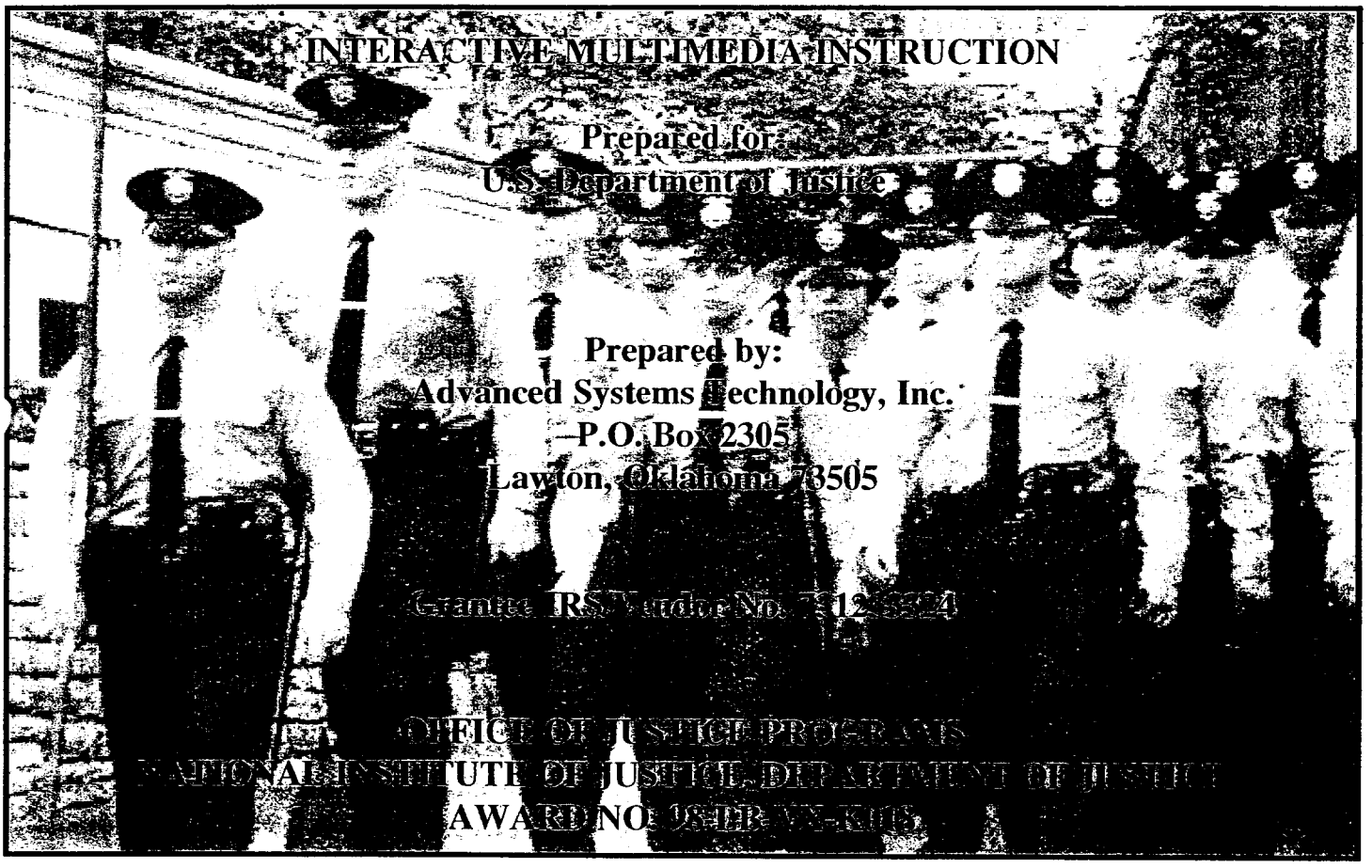
SUMMARY OF FINDINGS

ON

DEVELOPMENT OF COMPUTER-BASED TRAINING FOR LAW ENFORCEMENT



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August 10, 1999

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs

CATEGORICAL ASSISTANCE PROGRESS REPORT

The information provided will be used by the grantor agency to monitor grantee cash flow to ensure proper use of Federal funds. No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations (Uniform Administrative Requirements for Grants and Cooperative Agreements — 28 CFR, Part 66, Common Rule, and OMB Circular A-110).

1. GRANTEE	2. AGENCY GRANT NUMBER	3. REPORT NO.
Advanced Systems Technology, Inc. 4111 W. Gore Blvd., Bldg. B Lawton, Oklahoma 73505	731233324	Final

4. IMPLEMENTING SUBGRANTEE	5. REPORTING PERIOD (Dates)
	FROM: 01Jan. 1999 TO: 31 Mar. 1999

6. SHORT TITLE OF PROJECT	7. GRANT AMOUNT	8. TYPE OF REPORT
Development of computer-based training for Law Enforcement		☐ REGULAR ☒ FINAL REPORT ☐ SPECIAL REQUEST

9. NAME AND TITLE OF PROJECT DIRECTOR	10. SIGNATURE OF PROJECT DIRECTOR	11. DATE OF REPORT
Ms. Barbara Hines, VP		

12. COMMENCE REPORT HERE (Continue on plain paper)

This Final Report provides the following deliverables to conclude the proof of concept development effort:

1. **Results of an Independent Audit of Financial and Compliance Requirements.**
2. **Status of each goal scheduled for completion.**
3. **Summary of Findings to Include media deliverables.**
4. **Final Activities Report**

CERTIFICATION BY GRANTEE (Official signature)	14. DATE

OJP FORM 4587/1 (REV. 2-90)

Overview

In the spring of 1998, Advanced Systems Technology (AST) entered into negotiations with the State of Mississippi, Department of Operations and Planning, Office of Law Enforcement Officer Standards and Training/Emergency Telecommunications. The purpose of those negotiations was to identify a partnering agent to test the feasibility of using computer-based training (CBT) as a delivery media for law enforcement training. This document provides the Status of Findings developed from this venture. Because of the duplicative nature of reporting requirements, it also serves as the Final Activities Report required by the Cooperative Agreement, Award Number 98-LB-VX-K018, entered into by the U.S. Department of Justice Office of Justice Programs and Advanced Systems Technology, Inc.

