Education



1. **Quality of Education. Education proficiency level produced by the public school system.** The quality of education impacts the training required for patrol officers. Deficiencies in basic reading, writing and study skills increase the difficulty and amount of law enforcement in-service training required. The median prediction for improvement showed only a modest improvement of 5 percent over ten years. Some felt things would get worse and the most optimistic only predicted a 20 percent improvement. Given adequate attention and resources, the "should be" prediction

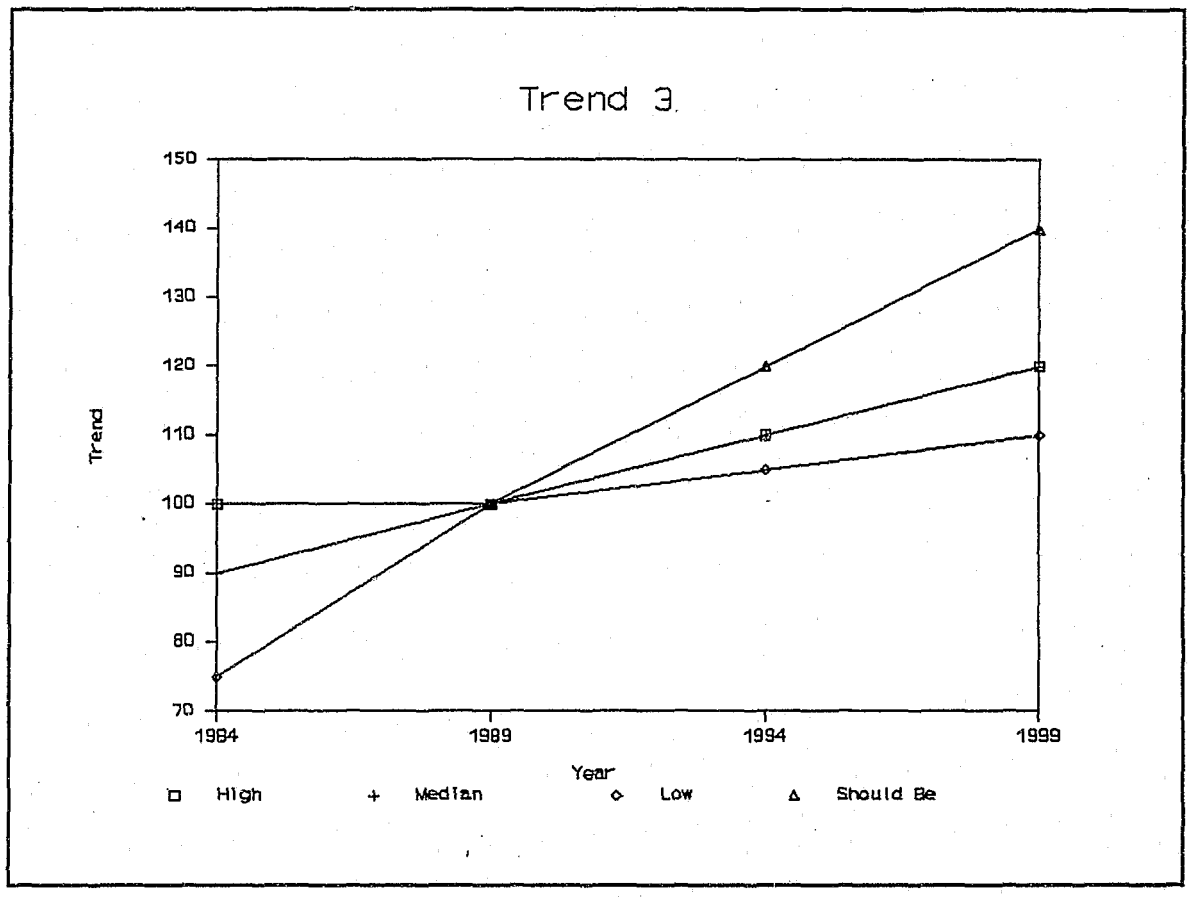
was for a 40 percent improvement.

Exhibit 11
Trend 2
Quality of Education



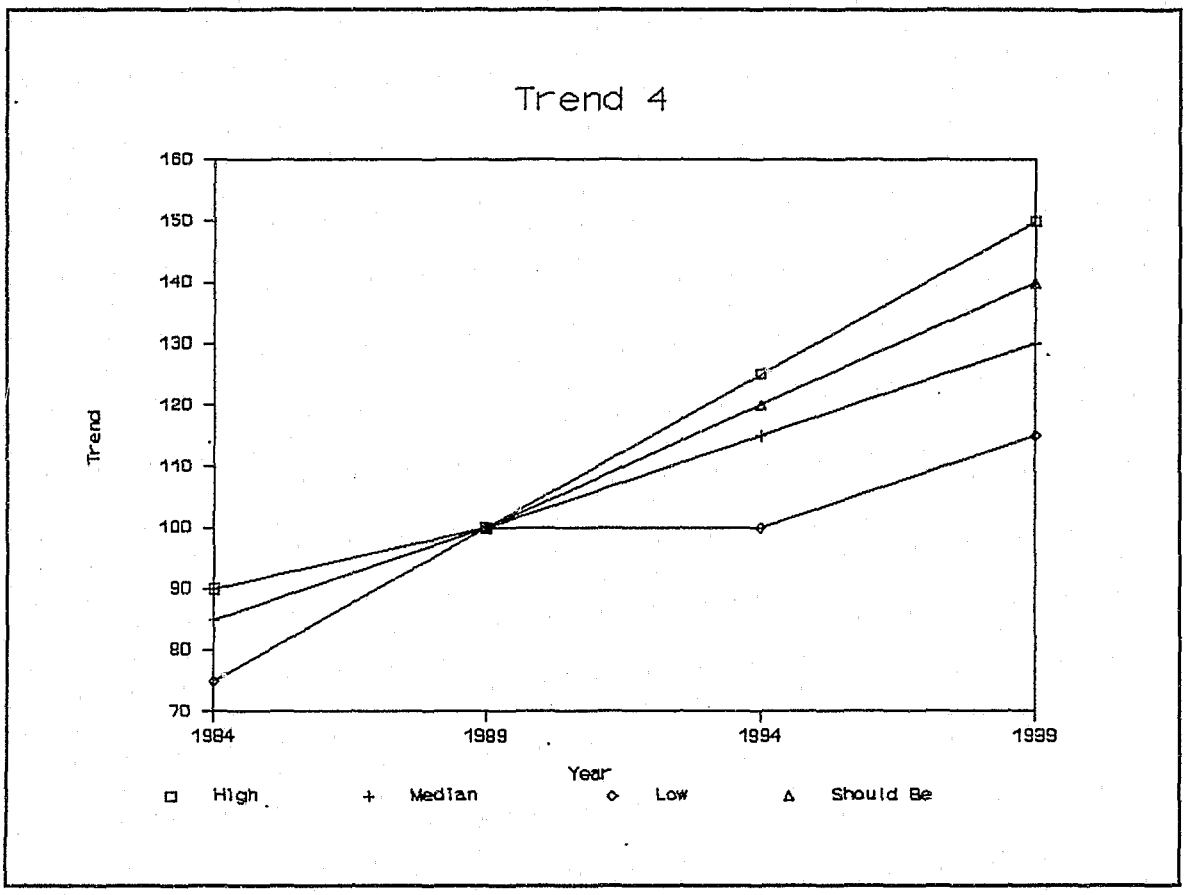
2. **Cost of Educational Technology. In general, the cost trend for educational technology.** Certainly the cost of educational technology will affect its use both for education and training. A downward trend is seen for both the "will be" and "should be" predictions. Hopefully, reductions in cost will make the use of educational technologies a more viable option for law enforcement training.