This report first covers the strategy and methodology employed by AST to accomplish this project. These sections are followed by discussions of Beta test results the Training Management System used to collect, manipulate, and report student data. The final section reports the status of each goal scheduled for completion. The report has five appendices as identified in the body of the report.

Strategy

Advanced Systems Technology (AST) initiated the development effort by entering into a partnering arrangement with the State of Mississippi and establishing a Cooperative Agreement (Award Date August 12, 1998) with the National Institute of Justice.

Under the agreement, AST assumed programmatic responsibilities for the administration of financial and reporting requirements in addition to the research, course design, development, testing, and delivery of the Proof of Concept. The State of Mississippi would provide a copy of a completed Job Task Analysis, support documentation (student/instructor guides), Subject Matter Experts to assist in course design and monitor authenticity, and personnel at "Pilot Sites" within the state to assist in the evaluation of completed lessons.

Initially, AST was to team with the state's standards and training board and training academies, but the resources and infrastructure did not exist to accommodate a development effort of this magnitude and provide the rapid exchange of information required to maintain development schedules.

A review of lesson plans provided by the training academies found the material to be lacking in quantity and quality, therefore, a complete lesson writing development effort was required with attendant research and reorganization to meet the Job Task Analysis JTA provisions.

A training firm, who provides law enforcement seminars in Mississippi, was subcontracted by AST to provide project coordination/monitoring with the state's standards and training board, state specific subject matter expertise, reviews, and BETA test sites during the development of the Proof of Concept. Also, two local officers were hired part-time to assist writer/researchers in constructing lesson outlines and performing reviews.

Methodology

AST's design team first performed a thorough review of the Job Task Analysis and the learning objectives provided therein. In all, nearly a thousand objectives were numbered, classified according to Bloom's Taxonomy, organized into proper units and lessons, and rewritten to accommodate a CBT format. Unit/lesson goals were then written and both the goals and objectives were catalogued into a database to permit tracking and sorting. **Appendix I** provides an outline of the units and lessons required of a basic training course.

Instructional Designers researched a broad spectrum of basic law enforcement training objectives and curricula from the States of Mississippi, California, Florida, North Carolina, and Kentucky. Additionally, they performed a thorough review of the (JTA) and acquired extensive amounts of reference material from the National Highway Traffic Safety Administration (NHTSA) and university bookstores with criminal justice programs.

Although not part of the Cooperative Agreement, AST performed a Comparative Analysis between the JTA objectives for the basic law enforcement training courses in Mississippi and North Carolina using a database application to list, classify, sort, and compare. A significant percentage (71%) of the North Carolina objectives were covered in 33% of the Mississippi objectives. The broader scope of the Mississippi objectives often encompassed several of the North Carolina objectives. This study is particularly important because it substantiates the high correlation of law enforcement knowledge and skills required between states. **Appendix II** describes the Analysis, Process, and Findings of this study.

The design and development team completed a thorough analysis of the target audience and focused on that audience throughout the development process. Of particular concern was the wide range of computer literacy encountered in the law enforcement community and how to present the material in a logical manner for their needs. Lessons were developed in a linear fashion much the same as they would be presented at an academy with branching limited to three levels. Sophisticated branching is transparent to the user and restricted to the special features to aid the student and review/remediation procedures. The results of the two BETA Tests indicate the flow and presentation was appropriate for all levels of computer literacy.

AST used an eight part Instructional System Design (ISD) Model. ISD is characterized by an orderly process for gathering and analyzing performance requirements in response to identified training needs. Application of a systems approach insures that the training program and the required support material are continually developed in an effective and efficient manner. Figure 1 illustrates the process and associated tasks.

ISD MODEL

ANALYZE	DEVELOPMENT	REVIEW/REVISON
Training needs	Write storyboards	Formative Evaluation
Instructional goals	Narration, Interactions	Summative Evaluations
Learner environment	Branches, Graphics	**PRODUCT DELIVERY**
CMI requirements	Video and animations	Guides

User population Course content **DESIGN** Brainstorm content Instructional strategy Assessment process Tone, setting, pace, templates Specify high-level flow	**PROGRAMING** CMI Construction CMI QA Author lessons **PRODUCTION** Audio/Video recording and edit Graphics files Animations	Courseware Reports **EVALUATE** Content by SME Technical by programmers Instructional by ISD Efficacy by learners

Figure 1

Figure 2 illustrates the dynamics of the model and highlights the importance of evaluation and feedback.

ISD MODEL

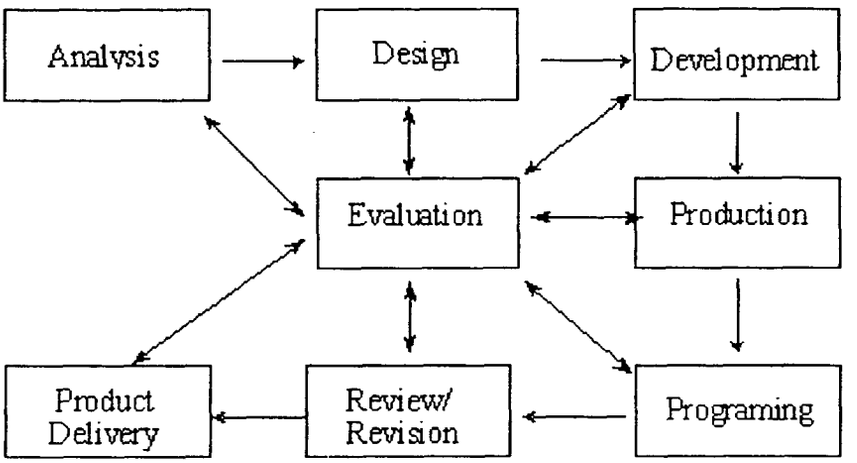

Figure 2

The instructional designers developed the instructional strategies necessary to effectively address the training tasks, Terminal Learning Objectives (TLOs), and Enabling Learning Objectives (ELOs) identified during the analysis described above. Gagne's Nine Events of Instruction were used as the instructional strategy design model to select appropriate instructional/learning strategies for the course content.

The Interactive Multimedia Design Package IMDP (submitted to the National Institute of Justice in the Initial Report) consists of the design strategy and flow diagrams, which support the development of interactive multimedia instruction (IMI) for the Law Enforcement Series. It also describes the delivery platform, expected audience, instructional design guidelines, and visual design guidelines for this courseware.

Test Results

Kirkpatrick's Evaluation Model was used to analyze and evaluate student reaction and learning to two of the fourteen units developed for the proof of concept. Pretest and posttest scores were recorded on floppy discs as designed. Each student evaluator was provided a BETA Test Booklet to record his/her responses to the computer-based training.

The first BETA Test on the "Patrol Concepts and Techniques" unit was completed in January, 1999 and reflected an average student improvement (pretest to posttest) of 26 %. The second BETA Test on "Introduction to Law Enforcement" unit was completed in March, 1999 and reflected an average student improvement of 17.33%. Obviously, the "Introduction to Law Enforcement" unit was more knowledge-based and academic in nature, while the "Patrol Concepts and Techniques" unit was more skills-based. **Appendix III** contains both BETA Validation Reports submitted to the State of Mississippi representative, Mr. Keith May.

Training Management System (TMS)

Procedures used to log on to ToolBook units and lessons and to collect and store CMI data are defined in **Appendix IV.**

Status of Project Goals

Goal 1

Demonstrate that the application of today's training technology will standardize and improve consistency of law enforcement training for a geographically dispersed student population and that this training can be managed and tracked from a central location.

Status

Goal accomplished. The differences in results between Pre- and Post-Tests during Beta tests of Units 11 & 1 (Appendix III), clearly show that student's significantly increased their knowledge by taking the CBT lessons provided. The sample student data provided in Appendix IV demonstrates the ability to manage and track training from a central location.

Goal 2

Develop interactive CBT modules that are job based, logically sequenced, appealing to students, and deliverable at the pace of the individual learner. CBT modules will decrease training time, resources, and costs while increasing student achievement, retention, access, satisfaction, motivation, consistency, and safety.

Status

Goal accomplished. Student comments provided during the two Beta tests indicate the CBT met the objectives of this goal. By its nature, CBT is more consistent than instructor-led training, thereby providing an increased margin of safety for training in hazardous professions such as law enforcement.

Goal 3

Develop an integrated Computer Managed Instruction (CMI) program that provides centralized tracking of student demographics, performance, course progress, and course completion.

Status

Goal accomplished. A brief discussion of the database used to gather and store student information and examples of reports available from this database are provided at **Appendix V**.

Goal 4

Provide a cost-effective alternative to long duration residential courses by designing an entire course and developing an initial CBT segment as a "Proof of Concept."

Status

Goal accomplished. A course outline is provided as **Appendix I**. CBT can significantly decrease the duration of residential training courses by allowing law enforcement officers and candidates to receive academic training in widely dispersed locations, including their homes. Even academic training associated with psycho-motor tasks such as pursuit driving, firearms, and restraint techniques can be obtained in this manner, thereby freeing scarce instructor and academy assets to concentrate on aspects that require direct student contact.

Appendix I

Course Outline

LAW ENFORCEMENT SERIES
COURSE OUTLINE

Unit 1 – Introduction to Law Enforcement

Lesson 1 – History of Policing
Lesson 2 – Overview of the Criminal Justice System
Lesson 3 – Law Enforcement Agencies
Lesson 4 – Professionalism and Ethics
Lesson 5 – Community Relations
Lesson 6 – Officer Liability and Rights
Lesson 7 – Well Being and Fitness

Unit 2 – Human Behavior and Response

Lesson 1 – Perception vs. Reality
Lesson 2 – Diversity
Lesson 3 – Mental Illness
Lesson 4 – Addiction
Lesson 5 – Interpersonal Relations
Lesson 6 – Conflict Management and Resolution
Lesson 7 – Counseling Techniques
Lesson 8 – Conforming and Membership Behaviors
Lesson 9 – Interviewing Techniques
Lesson 10 – Crisis Intervention and Mediation

Unit 3 – Constitutional, State, and Juvenile Law

Lesson 1 – Constitutional Law
Lesson 2 – State Law
Lesson 3 – State Juvenile Law
Lesson 4 – State Alcohol, Liquor, and Beer Laws
Lesson 5 – Laws of Arrest
Lesson 6 – Laws of Evidence
Lesson 7 – Search and Seizure
Lesson 8 – Admissions and Confessions

Unit 4 – Communications

Lesson 1 – Supervisor and Subordinate Relations
Lesson 2 – Field Notes and Report Writing
Lesson 3 – Courtroom Testimony and Demeanor
Lesson 4 – Telephone Communications
Lesson 5 – Radio Communications

Unit 5 – First Aid

Lesson 1 – First Responder Orientation
Lesson 2 – Primary and Secondary Surveys
Lesson 3 – Shock
Lesson 4 – Wounds/Severe Bleeding
Lesson 5 – Head Injuries, Stroke, Epilepsy, and Diabetes
Lesson 6 – Fractures, Sprains, and Spinal Chord Injuries
Lesson 7 – Heat and Cold Injuries
Lesson 8 – Poisoning and Drug Overdose
Lesson 9 – Childbirth
Lesson 10 – Heart Attack
Lesson 11 – Adult CPR
Lesson 12 – Infant/Child CPR