Exhibit 12
Trend 3
People Skills for Officers



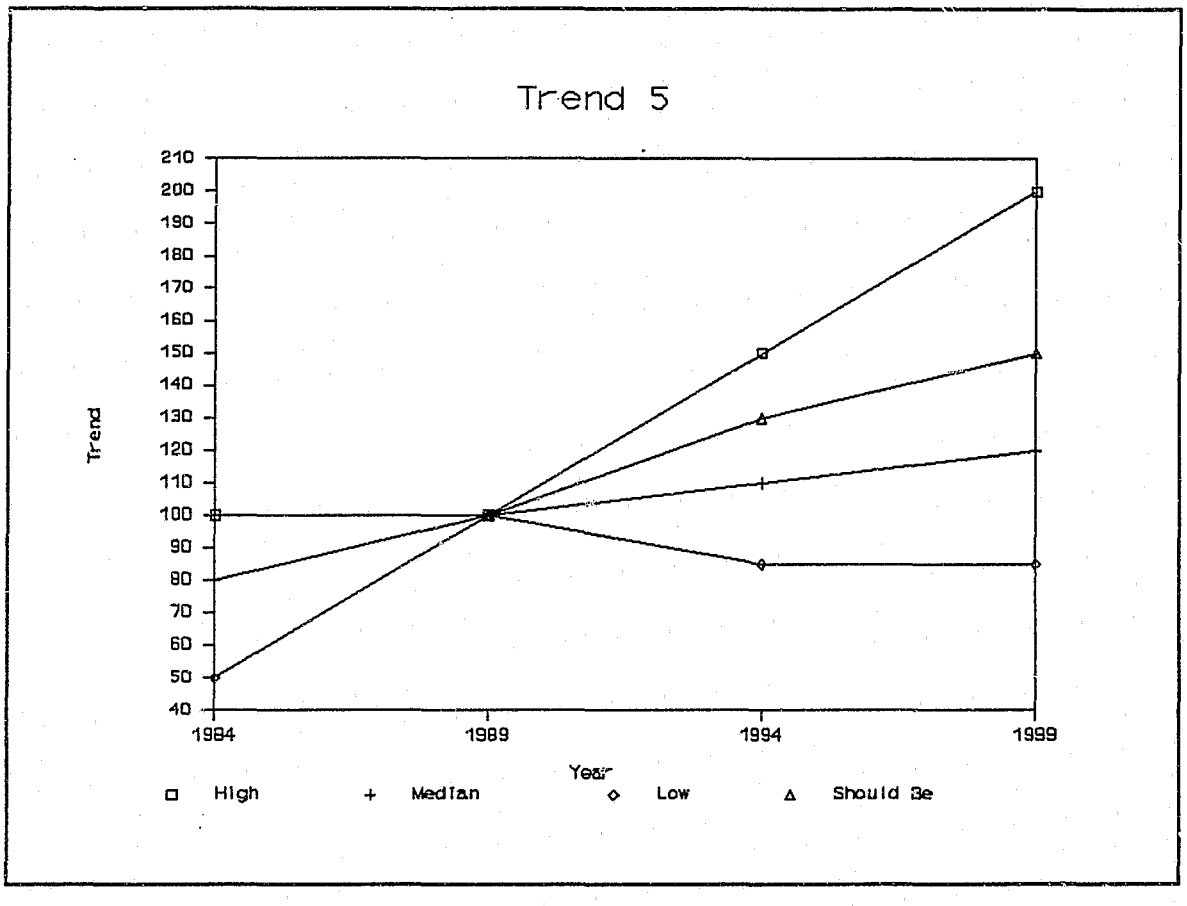
3. **People Skills for Officers. Level of the public's expectation that officers have a "service oriented" attitude.** This trend impacts training content and methodology. "People skills" has been one of the neglected components of training. Traditional training has emphasized role modeling on the "gunslinger" image with emphasis on officer survival and arrest tactics. Today, policing agencies often do not meet the public's expectations regarding officer attitudes. This disparity will increase from 20 to 40 percent in the future.

Exhibit 13
Trend 4
New Training Requirements



4. **Number of New Training Requirements. Rate at which change necessitates updated training for patrol personnel.** Today's training requirements already outstrip agencies' ability to deliver new training courses. The trend for the future shows that new training requirements will continue to accelerate, 15 to 20 per cent in the next five years and 20 to 40 per cent in ten years. This trend demonstrates the need for improving the training system delivery capability to meet increasing training demands.

Exhibit 14
Trend 5
Use of Educational Technology



5. **Use of Educational Technology, Public Sector. Level of the application of educational technology to law enforcement training.** The median prediction is for an increase of 10 percent in five years and 20 percent in ten years. Given appropriate intervention, this could be improved to 30 percent in five years and 50 percent in ten years. There is wide disparity in this prediction, however. The high prediction is for a 100 percent to 200 percent increase in the application of technology. The doomsayers on the low end

predict that the application of educational technology will remain the same or will even be less than today.

Event Evaluation. Ten events were selected from the literature scan and the STEEP, Futures Wheel and Issues analysis. These 10 events are listed in Appendix C. Through the delphi process, these events were distilled to five that were felt to have the most relevance, impact and probability of occurrence. The events, their probability and projected impacts are listed on Exhibit 15.

Exhibit 15
Event Evaluation

Event Statement	Year That Probability First Exceeds Zero	Probability by 1994	Probability by 1999	Impact Pos/Neg
1. Telecommunications.	1990	40%	80%	+7 0
2. Personal Expert Systems.	1994	60%	90%	+8 0
3. Interactive Video.	1994	10%	75%	+8 0
4. Computer Assisted Instruction.	1995	0%	50%	+5 3
5. True Portable Computers	1993	50%	95%	+8 0

1. **Telecommunications. A statewide law enforcement telecommunications training network is established by POST.** POST launched a law enforcement telecommunications network in California in 1989. What remains is for the system to become statewide in scope through expanded receiver sites and expanded broadcasting hours. The prediction is that by 1999

it is 80 percent probable that the system will truly be statewide.

2. **Personal Expert Systems. Microcomputer-based expert systems are widely used and available.** Personal expert systems already exist and are in use today. However, these tend to be somewhat complex and expensive. The delphi panel predicts that by 1994, it is 60 percent probable that these systems will have evolved to a point where they are widely used and available.

3. **Interactive Video. Low cost interactive video, programmable by the novice user becomes commercially available.** Interactive Video, programmable by the novice, may be available by 1994 but the panel states that it is 75 percent probable that it will be so by 1999.

4. **Computer-Assisted Instruction. The use of computers as instruction media in the public schools becomes commonplace.** Since Computer-assisted instruction usage in the public schools may parallel use for training purposes, the panel was asked to predict when its use would be commonplace in public schools. The panel was pessimistic about a near term revolution and predicted that the earliest would be 1995 with a 50 percent probability by 1999. Furthermore, this was the only event for which they saw a negative impact, and the

positive impact was less than for the other events.

5. **True Portable Computers. Low cost, pocket-size computers with the full capability of the current IBM PC are in widespread use.** Truly portable, powerful and low cost computers are predicted to be available by 1993 with a 50 percent probability by 1994 and 95 percent probability by 1999. Hand held computers are already available today; all they lack is the versatility and power of larger computers, and their cost is still relatively high.

Cross-Impact Analysis. The delphi panel was asked to assess the interrelationships of the events and trends; that is, if a particular event occurred what impact would it have on the other events and trends? The results of that evaluation are depicted in Exhibit 16.

Exhibit 16
Cross Impact Evaluation

If this event occurred... How would the probability of events and the level of trends be affected?

EVENT	E1	E2	E3	E4	E5	T1	T2	T3	T4	T5
E1	X	0	0	0	0	0	0	+10	+25	+25
E2	+10	X	+25	+50	+25	+20	+20	0	+10	+30
E3	+10	+20	X	+75	0	+30	+25	+10	+10	+40
E4	0	+30	+50	X	+50	+25	+25	0	+10	+30
E5	0	+50	+25	+60	X	+20	+20	0	+10	+25

Legend:

E1.	L.E. Telecommunication	T1.	Quality of Education
E2.	Personal Expert Systems	T2.	Cost of Educ. Technology
E3.	Interactive Video	T3.	People Skills for Ofcrs.
E4.	Computer Assisted Instr.	T4.	New Training Req.
E5.	True Portable Computers	T5.	Pub. Sector Ed. Tech Use

If a statewide law enforcement telecommunications training network is established by POST, the delphi panel predicts that this will increase the trend (+25) of the use by the public sector of educational technology.

If microcomputer-based expert systems are widely used and available the panel believes that this will improve the likelihood (+50) that computer-assisted instruction becomes commonplace and will increase the use of educational technology for the public

sector (+30).

Likewise if low cost interactive video, programmable by the novice user becomes widely available, then the prediction is that computer use for instruction will be increased (+75), and the quality of education will be enhanced (+30).

Wide demand for computer-assisted instruction would increase the probability of the development of user-friendly interactive video training technology (+50) and the development of truly portable computers (+50).

The development of low cost, pocket-size computers with full computer capability (predicted at a 95 percent probability) would dramatically increase the probability of the use of computer-assisted instruction (+60) and personal expert systems (+50).

Four of the events (2-5) relate to breakthroughs in the development of educational technology. Their achievement would all have positive impact on the quality of education (+20 to +30) and the use of educational technology by the public sector (+25 to +40). The panel also felt the more advanced technology would move educational technology costs upward (+20 to +25) and would increase law enforcement training requirements(+10).

SCENARIO FORECASTING

Scenarios are a synopsis of a projected course of action or events. For futures research, they are used to describe in more detail how events and trends may lead to an envisioned future.

For this paper, three modes of scenario forecasting will be used: exploratory, normative and hypothetical.

The exploratory ("most likely") scenario assumes that none of the forecasted events have occurred nor have any intervention policies been implemented. Using the "will be" trends and events, the question is posed, "What will be the outcome of these trends by the year 2000 assuming they keep going in the predicted direction and at the same velocity?"

The hypothetical ("what if") scenario manipulates the data to develop an alternative future.

The normative ("should be") scenario assumes that appropriate interventions implemented in the near term can impact the outcomes of forces currently in motion to achieve a desireable and attainable future.

SAME THING, SAME PLACE

Exploratory, "Most Likely" Nominal Scenario

It is a typical day, in a typical police briefing room. The officers shuffle in for their preshift briefing. The date is January 30, 2000. The Sergeant takes roll call and then, without much enthusiasm, begins to read from the briefing board. Some of the new trainees take notes, but the "old heads" sit back looking bored as if they've heard it all before.

"Listen up, guys," the Sergeant intones, "the following officers are scheduled for simulation training next Wednesday" and begins to read off the names. This gets some interest since the interactive video for weapons training and tactical response to high-risk calls is certainly more interesting than the lectures that are used for most training. Only a few topics use interactive video because it is relatively expensive and requires expertise and time to develop. Law enforcement training budgets are still small or nonexistent, with heavy reliance on POST funding (as they have been for the last ten years or so and can't keep up with new training requirements).

"And about these reports," the Sergeant growls, "if you can't get them right, they'll come right back atcha for correction." The Sergeant knows that the school systems are still not producing literate graduates and that law enforcement is ill equipped to make up for the deficiencies. The portable computers with spelling and grammar checking and standardized prompts have helped some, but

there is not enough to go around for everyone nor has sufficient training in their use been provided. Although the costs of computers and other educational technologies have come down somewhat, law enforcement has put its limited dollars elsewhere.