Unit 6 – Self-defense

Lesson 1 – Use of Force
Lesson 2 – Restraints
Lesson 3 – Spray
Lesson 4 – Baton
Lesson 5 – Deadly Force

Unit 7 – Gangs and Drugs

Lesson 1 - Gangs
Lesson 2 – Drug Laws
Lesson 3 – Identification and Handling of Drugs
Lesson 4 – User Identification
Lesson 5 – Informants and Intelligence

Unit 8 – Principles of Investigations

Lesson 1 – Principles
Lesson 2 – Interviewing
Lesson 3 – Identification of suspects
Lesson 4 – Uniform Crime Report Index
Lesson 5 – Protecting the Crime Scene
Lesson 6 – Forensic Analysis and Rules of Evidence (basic intro)
Lesson 7 – Fingerprinting Procedures (taking not lifting)
Lesson 8 – Case Preparation

Unit 9 - Criminal Investigations

Lesson 1 – Crimes Against People
Lesson 2 – Injury and Death Cases
Lesson 3 – Crimes against Property
Lesson 4 – Crime Scene Search (lesser crimes)
Lesson 5 – Surveillance
Lesson 6 – Domestic Violence (child and spouse abuse)

Unit 10 – Motor Vehicle Law Enforcement and Related Issues

Lesson 1 – Motor Vehicle Law
Lesson 2 – Enforcement and Occupant Safety
Lesson 3 – Motor Vehicle Inspections
Lesson 4 – Accident Investigations
Lesson 5 – Motor Vehicle Thefts
Lesson 6 – Heavy Equipment ID
Lesson 7 – Hazardous Materials

Unit 11 – Patrol Concepts and Techniques

Lesson 1 – Preparation and Techniques
Lesson 2 – Civil Complaints and Services
Lesson 3 – Traffic Direction and Control
Lesson 4 – Radar
Lesson 5 – Vehicle Stops
Lesson 6 – Roadblocks
Lesson 7 – Crimes in Progress
Lesson 8 – Handling Animals
Lesson 9 – High Risk and Felony Stops
Lesson 10 – Vehicle Searches

Unit 12 – Impaired Operation (DUI)

Lesson 1 – Observation (NHTSA 20 cues)
Lesson 2 – Pull Over
Lesson 3 – Questioning
Lesson 4 – Testing
Lesson 5 – Arrest

Unit 13 – Firearms Training

Lesson 1 – Firearm Safety
Lesson 2 – Principles of Handgun/Shotgun Handling and Shooting
Lesson 3 – Proper Care and Cleaning
Lesson 4 – Proper Use Procedures
Lesson 5 – Firing Range Procedures

Unit 14 – Emergency Vehicle Operation

Lesson 1 – Legal Limitations and Responsibilities
Lesson 2 – Dangers of Increased Speed
Lesson 3 – Skills, Attitudes, and Techniques for Safe Pursuit Driving
Lesson 4 – Potential Performance and Limitations of a Police Vehicle
Lesson 5 – Blue Lights and Siren Techniques
Lesson 6 – Alternatives to High Speed Pursuit
Lesson 7 – Overview of Test Course Driving Maneuvers

Appendix II

Comparative Analysis

Table of Contents

Section 1

Comparative Analysis

Description of the Task

Requirements

The assigned tasks for this project are:

1. Classify North Carolina Basic Law Enforcement Training (NC BLET) objectives per Bloom's taxonomy as described in the Advanced Systems Technology, Inc. (AST) BLET Instructional Media Design Package (IMDP).

2. Enter revised NC objectives into a customized Access database.

3. Compare NC BLET objectives with Mississippi (MS) BLET objectives.

4. List objectives common to MS and NC.

5. List MS objectives not used by NC.

6. List NC objectives not used by MS.

Note

- No changes were made to the Mississippi BLET database. Any typographical errors remain in the document.
- No SMEs were available to verify that the data were accurately matched in all cases.

Section 2

The Process

Procedures to Analyze and Compare the Data

MS BLET Database

AST analyzed basic law enforcement curricula from four states as a basis for an IMDP for State of Mississippi law enforcement training. A database of lesson task descriptions (objectives) was derived. These objectives are hereafter referred to as MS BLET objectives and were used as the basis, with some modifications, for the objective (task) comparison database.

NC BLET Database

The original NC training objectives (April 1994) were the result of questionnaire responses by NC law enforcement personnel. The law enforcement personnel later revised the objectives (May 1996) to better fit their actual tasks. These scanned-in revised NC objectives were entered into an Access database and used as the basis for classifying those objectives per Bloom's Taxonomy.

The North Carolina list of objectives was also incorporated into the database containing the MS BLET objectives in order to compare both sets of objectives.

Bloom's Taxonomy

- Benjamin Bloom's Taxonomy of educational objectives classifies (ranks) skill levels in the cognitive domain from simple to complex.

- The cognitive domain has to do with the intellectual responses of the learner.

- Bloom's Taxonomy aids educators and trainers in determining the appropriate instructional level for students and is the most widely used knowledge taxonomy for this purpose.

- Major classifications of Bloom's Taxonomy (from *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain* by Benjamin S. Bloom et al., 1956, Longman, Inc., New

York) consist of the following:

- 1.0 Knowledge
  - 1.1 Knowledge of specifics
  - 1.2 Knowledge of ways and means of dealing with specifics
  - 1.3 Knowledge of universals and abstractions in a field
- 2.0 Comprehension
  - 2.1 Translation
  - 2.2 Interpretation
  - 2.3 Extrapolation
- 3.0 Application
- 4.0 Analysis
  - 4.1 Analysis of elements
  - 4.2 Analysis of relationships
  - 4.3 Analysis of organizational principles
- 5.0 Synthesis
- 6.0 Evaluation
  - 6.1 Judgments in terms of internal evidence
  - 6.2 Judgments in terms of external criteria

Bloom's Taxonomy Rankings

The process for ranking NC objectives per Bloom's Taxonomy included the following steps:

- The data were entered into a customized Access database.
- Data were generated for the reports by selecting a category and an objective within that category and assigning a Bloom's Taxonomy classification number to the objective.

Note

Revised North Carolina descriptions (objectives) were ranked according to cognitive guidelines in Bloom's Taxonomy. Terminal and enabling objectives were ranked. When sub-tasks or enabling objectives were identical to the terminal objectives, the rankings for the terminal objectives were omitted.

Duplicate Tasks

Duplicate tasks or objectives within the same category were eliminated and not ranked again.

'egorizing NC Objectives

Method used to categorize NC objectives into the MS categories:

1. The MS categories (Lessons) from the AST Access database were sorted and printed.

2. The MS objectives by category were sorted and printed.

3. The revised NC Training Objectives Report only was utilized.

4. An alphabetic identifier was issued for each MS category on the printout.

5. Each MS category on the MS objective by category printout was highlighted.

6. Each NC objective line item by line item was read out loud by the first Instructional Designer.

7. The subject of the objective was decided, using the category list; then the MS objectives under that category were read through by a second Instructional Designer to confirm the NC objective matched the category subject matter.

8. The corresponding alphabetic identifier for the category was entered directly on the NC Training Objectives report.

Summary

The categorization of the NC objectives was now complete using the MS categories. This categorization helped the matching process set up in the database.

Data Entry

Method for data entry into the specialized Access database:

The NC objectives were scanned into a Word document directly from the original NC Training Objectives Report.

1. The ***Open NC Entry Form*** button was selected on the main switchboard screen in the customized Access database.

2. Next, the appropriate NC topic number was selected from the drag/drop list in the red box.

3. The unique item number that had been assigned to each objective was entered in the first column.

4. The Terminal Objective (TO) number and the Enabling Objective (EO) number were entered in the appropriate field from the NC objectives reports.

5. The corresponding category given to each NC objective was entered in the second column, using the drag/drop MS category list that had been built into the database. This information was taken directly from the categorization process presented in the section above.

6. The NC objective was cut/pasted directly into the third column of the database from the Word document.

Comparing NC and MS Objectives

Matching the NC objectives to the MS objectives:

1. To match the objectives, the ***Matching Entry Form*** button on the main switchboard screen in the customized Access database was used.

2. A screen appeared with four sections:

   a. The first section, on the upper left side of the screen, contained the MS categories.
   b. The second section, on the lower left side of the screen, contained a table with MS BLET sequence numbers and the NC ID numbers to which the lesson numbers were matched. This provided a quick method to check whether matches had been made, deleted, or changed.

   c. The third section, on the upper right side of the screen, contained the NC objectives for each specific category.

d. The fourth section, on the lower right side of the screen, contained the MS objectives for each specific category.

3. To match the objectives:
   a. A category was selected.
   b. A NC objective was selected.
   c. The matching MS objective was selected.
   d. The ***Assign Objective*** button at the bottom of the screen became active.
   e. The ***Assign Objective*** button was selected to confirm the match.
   f. The process was checked by verifying that the matches appeared in the table.

4. If a NC objective matched more than one MS objective, the same NC objective was selected again. Then the new MS objective was selected to make the new match. The ***Assign Objective*** button was selected to confirm the second match.

5. The above process was continued until all possible NC objectives in the category had been matched to MS objectives.

6. The next category was then selected to continue the process until all possible objectives had been matched in every category.

7. Upon completion of the matching process the ***Close Form*** button in the lower right corner of the screen was selected in order to quit the program.

Note

NC objectives were each placed in only one MS category due to the original MS report structure that was furnished.

Reports

- **Bloom's Taxonomy Ranking by Objective Order**

  Except for the noted omissions, the objectives on the first database sort are listed in the order found in the North Carolina revised report.

- **Bloom's Taxonomy Ranking by Rank Order**

  The second report shows the objectives sorted by rank.

Comparison Reports

The MS BLET database and the NC BLET database were combined to form the reports comparing MS BLET and NC BLET objectives.

- One report derived from these databases displays objectives common to both the MS BLET and the NC BLET with the MS BLET objectives by MS category.
- A second report contains the same data, but with the NC BLET objectives listed by ID number.
- A third report displays the MS BLET objectives that have no matching NC BLET objectives.
- A final report displayed the NC BLET objectives that had no matching MS BLET objectives.
- The total number of NC objectives in the objective ranking reports differs from that in the reports matching MS and NC objectives. Several terminal objectives that differed from their enabling objectives were incorporated into the ranking reports but not into the matching objectives reports.

Quality Assurance

The Quality Assurance (QA) process consisted of the following:

- Someone other than the person who input the data inspected the initial database and report printouts for accuracy of information by comparing the new documents with the original documents.
- A third person inspected those same report printouts for grammar and typographical errors.
- The process was repeated after corrections had been input on the initial data entries.
- The same process was followed on all reports generated by the databases.

Section 3

Findings

Significant Conclusions and

Bloom's Taxonomy Ranking

All 843 NC objectives were ranked with the following results.

Rank	No. of Objectives	% of Objectives*
1.1	91	10.7
1.2	44	5.2
1.3	16	1.9
2.1	30	3.5
2.2	36	4.3
2.3	14	1.7
3.0	604	72.0
4.1	5	.5
4.2	3	.35

**Percents total more than 100% due to rounding.*

As indicated in the table above, the task descriptions were overwhelmingly application objectives (72%) with a smaller number of low level intellectual objectives (27.3%). Higher level intellectual skills were only minimally present at the analysis level (0.85%) with no objectives evident at the highest Bloom's Taxonomy levels of synthesis and evaluation. This is normal for basic level skills training.