"We're still getting too many complaints of officer rudeness guys." The Sergeant looks around the room and thinks "of course, they're rude; too many calls, not enough resources, and not enough training. These are just young pups with twenty pound badges; experience will season them but in the meantime, God help us!" Service-oriented policing, the buzzword of the late 80's and early 90's has gone the way of community relations, the buzzword of the late 60's and 70's. These were nice ideas in theory, but without proper training and adequate resources, the officers fell back to survival tactics; handle the calls the quickest way possible, kiss off any calls you can to keep the workload manageable, and protect your back so the #*@^'s don't get you.

Some things have changed in the Sergeant's 15 years on the force; about-one half or more of the officers are women, hispanic, asian or black. "We have a three minute video on intercultural relations and I want you to pay attention"; the Sergeant starts the video. In addition to this diversity, new training requirements as a result of societal changes and demands, laws and court decisions bombard the officers daily.

The production and availability of videos has increased over the last 10 years and that has been very useful in getting more information to the officers. The quality, however, varies widely.

Some are preachy, some are very amateurish and some are quite good. Generally, however, the dissemination of information by videos is one-way with no opportunity for feedback nor for any testing or follow-up to see if the information was understood and, more importantly, applied to the daily job. Teleconferencing, started back in the early 90's never really got off the ground; timing the programs to fit shiftwork was difficult, the production costs were high, many agencies still don't have the downlinks. Today, it's mainly used as a method for disseminating videos.

"Well guys, that's it for today, let's hit the streets." Sgt. Jane Goodwin sighs to herself. Some things--like the daily briefing, and the streets--never change.

NO TIME TO DRAIN THE SWAMP

Hypothetical "What If" Worst Case Scenario

The Scheduling and Training Sergeant was about to pull out his hair. "How do they expect me to fill the cars and provide for minimum levels of officer safety with a 30 percent vacancy factor," he asked Lt. Morris. "I have no answers for you, Mike. Recruitment Unit has been trying, but the pool of qualified applicants is just not out there. Either they've dropped out of school or they're on drugs or they're not interested in our profession."

The problem had started in the late 80's with law enforcement finding a shortage of recruits now that the baby boom crest had passed. For a while, things improved but the school system continued to deteriorate and the drug and alcohol programs were abandoned when the economic recession of the mid 90's occurred.

"Oh, and by the way Lieutenant, all that 'mandatory training' that you expect me to put on--if I can't fill vacancies I certainly can't free up people for training."

"I know, I know Mike, with POST funding cut way back it's almost a moot issue anyway, our Chief can't convince the Council that they should put money in the budget for training."

Lieutenant Morris remembered the plans back in 1989 for educational technology to cut the costs and make training more effective. It might have been a realized dream, but local agencies didn't have the money or the expertise to do it on their own and

when the new Governor came in, he severely curtailed POST funding for local law enforcement training.

Right at the moment, training was not one of Morris' top priorities either. There was great unhappiness in the community with the police department; there were several lawsuits pending and residents were threatening to go to a private contract for police services. Officer morale was low and disciplinary incidents high.

"Mike, don't worry about training, we've got bigger problems right now, like survival. We'll get around to training when we can afford it."

THRIVING ON CHAOS

Normative "Desired and Attainable" Scenario

Officer Holland stands in front of his locker making the last minute adjustments to his uniform and gathering his equipment for the day's shift. Gun, baton, handcuffs, vest and a personal portable computer are standard equipment these days. He hurries into briefing where the day's briefing information will be downloaded into his computer. Key information will be flagged for his attention and will require computer-keyed responses from him at the beginning of his shift to ensure that he saw and understood the information. Additional information will be available for later reference.

Together with his shift supervisors, Officer Holland will spend fifteen minutes at the start of his shift viewing the law enforcement broadcast-network briefing with the latest trends and training information. Questions by individual officers can be answered immediately by the telephone link or entered into a computer system for later response.

Officer Holland, a five-year veteran, is a product of the public school system and went on for two years of college before becoming a policeman. He is currently working on his bachelors degree through television courses viewed at the station or at home. His report writing skills were a little weak when he joined the Department, but through departmentally provided computer-assisted

instruction and a professional English instruction coach, also provided by the department, his writing has improved significantly. In addition, his personal computer includes a report writing program that prompts him for the required information and does grammar and spell checking of his documents before they are downloaded into the Sergeant's computer. Many routine reports come in directly from citizens who can use their home computers to report vandalism, petty thefts and other incidents to their local police department.

Training requirements have continued to grow because of a changing and complex society, however, the inclusion of personal expert systems in the portable computers have alleviated the need for some training. Policy and procedural manuals and laws are automated for ready reference by the officer precluding the need for extensive memorization of this information. Officer Holland receives regular training in a variety of subjects accomplished through a multi-media approach. The cost of educational technologies has come down considerably over the last 10 years and police administrators have decided that training of line-level personnel is one of the best investments that could be made to prevent law suits and ensure citizen satisfaction with the police service.

Holland's training includes interactive video for simulations of high-risk calls and various tactical incidents, and computer-assisted instruction for reinforcement of knowledge about laws and procedures. Two-way teleconferencing sessions with criminal

justice professionals throughout the state are used for discussions on law enforcement issues and to provide officers opportunities to make recommendations for changes and improvements. Recently, one of the teleconferences featured a lively dialogue between line police officers and state legislators on policing issues. Local training sessions also include professionally moderated discussions between officers and various community members to encourage mutual understanding and respect.

Today, Officer Holland will spend several hours of his shift meeting with a local community group regarding community problems in his patrol area. Using a computer bulletin board system, citizens regularly communicate with Officer Holland about problems or questions they might have. He makes it a point to be diligent in responding to these questions and meets with these groups regularly because he knows the value of service-oriented policing. Holland has found that a great deal of important crime leads come in through the bulletin board as well.

After work Officer Holland will visit his mother who is a retired police officer. Listening to her stories of the "good old days," he thinks "things sure have changed - and for the better, I think. These are the good new days."

PART ONE SUMMARY

In an age of rapid change, organizations which survive will have to be able to keep pace. In the new "information society," their most valuable resource will be their people. Human resource development, therefore, will continue to be a critical function.

Law enforcement agencies will have to be prepared to continuously train their line-level personnel to ensure competency. This training will have to encompass not only the traditional training in laws, procedures and skills, but also attitudinal training that will determine how the service is delivered to the public so that the public is satisfied and supportive.

Traditional means will not be sufficient to meet future needs. Effective training will require the application of educational technology. The predictions are that the educational technology will be available, will advance and will cost less in the future. The question for law enforcement is how to ensure that educational technology is incorporated into the training delivery system and that it is used appropriately.

PART TWO - A STRATEGIC PLAN FOR FUTURE TRAINING

In Part One, the issue "How can new educational technology impact the effective delivery of continuing in-service training for patrol personnel by the year 2000?" was analyzed. The trends and events impacting this issue were identified. Possible future scenarios were constructed using these trends and events.

In Part Two, a "Desired and Attainable" Scenario "Thriving on Chaos," will be used as the basis to develop a strategic plan. The goal of the strategic plan is to improve the effectiveness of law enforcement patrol training by the optimal application of new educational technology.

The Strategic Management Planning Process is sometimes identified by the acronym SMEAC, which stands for Situation, Mission, Execution, Administration and Control. Each of these elements provides a building block for the planning process. After setting the context for the study, each of these components will be addressed through a series of analytical processes continuing into Part Three, Transition Management.

CONTEXT

The context used in this study will be a prototypical metropolitan law enforcement agency in California with a service population of 50 to 200,000. This agency's responsibilities encompass a wide range of enforcement, investigative, deterrent and

service activities. As is normal in urban law enforcement services, it performs these duties in diverse multicultural communities.

The peace officers have received training equivalent to the POST Basic Academy requirements. The plan addresses the training needs of police currently assigned to patrol functions. Patrol functions include criminal and traffic enforcement, deterrence and prevention efforts, as well as response to a variety of other patrol service calls to meet local community needs and desires. While the plan is focused on the sworn police generalist, it will also be pertinent to those civilians and specialists who have to assume patrol responsibilities.

SITUATION ASSESSMENT

Assessing the situation in which the proposed change will occur is an important first step for the planning process.

WOTS UP Analysis. One technique for examining the situation is the "WOTS UP" Analysis, which examines external environmental trends and internal organizational capabilities to discover organizational competency and attempts to match that competency with the external trends. Weaknesses, Opportunities, Threats and Strengths are uncovered that Underly the Planning process.

Following WOTS-UP category listings were derived from the literature scanning and interviews.

1. **Opportunities and Threats.** An "opportunity" is a favorable situation that aids the organization. A "threat" is an unfavorable situation potentially damaging--a barrier or constraint. Opportunities and threats are the exterior conditions and trends and are reviewed in Exhibit 17.

Exhibit 17
WOTS-UP
OPPORTUNITIES AND THREATS

Opportunities	Threats
Cost of Educational Technology	Declining Education System
Public Expectations	Government Funding Scarcity
Technology Advances	
Telecommunications	Social Disintegration
Expert Systems	Public Expectations
Interactive Video	Adverse Litigation
Computer Portability	
Computer-Assisted Training	
Crime Rate	Crime Rate
Community Diversity	
Economic Prosperity	Economic Downturn
Contract Services	Contract Services
Continuing Education	
New legislation	New Legislation

Lower cost and technology advances offer a great opportunity for future law enforcement training. High expectations for performance by the public can turn into support and funding if those expectations are realistic and are generally being attained. High expectations for performance becomes a threat if these are unrealistic and are not being attained.

Moderate crime rate increases create a "market" for police services and, therefore, are an opportunity. Extreme social disintegration, chaos and rampant crime could be a threat to the

law enforcement establishment causing it to lose credibility.

A favorable climate for law enforcement is created by a dynamic environment with community diversity, economic prosperity and active legislators. Restrictive legislation or adverse litigation against law enforcement, on the other hand, can drain critical resources to pay for the cost of defending and settling civil lawsuits. Contract services can benefit the law enforcement organization, whether the agency is a provider or recipient of contracted services, by creating an environment where being cost effective and service-oriented are priority values. A strong human resource development system, either through the college and universities or private sources, can become a valuable resource for continuing professional law enforcement training. Such a system also increases the probability of high quality recruits being available to hire.

2. **Strengths and Weaknesses.** A "strength" is a resource or capability that the organization can use to attain its objective. A "weakness" is a limitation or defect in the organization that may impede attainment of its objectives. Strengths and Weaknesses, relate to internal resources and capabilities, and are identified in Exhibit 18.

Exhibit 18
WOTS-UP
STRENGTHS AND WEAKNESSES

STRENGTHS	WEAKNESSES
POST Funded Training	POST Funded Training
High Training Standards	Escalating Training Mandates
Educational Technology Application	Aversion to Technology
Use of Officers As Trainers	Use of Officers as Trainers
	Training Funding Priority
	Officer Illiteracy
	Authoritarian Approach

POST funding for law enforcement training has helped both the quality and quantity of law enforcement training in California. It also has become an "Achilles' heel" because local agencies become overly dependent on such external finances. Local budgets for training are usually relatively small or sometimes nonexistent.

Mandated training constitutes both organizational strengths and weaknesses. POST has established standards for training which result in a high level of professionalism in California law enforcement. POST also establishes certain mandated training requirements which ensure minimum proficiencies. These mandates are usually expressed in terms of "hours of required training," often in four-or eight-hour blocks of time on certain subjects. When these mandated hours become excessive, local law enforcement agencies experience difficulty in meeting these training requirements while still fulfilling their day-to-day service requirements.

Educational technology has been successfully used in a few law enforcement training endeavors, and these successes constitute a

strength. There is, however, still great reluctance and even aversion to experimenting with new approaches to training because law enforcement organizations tend to be conservative and tradition bound. Launching into "state of the art" programs can be very high risk, and law enforcement has not generally been willing to embark on high risk endeavors that may fail and create public criticism. Law enforcement's tendency for "top down" authoritarian management has also impacted its mode of training which, more often than not, is one-way lecture type presentations.

Failure of the public education system to produce literate graduates has negatively influenced law enforcement recruitment. Many new recruits do not have good basic writing or learning skills and habits. These weaknesses also adversely impact the training process.

The use of "in-house" police officers to train other police officers is both a strength and a weakness. The officer hopefully brings to the training his practical experience and professional knowledge and can serve as a "role model" for the students. Most agencies require their instructors to complete some kind of an instructor training course. However, since these instructors generally fulfill these teaching duties as a temporary assignment, or in addition to their regular assignment, their available time and experience in lesson planning, preparation and delivery is necessarily limited, and the quality of instruction often suffers.

Internal Capability Analysis. An Internal Capability Analysis profiles additional organizational strengths and weaknesses.

Exhibit 19.
Capability Analysis
Strategic Needs

CATEGORY	SUPERIOR	BETTER	AVG.	IMPROVE	CRISIS
MANPOWER		X			
TECHNOLOGY				X	
EQUIPMENT				X	
FACILITY			X		
MONEY				X	
CALLS FOR SERVICE		X			
SUPPLIES			X		
MANAGEMENT SKILLS		X			
P.O. SKILLS		X			
SUPERVISORY SKILLS		X			
TRAINING		X			
ATTITUDE		X			
IMAGE		X			
COUNCIL SUPPORT		X			
CITY MGR SUPPORT		X			
SPECIALTIES			X		
MGT FLEXIBILITY			X		
SWORN/N-SWORN RATIO		X			
PAY SCALE		X			
BENEFITS		X			
TURNOVER			X		
COMMUNITY SUPPORT		X			
COMPLAINTS RECD			X		
ENFORCEMENT INDEX		X			
TRAFFIC INDEX			X		
SICK LEAVE RATE			X		
MORALE		X			

SUPERIOR	BETTER THAN ANYONE ELSE. BEYOND PRESENT NEED.
BETTER	BETTER THAN AVERAGE. SUITABLE PERFORMANCE. NO PROBLEMS.
AVERAGE	ACCEPTABLE. EQUAL TO COMPETITION. NOT GOOD, NOT BAD
IMPROVE	PROBLEMS HERE. NOT AS GOOD AS IT SHOULD BE. DETERIORATING. SHOULD BE IMPROVED.
CRISIS	REAL CAUSE FOR CONCERN. SITUATION BAD. MUST TAKE ACTION.

From the analysis of the strategic needs areas (Exhibit 19), the organization is rated better than average or average in most categories. Areas requiring improvement are technology, equipment and money. Generally dollars go to salaries first, so deficiencies in equipment and technology are understandable given limited budgets. It also points up a strategic weakness, however, in that emphasis on educational technology would require a shift in priorities.

Exhibit 20
Capability Analysis
Reception to Change

CATEGORY	CUSTODIAL	PRODUCTION	MARKETING	STRATEGIC	FLEXIBLE
TOP MANAGERS:					
MENTALITY			X		
SKILLS				X	
EDUCATION				X	
ORGANIZATION CLIMATE:					
CULTURE		X			
REWARDS		X			
STRUCTURE		X			
ORGANIZATION COMPETENCE:					
STRUCTURE		X			
RESOURCES		X			
MIDDLE MGMT				X	
LINE PERSONNEL		X			

CUSTODIAL	REJECTS CHANGE
PRODUCTION	ADAPTS TO MINOR CHANGE
MARKETING	SEEKS FAMILIAR CHANGE
STRATEGIC	SEEKS RELATED CHANGE
FLEXIBLE	SEEKS NOVEL CHANGE

Looking at the receptivity to change (Exhibit 20), while top managers are seen as having the skills, education and knowledge necessary to proactively seek change, the mind set and the organizational culture are much more sluggish and tend be reactive. Introducing a radical change into this organization will be difficult; incremental change will be much easier to accomplish.

Strategic Assumption Surfacing Technique. One more influence on the situation that should be assessed is the "Stakeholders" and their likely roles and reactions to any proposed change. Stakeholders are those persons who will be impacted by, have an impact on, or would be concerned about the issue of educational technology applied to patrol training. These people would be likely to influence the issue or law enforcement's approach to the issue. A less obvious or unanticipated group of stakeholders are called "snaildarters." These are people who may not have an apparent role in the issue but can ultimately cause serious problems with program implementation. A list of these persons and possible assumptions follows (snaildarters are identified by (SD):

1. POST
2. Police Agency Training Mgrs.
3. Chief of Police/Sheriff
4. City Manager/County Administrative Officer
5. Council/Supervisors
6. FBI
7. Police Agency Training Staff
8. Police Agency Generalist Mgrs.
9. Police Officers/Deputies
10. Police Officer Association/Union (SD)
11. Business Community
12. Community Citizens
13. Community Colleges/Continuing Education
14. Colleges/Universities
15. Private Training Firms
16. Legal Counsel for Police Agency
17. Attorney General's Office
18. Professional Police Associations
19. Technology Vendors
20. State legislators (SD)
21. Governor (SD)
22. Educators (SD)
23. Regional Law Enforcement Groups

1. **POST.** Would likely have a positive response to infusion of the technology into training. Would want to ensure that

minimum standards were maintained. Would also want to play a leadership role in its development.

2. **Police Agency Training Managers.** Would not want the burden of time-consuming and costly training development. Would want input into the design, training methods and content. Would have to be convinced that the new method was more effective and efficient than the old.

3. **Chief of Police/Sheriff.** Would want outside funding. Would have to be shown that the new technology and techniques were effective and efficient. Would want training to be flexible enough to customize training to their jurisdictional needs.

4. **City Manager/County Administrative Officer.** Would be concerned about funding. Would likely see training as a low priority. Would have to be shown tangible benefits such as cost savings, reductions in lawsuits and public complaints.

5. **City Council/Board of Supervisors.** Local funding and local control will be issues for them.

6. **F.B.I.** Will want a leadership role in the development of new training technology and techniques particularly as it relates to its areas of expertise.

7. **Police Agency Training Staff.** Will not want to lose their role as training developers and instructors. May resist the change.

8. **Police Agency Generalist Manager.** Is concerned with productive officer hours. Will support change if it takes less time and produces more effective officers.

9. **Police Officers/Deputies.** Response will vary. Some senior officers may be cautious and reluctant to use the new technology. Others, who happen to like electronic gadgetry, may adapt easily. Younger officers will more likely have already been exposed to technology and may even be somewhat overly optimistic about its use. All officers will be more receptive if the training is made more participatory, entertaining and rewarding then old methods.

10. **Police Officer Association/Union.** Is going to be looking for any negative impact on the working conditions or benefits of their members.

11 **Business Community.** Will be supportive of community betterment. May be willing to contribute and/or participate in educational technology programs.

12. **Community Citizens.** Police performance and low taxes are community concerns, therefore, they are likely to be supportive of innovations that will improve police performance as long as taxes are not increased.