Comparison of Objectives: NC BLETS/MS BLETS

A significant number, 598 (71%*), of the NC BLET objectives were found to match 307 (33%*) of the MS BLET objectives. These matches show that MS BLET training is an excellent resource for use in NC BLET training. The result could be a reduction in training costs. The smaller percentage of matching MS objectives indicates the broader scope of those objectives. Many MS objectives encompassed several NC objectives.

*Percentages are rounded.

General Observations

The following observations were made concerning the NC BLET objectives:

- NC objectives are displayed predominantly as terminal objectives with few, if any, enabling objectives shown.

- There are several NC objectives in which the subject matter is repeated in more than one objective.
  Example:
  Fire weapon in dark environment while using a flashlight.
  Fire weapon in dark environment holding a flashlight.

- Some NC objectives are stated in very general terms, using "etc." frequently. The phrasing does not follow a true objective.
  Example:
  Observe suspect, interviewee, etc. to recognize deception, deceit, manipulation, etc.

- Many NC objectives are very broad and have more than one task.
  Example:
  Tactically respond to high risk situations, i.e., violent crime in progress, robbery in progress, man with gun calls, etc.

- NC objectives go into very little detail in the subjects of domestic violence/crime or gangs/gang behavior.

- The NC BLETS report is divided into more precise/defined categories than the MS BLETS report.

Unmatched MS Objectives

- There are 629 unmatched MS objectives (67%).

- Some unmatched MS objectives may be the result of objectives that are too broad in the NC report. The NC report does not always address the enabling objectives needed to attain the terminal objective listed.

- Some MS objectives are unmatched because they address

unique Mississippi law.

matched NC Objectives

There are 242 unmatched NC objectives (29%).

- A number of NC objectives are unmatched because they are too general and it is impossible to discern the enabling objectives contained within the terminal objectives.
- Some unmatched NC objectives may actually match MS objectives but the wording is so disparate it is not possible to know without expert input.
- MS and NC BLET objectives are unmatched in many cases because their databases each have categories/lesson titles that are not duplicated in the other database.

Recommended Action

Based on the data reviewed, the following recommendations are made:

- Convert applicable parts of the MS BLETS training into BLETS training for NC to save time and money.
- Obtain advice from NC senior law enforcement officers to expand the NC objectives so that clear enabling objectives are added.
- Revise NC objectives that are not valid training objectives.
- Revise broad NC objectives into several specific enabling objectives.
- Change NC objectives that are at the application level in the cognitive domain to knowledge, comprehension, or analysis level objectives. The application level objectives are more suited to on-the-job training.
- Delete repetitive objectives or specify how they differ when found in several categories.
- Ensure that NC objectives address all critical areas of police work in NC, such as gang-related activities.
- If converting MS BLET training to BLET training for NC, consider using the more precise categories in the NC BLETS report.

Appendix III

BETA Validation Reports and Student Records

05 February, 1999

Mr. Keith May
Division of Public Safety Planning
Officers Standards and Training Board
401 N. West St.
Jackson, MS 39215

Subject: **BETA VALIDATION REPORT** on Unit 11, *Patrol Concepts and Techniques*

This validation report pertains to the ***Patrol Concepts and Techniques*** unit, Computer Managed Instruction (student tracking data), and User Guide tutorial in the Basic Law Enforcement Training course developed by AST, Inc. for the Mississippi Board on Law Enforcement Officer Standards and Training (BLEOST). This test report is more inclined to provide comparison tables for the reader's interpretation and less inclined toward statistical analysis. The AST development team would like to express our appreciation to the student evaluators who diligently shared their expertise, concern, and enthusiasm to test the accuracy and functionality of the training courseware. In particular, Mr. Jim Terry contributed invaluable assistance in providing the test site and hosting this two-day event. Additionally, Mr. Lamar Beasley was key to identifying student evaluators and ensuring their timely arrival.

The BETA Test, conducted on 21 and 22 January 1999, was designed to be a rigorous study of the *Patrol Concepts and Techniques* unit courseware. The student evaluators were recruited by BLEOST and were not involved in the training development. Therefore, the student evaluators were expected to react more critically to any deficiencies observed and to be more representative of the anticipated training audience.

METHODS

Student Evaluators

Fourteen student evaluators were selected by the Mississippi standards and training board to participate in the two-day field test and evaluation. They represented a cross section of the training audience, with six members being active full-time veterans with four to twenty years of experience. An additional six were reserve officers with five months to six years of service. The last two participants represented the new recruit category with no experience or training. A short briefing on testing requirements was provided to the evaluators and each was provided a BETA Test Booklet (designed to Kirkpatrick's Evaluation Model) to record demographics, unit component ratings, training reactions, error log entries, and recommended future changes. Each evaluator was assigned a student identification number to enable tracking data while providing anonymity. See Table 1: Evaluators' Law Enforcement Background and Experience.

Table 1: Evaluators' Law Enforcement Background and Experience

No.	Rank	Specialty	Active	Reserve	Yrs Svc
001	BLEOST	Special Projects Officer II	**X**		18
002	Patrolman			X	6
003	Deputy	Patrolman	X		5
005	Admin Sgt.	Cert. Instr., FBI Academy Grad.	X		20
006	Patrolman	DUI and TCAP		X	3
007	Lt.		X		18
008	Patrolman	Vice Unit		X	3
009	Deputy		X		4
010	Deputy	Dispatch	X		4
011	Deputy			X	6
012	Patrolman			X	.4
013	BLEOST	Ops Mgmt.			None
014	Recruit				None
015	Sgt.	Firearms & Training Officer		X	6

Facilitators

In anticipation of a wide variance in computer literacy, six facilitators from the AST development team attended the BETA Test. Some evaluators had little or no experience using computers or computer-based training. In fact, student 005 voiced displeasure with using computers during the briefing prior to starting the evaluation, yet his rating scores and reaction comments were very positive. Others were very computer literate to the point of just skimming the User Guide, thus missing some unique features such as topic reviews and retakes to improve test scores. The facilitators also conducted a personal debriefing of each evaluator to review all comments and questions, and to acquire individualized feedback.