13. **Community Colleges/Continuing Education.** Community Colleges will be competing with private and governmental organizations in the training business.

14. **Colleges/Universities.** Some are very traditional and resistive to technology. Others are progressive and are likely to embrace and support educational technology.

15. **Private Training Firms.** Will be eager to break into the law enforcement training market.

16. **Legal Counsel for Police Agency.** Is concerned with training from a liability perspective. Is the training well documented, can it be shown in a civil lawsuit that the agency did a competent job in training its employees?

17. **Attorney General's Office.** May want to use the technology to disseminate information, guidelines and law interpretations.

18. **Professional Police Associations.** May want to use the technology to disseminate information through publications and seminars. Would likely be supportive of educational technology for law enforcement training.

19. **Technology Vendors.** Would likely be interested in working with law enforcement to develop educational technology pilots if it appeared that the potential for sales was large enough to warrant their investment.

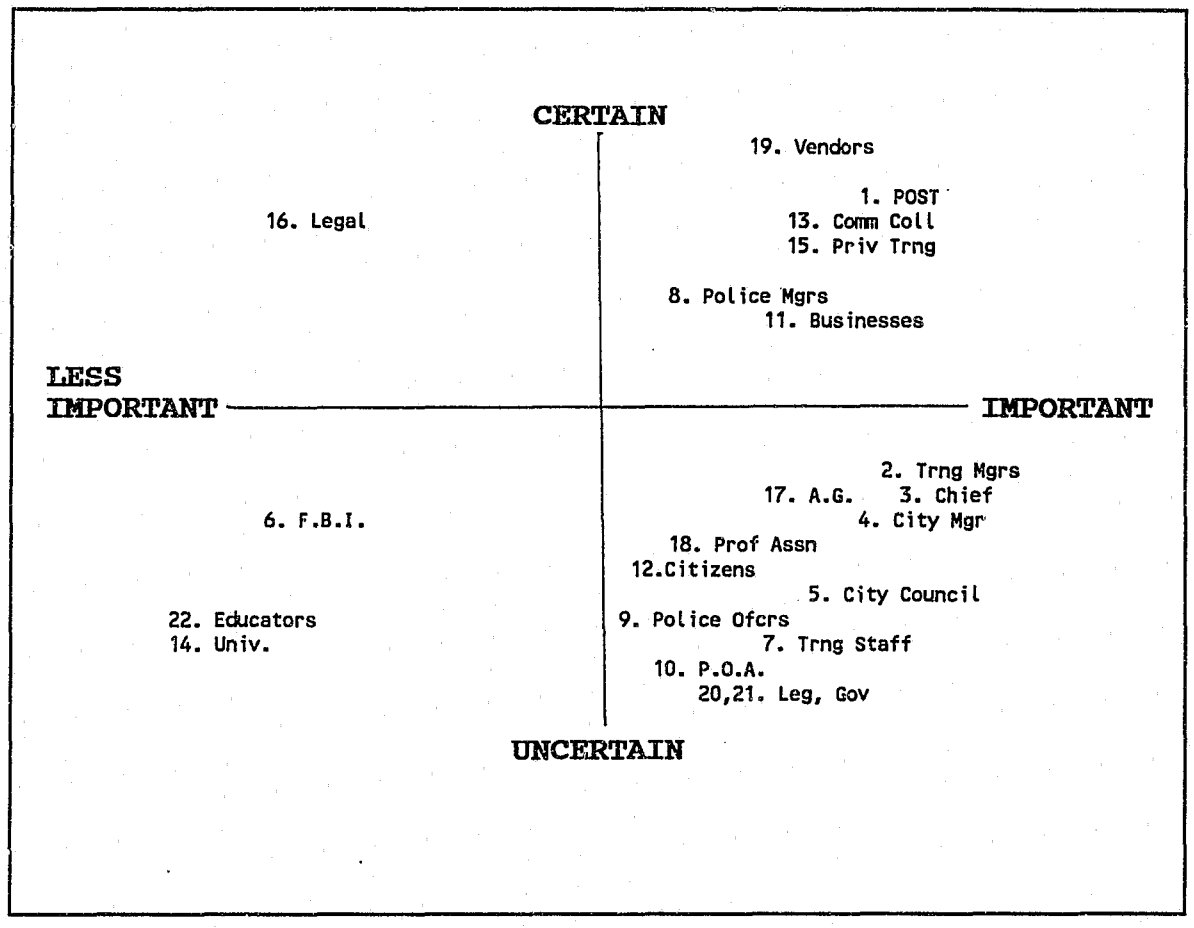
20. **State Legislators.** Will want to do what is politically expedient. Very unpredictable as to what level of support they will give to law enforcement training.

21. **Governor.** Will form policy based on political strategies: can it get or keep me in office?

22. **Educators.** May view educational technology as a threat. May be willing to progressively explore creative ways to apply it if they are convinced of its usefulness.

To attempt to plot the certainty of these assumptions and their relative importance as related to the issue under study, a Strategic Assumption Surfacing Technique (SAST) Map (Exhibit 21) was used.

Exhibit 21
Strategic Assumption Surfacing Technique (SAST)



Many stakeholders play an important role in the future of educational technology. The three selected as most critical are the law enforcement top executives, POST and the agency training managers. Community colleges, private training organizations and city or county managers are also key players. Businesses and

technology vendors could opt to play a significant role in the development and application of educational technology as well. The most uncertainty revolves around the positions or roles in the issue that may be taken by future elected officials, the state legislature and the governor. The F.B.I. is seen to have a lesser role primarily because much of the patrol training revolves around California law, procedures and state standards for training. Certainly, its partnership and expertise should be used in those training subjects having universal application, and in areas where the F.B.I. has particular technology or subject matter expertise.

MISSION

Next to be examined is the purpose and intent of the law enforcement organization as it relates to the issue.

A macro statement of the basic mission of the organization is illustrated by a recently adopted mission statement for the Los Angeles County Sheriff's Department which follows:

Exhibit 19.
Macro Mission Statement

OUR MISSION

The quality of neighborhood life, its safety and welfare comes from the commitment of each of its citizens. The **Los Angeles County Sheriff's Department** takes pride in its role as a citizen of the community; partners with its members in the delivery of quality law enforcement services. We dedicate our full-time efforts to the duties incumbent upon every community member. As we act, we are universal citizens deriving our authority from those we serve. We accept our law enforcement mission to serve our communities with the enduring belief that in so doing, we serve ourselves. As professionals, we view our responsibilities as a covenant of public trust, every mindful that we must keep our promises. As we succeed, our effectiveness will be measured by the absence of crime and fear in our neighborhoods and by the level of community respect for our efforts. In accomplishing this all important mission, we are guided by the following principles:

To recognize that the primary purpose of our organization is not only the skillful enforcement of the law, but the delivery of **humanitarian** services which promote community peace.

To understand that we must maintain a level of professional **competence** that ensures our safety and that of the public without compromising the constitutional guarantees of any person.

To base our decisions and actions on **ethical** as well as practical perspectives and to accept responsibility for the consequences.

To foster a collaborative relationship with the public in determining the best course in achieving **community order.**

To strive for **innovation,** yet remain **prudent** in sustaining our fiscal health through wise use of resources.

To never tire of our **duty,** never shrink from the difficult task and never lose sight of our own humanity.

A micro mission statement related to training was formulated using the macro mission statement for its foundation.

Exhibit 23
Micro Mission Statement

TRAINING MISSION

Training is a vital part of the human development of our most valuable resource, our people. To achieve the high ideals of our organizational mission, we must ensure that the "human products" of our training have received all the knowledge, skills and attitudinal education necessary for professional law enforcement practitioners. To this end we should create and maintain a human resource development system that:

Has a reasonable balance of enforcement and humanitarian service training consistent with our mission. The training should includes people skill and ethics training as well as the traditional training in laws and procedures.

Is well grounded in learning theory and techniques and employs suitable expertise in its application.

Is innovative in the application of educational technologies and is appropriate in matching the technology to best fit the training subject matter and objectives.

Is prudent in ensuring these training techniques are effective and that the costs are not excessive in relationship to the benefits.

Includes a quality control component and adequate feedback mechanisms to ensure that the training has produced the attitudes desired and that knowledge and procedures have been understood and retained.

Has an accurate and efficient record keeping system.

Provides for regular reinforcement and updates of training.

Ensures that appropriate reference and informational resources are available for employees to supplement training.

Regularly reassess the job requirements to ensure that training is comprehensive. The system must also address the issue of job simplification to ensure that the job requirements do not require skills of a complexity beyond the mastery of the average employee.

EXECUTION - MODIFIED POLICY DELPHI APPROACH

A mission has been defined and the context in which it exists examined. Next to be examined are the alternative policy strategies that should be adopted to ensure the achievement of the mission and the resolution of the issue under study.

For this process, a small group of individuals including a chief of police, a law enforcement training manager, a law enforcement generalist manager, and an independent consultant acted as advisors in providing alternative policy strategies.

Alternative Policy Strategies. Out of this process ten alternative policy strategies were developed.

1. POST fund and develop educational technology-based training at state level with local law enforcement advisory participation.
2. Law enforcement agencies group together regionally to fund and develop educational technology-based training.
3. Consultants with expertise in instructional technology be hired to develop educational technology-based law enforcement training.
4. Educational technology-based law enforcement training be contracted out to private training firms.
5. Educational technology-based law enforcement training be contracted out to local community colleges.
6. Technology vendors be asked to develop pilot educational technology projects for law enforcement.
7. Individual law enforcement agencies fund and develop educational technology-based training.
8. Larger law enforcement agencies develop educational technology-based training and make it available on contracted basis for smaller agencies.
9. Public/private corporations be formed to fund and develop law enforcement training using educational technology.
10. Federal, state and private funding sources, both law enforcement and educational funds, be explored to develop educational technology for law enforcement application.

Using the data acquired from the modified policy delphi panel

in conjunction with interview data gathered in Part One, each of these alternatives was then rated by the writer for their feasibility and desirability (Appendix D). All of the alternatives, by themselves, had some limitations to their feasibility and desirability. Alternatives 2, 5 and 7, which related to regional, community college and individual agency development of educational technology-based training ranked lowest; however, in combination with other alternatives they might receive higher rankings. Alternative 10, regarding seeking outside funding ranked highest since it was felt that funding would be the key to success.

Strategy Pros and Cons. Each of the proposed strategies was examined and previously collected data was used by the writer to determine the strategy pros and cons.

1. POST fund and develop educational technology-based training at state level with local law enforcement advisory participation.

PRO: POST has already demonstrated leadership in development of educational technology-based training through its telecommunications and interactive video programs. POST has routinely used the expertise of local law enforcement in training development.

CON: Centering all development in one agency precludes the creative input available from other organizations and narrows development to those projects which one agency can effectively manage.

2. Law enforcement agencies group together regionally to fund and develop educational technology-based training.

PRO: Participation by local law enforcement widens the expertise base and improves the sense of "ownership" of the training development. Regional funding for training development is more financially feasible than for individual agencies.

CON: Not all regions are capable of creating cooperative successful ventures nor do they necessarily have the training expertise.

3. Consultants with expertise in instructional technology be hired to develop educational technology-based law enforcement training.

PRO: Instructional technologists could apply their expertise to help ensure that the training techniques and the technology chosen fits the training topics and goals.

CON: Most law enforcement agencies cannot afford to hire this expertise.

4. Educational technology-based law enforcement training be contracted out to private training firms.

PRO: Such firms would likely have expertise superior to the average law enforcement agency and be able to produce a professional product.

CON: Contracts require management oversight. Contractors prefer to provide generic packages that may or may not fit well with individual agency needs. Current law enforcement

expertise may be lacking.

5. Educational technology-based law enforcement training be contracted out to local community colleges.

PRO: Community colleges are in the education business and have the resources and expertise available.

CON: Quality is not necessarily superior and current law enforcement expertise may be lacking.

6. Technology vendors be asked to develop pilot educational technology projects for law enforcement.

PRO: Takes advantage of the vendor expertise in the educational technology. Vendors are often willing to do such pilot development at cost to earn a niche in a new market.

CON: Expertise is generally limited to vendors' own products, and this may limit their creativity in addressing training needs.

7. Individual law enforcement agencies fund and develop educational technology-based training.

PRO: Ensures that training meets local needs.

CON: Local agencies are generally unable to fund development projects. Limits creativity and use of wide expertise. Fosters duplication of effort particularly if training developed is not easily transferable to other agencies.

8. Larger law enforcement agencies develop educational technology-based training and make it available on contracted basis for smaller agencies.

PRO: Uses the training resources and current law enforcement

expertise of a large agency to develop training.

CON: Unless training is developed as a part of a comprehensive plan with guidelines, training may not be readily transferable to other agencies. Smaller agencies may not be able to afford to contract for the training.

9. Public/private corporations be formed to fund and develop law enforcement training using educational technology.

PRO: Provides a funding source for training development. Taps into business resources for training expertise.

CON: Such a venture may not be feasible in all jurisdictions.

10. Federal, state and private funding sources, both law enforcement and educational funds, be explored to develop educational technology for law enforcement application.

PRO: Educational technology development is often beyond the funding capability of local law enforcement.

CON: Outside funding requires that time be committed for research into funding sources, grant writing and contract administration.

Recommended Strategy. Because educational technology itself is complex, encompassing many areas of expertise, and because the training delivery system in California is already a combination of many of the above alternatives, the best solution will probably be an amalgamation of the above alternatives.

POST should assume a leadership role in the future development of educational technology-based training; however, it should not be the sole developer of such training.

Regional and local efforts to develop transferable pilot educational technology-based training programs should be encouraged under the umbrella of a statewide training consortium and a statewide plan.

The outside expertise of instructional technologists, technology vendors, private training firms and continuing education institutions should be heavily drawn upon to ensure that new training programs effectively use the emerging technologies within the framework of sound learning theory and techniques.

Training in educational multi-media technology should be done in small step phases using a trial and error approach. The training participants should have adequate opportunities for input. Their ideas during the development phase and responses to the training will be invaluable in determining what "works."

Creative funding of training should be explored including the proposed options of federal, state, private, donated services and others that may be developed.

ADMINISTRATION

Implementation of the strategy must be planned including action steps, time lines and resource requirements. (The time lines and resource requirements are beyond the scope of this study.)

Two levels of action items have been identified; those on a statewide level and those at a local level. This approach has been taken because of the nature of the educational technology. Telecommunications, for instance, is not a technology easily or effectively broached on a strictly local basis. Local agencies are unlikely to have the expertise necessary to embark upon the design of sophisticated interactive video and automated simulations. And, the costs of educational technology would be prohibitive if each individual agency embarked on duplicated effort and tried to act independently in their development of educational technology. On the other hand, each police chief is seen as having the ultimate responsibility for the human resource development of his people and having some unique community-based needs. Therefore, it would be very inappropriate for educational technology to be developed totally at the state level.

Statewide Action Items

1. Formation of a statewide training consortium.
2. Development of a plan for educational technology-based training.
3. Identification of resources required and available.
4. Development of alternative strategies.
5. Development of time lines.

6. Development of regional/local task forces.
7. Identification of pilot projects.
8. Implementation of pilot projects
9. Evaluation of pilot projects.
10. Feedback to, and necessary revision of, the plan.

Local Agency Action Items

1. Assignment of representation to statewide training consortium.
2. Formation of a Local Area Training Task Force.
3. Development of an agency plan for educational technology-based training.
4. Development of alternative strategies.
5. Identify resources required and available.
6. Development of time lines.
7. Development of pilot projects.
8. Implementation of pilot projects.
9. Evaluation of pilot projects.
10. Feedback to state and local plans.

Further discussion of the action items and individual tasks will be undertaken in Part Three.

PART TWO SUMMARY

Using the SMEAC model of strategic planning, the groundwork has been laid for the next phase, Transition Management.

The Situation Assessment demonstrated that many favorable factors would create opportunities for the change to multi-media technology including the projected decreased costs of educational technology, technology advances and a generally favorable political climate. Threatening conditions included limited governmental funding, a worsening public education system and unreasonable public expectations for law enforcement performance. Internal organizational capabilities such as POST funding for training was

identified as both a strength and a weakness in that while it has fostered improved training, local law enforcement agencies have become dependent upon it. The study indicated that law enforcement organizations were better than average in manpower, skills, training, support, salaries and morale and most other categories. Law enforcement organizational deficiencies included technology, equipment and money. Looking at receptivity to change, law enforcement upper managers sought low risk change while the organization in general tended to adapt to change but not to seek it.

There were many stakeholders, those persons impacted by change. The key stakeholders were believed to be the law enforcement top executives, POST and the local law enforcement training managers.

A mission statement was developed for the organization and for the training function with emphasis in both of these documents on the issue of human resource development and training.

Under the execution portion of the SMEAC model, ten policy strategies were developed and their pros and cons identified. A recommended strategy, which was an amalgamation of the individual strategies, called for POST leadership in a participative effort with local law enforcement agencies to bring about the transition to multi-media educational technology.

Administration is the next SMEAC component. Under this section, action steps at the state and local levels were identified including the formation of state and local level task forces to

plan for the transition and develop educational technology projects.

In the next section, Transition Management, further analysis of the critical players, their readiness and commitment for change will be conducted. The last portion of the SMEAC model, "Control" will be addressed through management structures and feedback mechanisms to help ensure a successful transition from today to the desired future change.

PART THREE - TRANSITION MANAGEMENT

Transition management is that group of activities and skills that are needed to effectively manage planned change. Critical issues include developing necessary support, overcoming resistance, designing appropriate management structures, and using effective techniques that assist implementation.

In Part One a desireable future state was described, one in which educational technology was effectively integrated into the training function for patrol officers. In Part Two an assessment of the current environment was made, the stakeholders and their likely assumptions identified, and some alternative strategies to reaching the desired future state developed. In Part Three the focus will be on how the information developed in the prior sections and can be designed into a transitional management plan that will maximize the probability of success.

CRITICAL MASS

Critical Mass analysis is used to identify those key players who are critical to the success of the strategic plan. Critical mass is defined as the minimum number of players who, if they support the change make the change likely to succeed, or if they

oppose the change, make failure probable. In Part Two 22 stakeholders were listed and their relative importance to the issue charted (Exhibit 21).

COMMITMENT PLANNING

Exhibit 24, "Commitment Planning," lists those stakeholders who are considered to be part of the critical mass and their perceived level of commitment on the proposed changes.

Exhibit 24
Commitment Planning

CRITICAL MASS STAKEHOLDERS	TYPE OF COMMITMENT: BLOCK CHANGE	LET HAPPEN	HELP HAPPEN	MAKE HAPPEN
POST			X <------O	
CHIEF OF POLICE			O------> X	
CITY/COUNTY MGR		O------> X		
AGENCY TRAINING MANAGERS		O----------> X		
CITY COUNCIL/ BD SUPERVISORS	O----------> X			
COMMUNITY COLLEGES		O------> X		
PRIVATE TRAINING FIRMS			OX	
VENDORS			X <------O	
BUSINESSES		O------> X		
TRAINING STAFFS	O----------> X			

"O" = Current Position "X" = Desired Position

Each critical stakeholder was examined as to whether they

would block change, passively let change happen, help change happen or be the prime movers in making it happen. The chart also shows both where the stakeholder is believed to be now (indicated by an "O"), and where they need to be to facilitate the change (indicated by an "X").