Procedures

Eight new Pentium 350 training platforms were set up at Strategic Employment Systems, Inc. in Ridgeland, Mississippi, for the purpose of BETA testing the Basic Law Enforcement Training (BLET) courseware. The logistics involved with moving eight systems to various locations throughout the state was deemed to be too difficult. Therefore, a centrally located test site near the Jackson metropolitan area was believed to be the best location to provide maximum participation with minimal travel requirements. Two full days of testing were scheduled for the first unit to be evaluated, with one additional day for travel and setup of the training platforms.

In addition to the training courseware, a User Guide tutorial was installed on each system to show student evaluators how to navigate through the courseware, explain remediation and feedback, and identify testing procedures and requirements.

Although the Pretest is optional by design, student evaluators were instructed to complete the pretest prior to starting the instruction. Student evaluators failed to do this on only four occasions.

Patrol Concepts and Techniques unit constitutes a major portion of a patrolman's duties. This unit is divided into the following ten lessons:

1. **Preparation and Techniques**
2. **Civil Complaints and Services**
3. **Traffic Direction and Control**
4. **Radar**
5. **Vehicle Stops**
6. **Roadblocks**
7. **Crimes in Progress**
8. **Handling Animals**
9. **High Risk and Felony Stops**
10. **Vehicle Searches**

During the first day of the BETA Test, eight student evaluators completed the five odd-numbered lessons. Evaluators were encouraged to complete additional even-numbered lessons, time permitting. Student ID 009 completed one additional lesson and Student ID 015, a reserve training officer, completed four additional lessons. On the second day, six new student evaluators completed the five even-numbered lessons and were encouraged to complete more, if possible. With only six evaluators, positions 004 and 016 were not filled. Student ID 002 completed one additional lesson, Student ID 008 completed three additional lessons, and Student ID 014 completed two additional lessons. No correlation exists between experience, active/reserve status, and the number of lessons completed. Generally, those students completing the minimum of five lessons took more extensive notes and provided more detailed feedback. The Computer-Managed Instruction (CMI) software captured all test scores, attempts, and individual test question performances. See Table 2: Test Scores.

Table 2: Test Scores

ID NO.	Avg. Pretest Scores	Avg. Attempts Per Lesson to Pass	Avg. Attempts Per Lesson to Improve	Avg. Posttest Scores
001	75.20	1.0	.8	94.80
002	87.50	1.0		98.66
003	63.00	1.4		88.00
05	73.25	1.2	.2	93.00
006	59.60	1.0		96.25
007	55.00	1.4		87.60
008	62.00	1.0		93.50
009	73.33	1.0		95.33
010	72.40	2.4	.4	98.40
011	70.80	1.4	.2	94.80
012	43.00	3.2*		81.60
013	67.40	1.0	.2	94.60
014	66.40	1.4		95.40
015	70.40	1.0	.4	91.40
AVG.	**67.09**	**1.39**	**0.37**	**93.09**

* ID No. 012 passed 3 of 5 lessons

The above data was collected on each student evaluator and stored on a floppy diskette. Test questions for the pretest and posttest were randomly selected from two test banks in each lesson. Additionally, the order of the questions was lomized each time a test was attempted. Selected answers and correct answers were recorded to permit assessment item analysis and validation. Electronic transmission of these files will be demonstrated at the next BETA Test after integration of the Training Management System (TMS). AST has designed and programmed a customized TMS package to provide student log-on, tracking of data, electronic data transfer in various formats, analysis reports, and security.

Two evaluation questionnaires were developed for the BETA Test. The Unit Component Rating required the student evaluators to rate eight separate components of the courseware. Their ratings are reflected in Table 3. The Training Reaction questionnaire had the student evaluators rate seven statements on course effectiveness and provided an opportunity to add their own comments. These ratings are depicted in Table 4.

Table 3: Unit Component Rating

Student ID NO.	**001**	**002**	**003**	**005**	**006**	**007**	**008**	**009**	**010**	**011**	**012**	**013**	**014**	**015**
User Guide	VG	VG	F	G	VG	E	E	E	G	VG	VG	VG	VG	VG
Introductions	VG	VG	VG	VG	VG	E	E	E	VG	VG	VG	VG	G	VG
Menus/ Navigation	E	G	E	VG	VG	E	E	E	VG	E	VG	VG	VG	VG
Screen Presentations	E	G	E	VG	E	VG	E	E	VG	E	VG	G	VG	VG
Training	VG	-	E	E	E	E	E	E	G	VG	VG	VG	VG	VG
Progress Feedback	VG	G	VG	E	E	VG	E	E	F	E	G	VG	VG	VG
Summary Pages	VG	F	E	E	VG	E	E	E	G	VG	G	VG	VG	VG
Tests	VG	G	G	E	VG	VG	E	E	VG	G	VG	G	VG	VG

KEY: E = Excellent; VG = Very Good; G = Good; F = Fair; P = Poor

Table 4: Training Reaction

Student ID NO.	001	002	003	005	006	007	008	009	010	011	012	013	014	015
The lessons covered all of the most important topics.	SA	A	SA	SA	A	SA	SA	SA	A	A	A	-	A	A
The material was presented in an interesting way.	A	SA	A	SA	SA	SA	SA	SA	SA	SA	A	A	A	SA
I learned or had reinforced what was needed about the subject.	SA	A	SA	A	SA	SA	SA	SA	A	SA	SA	A	N	SA
The training stimulated my interest in the subject.	SA	SA	SA	A	A	SA	SA	SA	A	A	SA	A	A	A
The remediation and review activities helped me prepare for the tests.	A	A	SA	A	N	SA	SA	-	N	N	SA	A	A	A
The level of difficulty was about right.	A	A	SA	A	A	SA	SA	SA	A	A	A	A	A	A
The reading difficulty was about right.	A	A	SA	D	A	SA	SA	SA	N	SA	A	A	A	A

KEY: SA = Strongly Agree; A = Agree; N = Feel Neutral; D= Disagree; SD = Strongly Disagree

Student ID No. 2, an Instructional Technologist at a nuclear power facility, attained the highest pretest and posttest scores. He provided several sound suggestions for future changes and volunteered that he had "learned an important safety feature that could save my life." It is believed that Student ID No. 5 misread the last statement in the training reaction questionnaire. His rating of "D" and written comment, "Reading was not a problem," are in conflict.