The stakeholder list has been reduced to the ten most critical players. Because educational technology, both in its application and its costs, transcends the individual agency level, all discussions on transition planning presume that the transition will be occurring simultaneously on a local and statewide level.

The chief, here, means the chief or sheriff, or his designee. The chief, because he/she is ultimately responsible for the human resource development of his/her people, is seen as being critical to making the change happen. The perception is, however, that presently, training and technology are not the highest priorities for most police chiefs.

POST plays a significant role in California law enforcement training, appears to have taken a progressive role in the development of educational technology, and has some funds available for such endeavors. Its role, however, should be to serve as a catalyst for the creative development and application of educational technology rather than as the sole developer and provider of the service.

Some training should be developed by POST, with suitable consultation with local law enforcement. However, to capitalize fully on the creativity of the numerous law enforcement agencies,

educational institutions, private trainers, technology experts, and of private-sector businesses, much of the training development should be accomplished through the use of these resources within the framework of POST standards, guidelines with a master plan.

For example, television broadcast-quality training productions such as are produced by the private firm LETN, Law Enforcement Television Network, out of Dallas, are possible because television professionals have been teamed with law enforcement trainers to maximize their joint expertise. Contracts with such firms or emulation of their success may be appropriate answers for California law enforcement.

Traditionally, city/county administrators, and city and county elected officials have viewed requests for the funding of technology for items such as personal computers as "nice-to-have-but-not essential" equipment. Their viewpoint will likely be much the same on the issue of educational technology because initially, it may require significant investments of funds for computers and related equipment. If the elected officials are not educated and sold on the benefits and potential cost savings of educational technology, such funding requests may be denied.

Training staffs may resist the change because initially it alters the status quo. The new technology requires skills they may not possess and a great deal of preplanning. Like the rest of law enforcement, training staffs operate in a crisis and reactive mode. The demand level for immediate training to meet legislative deadlines and other mandated training is unrelenting. If this

condition continues, and training staffs receive no additional funding or personnel, they will not even consider the possibilities of transitioning into an educational technology, much less actually developing and applying it.

The recipients of the training were not included in the critical mass listing of stakeholders because they would not be key players in the actions and decisions required to initiate the new educational technology. They are, however, the most critical stakeholders in that unless they accept and apply the products of the training, the entire effort will be undermined. The line-level personnel and the police officer associations must be considered in every phase of the planning process, invited to provide input and actively participate in the development of educational technology programs.

READINESS ASSESSMENT

To effectively implement change, an awareness must exist of the current readiness and capability for change of the critical players. Exhibit 25, Readiness/Capability Chart shows the perceived status of key players.

Exhibit 25
Readiness/Capability Chart

	READINESS			CAPABILITY		
STAKEHOLDER	HIGH	MEDIUM	LOW	HIGH	MEDIUM	LOW
POST	X				X	
CHIEF		X				X
CITY MGR.			X			X
CITY COUNCIL			X			X
TRAINING MGRS.		X			X	
COMM. COLLEGES		X			X	
PRIV. TRNG.	X				X	
VENDORS	X			X		
BUSINESSES		X		X		
TRAINING STAFF			X		X	

The leadership and innovation for the development of educational technology should come from POST as well as from the private training institutions, technology vendors, community colleges, training managers and the business community. The consortiums and task forces can be initially used as a forum for

those groups to educate and create enthusiasm for the possibilities that educational technology offers. Successful educational-technology endeavors in private industry and government should be identified and members allowed to see demonstrations.

The members of consortiums and regional task forces will need to bring that education and enthusiasm back to their individual agencies. Demonstrations of educational technology and its benefits should be provided for the chiefs and sheriffs, the city and county administrators and elected officials, the training staffs and the police officers.

The difficulties of the transition should not be minimized. It will require "planning, designing, testing, implementing and evaluating the new automated systems being introduced."[15] Not only will the technology cause major change in the training-delivery system and in the law enforcement environment, but the technology will also be changing and evolving, requiring a very dynamic training process.[16]

Phased implementation will be required because of the scope of the change and the resources required. One approach would be to use a five-stage model as proposed by Richard L. Nolan of Nolan, Norton & Company[17] and expanded upon by Dr. Philip Harris.[18] The model was for the implementation of office automation but would be easily transferable to implementation of educational technology. The stages briefly are:

1. Conception. Recognition of the problem. Piecemeal solutions to specific problems. Use of external consultants. Formation of task forces.

2. Initiation. Develop tactical and strategic plans. Test alternative approaches in limited applications. Vendor briefings. Cost benefit analysis. Pilot projects. Feedback to management. Analysis of human factors.

3. Contagion. Value-added systems implemented in a variety of user environments. Pilots integrated into mainstream. Establishment of management system for new technology. Analysis of organizational and job restructure arising out of automation.

4. Consolidation. Develop integrated systems based on experience. Emphasis on improving operational effectiveness. Intergroup work teams between educational technology specialists and user groups.

5. Creative Evolution. Furtherance of integrated systems. Creative opportunities for expansion.

Issues that need to be addressed in the phased implementation are:

1. The technology specialists and the users will need to be trained in the skills required to use the new technology.

2. There will be impacts on organizational working patterns, communications, influence and control, relationships and reporting responsibility that must be addressed.

3. The high level commitment and support from the chief and the training managers will be critical to the implementation.

MANAGEMENT STRUCTURES AND CONTROL SYSTEMS

In Part Two an action and decision list was developed. In this section responsibility for those tasks will be identified and a management structure suggested.

Responsibility Charting. To further clarify the roles of the critical mass, a process called Responsibility Charting is used. Each critical mass "actor" is analyzed to determine his or her role in a series of tasks, actions or decisions relative to implementing

the desired change. That analysis is contained in Exhibits 26 and 27. "Responsibility Charts."

Exhibit 26
Responsibility Chart
Statewide Action Items

DECISION/ TASK	ACTORS: POST	CHIEF	CITY/ COUNTY MGR.	COUNCIL/ BD SUP.	TRNG. MGRS.	TRNG. STAFFS
Statewide						
Consortium	R	S	S	S	S	I
Tech Plan	A	R	S	S	S	I
ID Resources	A	R	S	S	S	I
Dev. Strategy	A	R	I	I	S	I
Dev. Timelines	A	R	I	I	S	I
Reg. T.F.	S	R	I	I	S	I
ID Pilots	A	R	I	I	S	I
Impl. Pilots	A	R	S	S	S	S
Eval. Pilots	A	R	I	I	S	I
Revise Plan	A	R	I	I	S	I

R - Responsibility - to see that decisions or actions occur
A - Approval - of actions or decisions with right to veto
S - Support of actions or decisions by provision of resources, no right to veto
I - Informed - of action or decisions, no right to veto

Exhibit 26 outlines the responsibilities for the statewide level tasks. Formation of a statewide training consortium would be the responsibility of POST. Law Enforcement chiefs and sheriffs would be responsible for serving on, or appointing designees to

serve on the consortium. The consortium would draft a statewide plan for developing educational technology, identify the resources necessary and develop appropriate strategies and timelines to accomplish this goal. POST and the consortium would hopefully play a significant role in the development of state level and other outside funding to support the plan. The consortium would interact with regional training task forces and, through this interaction, would identify suitable pilot educational technology projects. Individual agencies or regional groups of agencies would implement these pilot projects which would then be evaluated by the regional and state task force groups with a view toward revising the master plan and making recommendations for additional projects.

Exhibit 27
Responsibility Chart
Local Agency Action Items

DECISION/ TASK	ACTORS: POST	CHIEF	CITY/ COUNTY MGR.	COUNCIL/ SUPS.	TRNG. MGRS.	TRNG. STAFFS
Local Agency						
Consortium	A	R	A	A	S	I
Form Reg. T.F.	A	R	A	A	S	I
Dev. Agency Plan	A	R	A	A	S	I
Dev. Strategy	A	R	I	I	S	I
Dev. Timelines	A	R	I	I	S	I
I.D. Resources	S	R	A	A	S	S
Dev. Pilot	A	R	A	A	S	S
Impl. Pilots	A	R	S	S	S	S
Eval. pilots	A	R	I	I	S	I
Feedback to Plan	R	A	I	I	S	I

R - Responsibility - to see that decisions or actions occur
A - Approval - of actions or decisions with right to veto
S - Support - of actions or decision by provision of resources, No right to veto
I - Informed - of action or decisions, no right to veto

Exhibit 27 shows the decision and task list from the local agency perspective. The chief or his/her designee would be responsible for serving on the state training consortium. He/she would also be instrumental in the formation of, and participation on, a regional task force. For his/her own agency he/she would develop an internal plan for the development and application of educational technology within the framework and standards of the state plan. The agency plan would identify resources and develop

strategies and timelines. As appropriate, individual agencies would develop, implement and evaluate pilot projects and provide feedback to the regional and state task forces on their successes and pitfalls.

Reward Systems. To gain the enthusiasm and support of key players, there must be incentives. Some suggested rewards for participants might be promotions and choice assignments for managers and staff members who have creatively developed uses for the technology. Key personnel could be sent for external training in the new media.

Computers tend to be a status symbol, and their dissemination for educational technology applications might also make them more available for other productivity uses. Flexibility in work hours and work location for project developers, perhaps allowing them to work at home, is a privilege of great value to some individuals.

Public recognition and acknowledgement of program successes for department heads, city and county administrators and elected officials will help foster program support and create a competitive arena which other jurisdictions will want to enter.

Most of all, there should be tolerance of failures. Technology implementation can be high risk. If one project fails, and the repercussions are great, other individuals and jurisdictions will not be so foolhardy as to embark upon similar projects.

PART THREE SUMMARY

Part Three identified the 10 key players who were considered to be the critical mass necessary to bring about the transition to educational technology based training. Their level of commitment was examined to determine what transition strategies would be necessary to gain their commitment and participation. Their readiness and capability for change were also charted.

The locus for the transition, as revealed by this analysis, will be POST and the California chiefs and sheriffs. The recommended mechanism is the use of a statewide educational technology training consortium and regional educational technology training task forces whose responsibility would be to educate police chiefs, sheriffs, city/county administrators and elected officials on technology benefits, to create a favorable environment for the transition, to design a planning framework within which the change could occur, and to oversee the implementation.

A phased approach is recommended because of the scope of the change and the resources required. Responsibilities were affixed to the key players. Various rewards were suggested that would help to gain enthusiasm and support of key players.

CONCLUSIONS AND RECOMMENDATIONS

THE ISSUES

How can educational technology impact the effective delivery of continuing in-service training for patrol personnel by the year 2000? The potential futures are that it can make no difference, it can make some difference or it can transform the delivery of human resource development within law enforcement. Educational technology has exciting potential for improved training within the criminal justice system. The future predictions are that technology advances will offer greater training capabilities and options. Whether these are realized and used will be dependent upon the exercise of leadership within California law enforcement.

Such a change will require a high degree of commitment, a willingness to take some risks, and new and creative approaches. It will also require a change in the mind set of many law enforcement managers, government administrators and elected officials about funding priorities for training. The private sector views training as an investment, which in turn will net them greater profits. Investment in more effective training of law enforcement officers will ensure personnel who are competent, ethical and service oriented. The payoff will be increased public trust, confidence and support. Other benefits will be a reduction in our liability risk, and an ability to meet the challenges of a

rapidly changing environment.

Each of the individual technologies discussed have strengths and weaknesses. While technological advances may address some of these weaknesses, it must be recognized that there is not one "best" technology for all learning needs. Nor can it be anticipated that any of these technologies will totally replace instructors, or their role in training. What is needed is a creative mixture of the technologies and instructor-led training based on the strengths of the various methods for addressing specific training goals and materials.

The approach must not be a parochial or amateurish one. A wide range of resources should be explored to ensure that the finest quality training is developed using optimum expertise. While it is often easier to do things "in-house," this precludes the use of creative expertise from a myriad of sources nationally and internationally. Law enforcement and educational technology expertise does not begin and end at the California borders. Public/private enterprises, such as the LETN Law Enforcement Television Network should be used. If that is impractical because of major differences in procedures and training content, then its strengths should be modeled and replicated for California. Other similar ventures should be explored.

A cultural change will be required; a shift from authoritarian training approaches to participative training approaches. In the authoritarian model, police officers are "told" what they should know and then held accountable for applying that knowledge

appropriately. The police department is presumed to have met its vicarious liability requirement if it can be shown that a particular procedure or policy was contained in a lesson plan and that the officer in question was physically in the room when that lesson was given. In a participative model, the training is structured so that the officer must participate and demonstrate comprehension of the material and competency in its application. Some of today's law enforcement training meets that criteria; much of it does not. Educational technologies such as computer-assisted training and automated record keeping can assist in moving toward a more participative learning model.

FUTURE RESEARCH

Constraints of time, resources and the academic regimen have necessarily limited the scope and structure of this study. Hopefully, it will provide useful groundwork and ideas which can form the basis for educational technology development planning, projects and further research.

One critical area to be addressed is how best to develop training that will produce the appropriate people skills and the ethical and service-oriented attitudes which are desireable for police officers. People skills and officer attitudes are the keys to successful police work. Interaction with people in problem-solving and conflict-resolution situations constitute probably 95 percent of the job but only a few training hours are generally dedicated to these issues. When these issues are addressed, it is

often in a lecture mode with the officers being "told" what they should think and how they should act. How to effectively train in these "affective" skills, drawing on the expertise of learning theorists, psychologists and others, would be an interesting and useful research project for law enforcement.

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APPENDIXES

APPENDIX A

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APPENDIX B

INTERVIEW QUESTIONS

Numerous interviews were conducted during the research to gather information on the technology and on which to base strategies for transitioning to the new technology. Following is a listing of the interview questions posed.

What are the strengths and weaknesses of the following technologies:

1. Telecommunications, Teleconferencing, Teletraining
2. Computer-Assisted or Computer-Based Training
3. Interactive Video Training.
4. Traditional Audio Visual Aids
5. Artificial Intelligence
6. Simulations
7. Other Educational Technology

8. Which category of training do you see as most critical to law enforcement in the future?
9. What are the most viable future sources for educational technology to be applied to patrol in-service training:
   - Federal
   - State
   - Regional
   - Local
   - Private Contracts
   - Other
10. What breakthroughs in educational technology do you foresee.
11. What will be the barriers to implementing educational technology in law enforcement training.
12. What strategies should be used to encourage the future use of educational technology in law enforcement training.

APPENDIX C

TRENDS AND EVENTS

Trends

A trend is defined as a consistent tendency or pattern of events, over a period of time. A trend is not necessarily quantifiable but it is discernible. The trend should have an impact, or potential impact, on the issue being studied; i.e. the application of educational technology to future law enforcement training.

1. **Quality of Education.** Education proficiency level produced by the public school system.
2. **Civil Lawsuits.** Number of civil litigation cases related to law enforcement performance.
3. **Law Enforcement Proficiency Requirements.** Knowledge, skill level requirements by patrol personnel.
4. **Cost of Educational Technology.** In general, the cost trend for educational technology.
5. **People Skills for Officers.** Level of the public's expectation that law enforcement officers have good people skills and a "service-oriented attitude.
6. **Number of New Training Requirements.** Rate at which change necessitates updated training for patrol personnel.
7. **Use of Educational Technology, Public Sector.** Level of the application of computers, interactive video, telecommunications and other educational technology to law enforcement training.
8. **Use of Educational Technology, Private Sector.** Level of the application of educational technology to in-service training in the private sector.
9. **Funding for Training, Public Sector.** Level of funding available for law enforcement in-service training.
10. **Funding for Training, Private Sector.** Level of funding available for private sector in-service training.

Events

An event is a discrete occurrence or singular entity which, if it occurred, would be verifiable in retrospect. The event should have an impact, or potential impact, on the issue being studied; i.e., the application of educational technology to future law enforcement training.

1. **Telecommunications.** A statewide law enforcement telecommunications training network is established by POST.
2. **Teletraining.** The California University system establishes a statewide telecommunications network or or uses commercial television channels statewide to make university degrees and continuing courses available in the home.
3. **Personnel Expert Systems.** Microcomputer-based expert systems are widely used and available.
4. **Interactive Video.** Low cost interactive video which is programmable by the novice user and capable of accepting voice inputs becomes commercially available.
5. **Computer-Assisted Instruction.** The use of computers as instruction media in the public schools becomes commonplace.
6. **True Artificial Intelligence.** Breakthrough results in the development of a true artificial intelligence capability. Computers can respond to oral questions on a variety of topics.
7. **True Portable Computers.** Low cost, pocket-size computers with the capability of the current IBM PC are in widespread use.
8. **Police Proficiency Testing.** A law mandating yearly proficiency testing for California police officers is enacted.
9. **Civil Lawsuits.** A California City is bankrupted due to losses from civil litigation arising out of police performance.
10. **State-Funded Police Training.** A new California government administration eliminates all state funding for local law enforcement training.

APPENDIX D

RATING SHEET FOR POLICY DELPHI

Each of the ten alternatives were rated to determine their feasibility and desirability. The definitions and scores of the various levels are as follows:

Feasibility

DF Definitely Feasible (3)	No hindrance to implementation. No R&D required No political roadblocks Acceptable to the public
PF Possibly Feasible (2)	Indication this is implementable Some R&D required Further consideration to be given to political or public reaction
PI Possibly Infeasible (1)	Some indication unworkable Significant Unanswered Questions
DI Definitely Infeasible (0)	All indications are negative Unworkable Cannot be Implemented

Desirability

VD Very Desirable (3)	Will have positive effect and little or no negative effect
D Desirable (2)	Will have positive effect, negative effects minor Beneficial Justifiable as a by-product or in conjunction with other items
U Undesirable (1)	Will have a negative effect Harmful May be justified only as a by-product of a very desirable item
VU Very Undesirable (0)	Will have a major negative effect Extremely harmful

Rankings assigned to the Alternative Police Strategies are as follows. (See page 63 for complete text of strategies.)

Alt. 1.	Post Funding.	PF,D.	4
Alt. 2.	Regional Fund.	PI,D.	3
Alt. 3.	Consultants	PF,D.	4
Alt. 4.	Priv. Firms.	PF,D.	4
Alt. 5.	Community Coll	PI,D.	3
Alt. 6.	Vendors	PF,D.	4
Alt. 7.	Ind. Agency	PI,U.	2
Alt. 8.	Lg. Agency	PF,U.	3
Alt. 9.	Pub/Priv.	PF,D.	4
Alt. 10.	Funding	DF,VD	6