Verbatim Student Evaluators' training reaction comments; N/C indicates "no comment."

The lessons covered all of the most important topics.

Student ID NO.	*Comment*
001	N/C
002	Officer safety should be foremost. Most sections covered this adequately.
003	The lessons were short, to the point, and covered all of the important areas.
005	Covered needed areas.
006	N/C
007	N/C
008	N/C
009	The lessons were clear, specific, and well presented for the lessons I completed.
010	The lessons (Radar especially) could have been less long-winded and more down to earth layman's terms.
011	Lesson one was a little hard to follow and the test questions were worded differently than material presented in some cases.
012	N/C
013	N/A (for me). I wouldn't know.
014	N/C
015	Make sure each program is in line with state law.

The material was presented in an interesting way.

Student ID NO.	*Comment*
001	Having the headsets on for extended periods without audio cues was the only drawback.
002	N/C
003	The material was presented well. I didn't find myself getting bored.
005	Understandable and easy to read.
006	N/C
007	Topic need more detail and tailor to MS law and procedures.
008	Video is nice touch
009	The material was presented in a manner that captured my attention.
010	All was very interestingly put.
011	Great presentation, allows for repetition at own pace.
012	N/C
013	More audio stimuli is needed.
014	N/C
015	N/C

I learned or had reinforced what was needed about the subject.

dent ID NO.	*Comment*
001	N/C
002	See notes on "Just the Facts" etc.
003	It was very helpful after each test that I was able to see the areas that I had problems with.
005	Seemed to "Bring to the Point".
006	N/C
007	N/C
008	Took all pretests, scored low on some. Always had improvement of posttest scores.
009	The lessons contained all information relative to the subject and enhanced my knowledge of the areas I reviewed
010	Learned new things but had other things reiterated.
011	Good reinforcement of material especially the intermittent questions with explanations.
012	N/C
013	N/C
014	N/C
015	N/C

The training stimulated my interest in the subject.

Student ID NO.	*Comment*
001	N/C
002	N/C
003	The video really helped me interact with the subjects being taught.
005	Hard to do for a veteran. Would be interesting to a new or reserve officer.
006	N/C
007	N/C
008	Doing mostly vice work, had gotten rusty in some patrol areas. Training refreshed knowledge as well as interest. Took all but two lessons!
009	The training did stimulate my interest by the use of graphics.
010	I became more interested in some things such as roadblocks and radar.
011	It's new, for people that aren't afraid or unwilling to use computers, it's great.
012	N/C
013	More audio would be nice. Some animated cursors also would be nice.
014	N/C
015	N/C

The remediation and review activities helped me prepare for the tests.

dent ID NO.	*Comment*
001	N/C
002	However always showing "Just the Facts" etc. would reinforce.
003	Great tutorial for the final test.
005	Definitely worthwhile.
006	Should be able to review the specific areas of weakness, not the whole lesson.
007	N/C
008	Note area is nice. Taking notes reinforces learning – note screen could be moved to right not to block text information.
009	I did not use this feature.
010	It was okay. When I went to review materials after taking a posttest, my posttest score was erased.
011	In some cases yes, in lesson 1 it was iffy. It would be nice to get a question by question review. Due to random questions, you may never know why you missed one.
012	N/C
013	Should be able to review missed test questions & should be able to preview answers to posttest prior to grading.
014	N/C
015	N/C

The level of difficulty was about right.

Student ID NO.	*Comment*
001	N/C
002	N/C
003	N/C
005	Would make you think especially when the scoring was done.
006	N/C
007	N/C
008	Could have even been a little harder – can't have too much knowledge or training for a dangerous job.
009	The level of difficulty was optimum.
010	It will take a person of normal IQ to take the tests and pass.
011	Not to hard; not Kindergarten.
012	N/C
013	Some questions seemed to need rewording such as lesson 9 – High Risk/Felony Stops – Which of the following is NOT accomplished as soon as a high risk/felony stop is contemplated.
014	N/C
015	N/C

The reading difficulty was about right.

Student ID NO.	*Comment*
001	N/C
002	N/C
003	No problem with the reading.
005	Reading was not a problem.
006	N/C
007	N/C
008	Yes
009	All data was presented clearly
010	The language could have been more in layman's terms for some subjects.
011	Material was presented effectively.
012	N/C
013	N/C
014	N/C
015	N/C

Summary

Overall, the quantitative and qualitative data collected during the BETA Test indicate that the ***Patrol Concepts and Techniques*** unit is exceptionally valid and valuable to veteran officers, reserves, and new recruits. The unanimity and magnitude of test score improvement and the positive ratings/comments substantiate this claim.

As indicated in Table 1, a stratified audience of veterans, reserves, and recruits was provided by the BLEOST to participate in the validation process. Every student evaluator improved his/her pretest to posttest scores (Table 2) by an average of **26%**. Student ID 002 showed the least improvement (11.16%) but earned the highest overall scores and Student ID 012 showed the most improvement (38.6%) even though he did not satisfactorily complete two lessons. Veterans averaged a **24.19%** improvement, reserves averaged a **27.15%** improvement, and recruits averaged a **28.1%** improvement.

Student evaluators provided invaluable written feedback pertaining to improvements in courseware functionality and the accuracy of law enforcement training specific to the State of Mississippi. In particular, animating the cursor to let the student know the computer is performing a function, more audio, forcing students to review video/animations by disabling the forward button, and upgrading the User Guide are all being implemented to improve functionality. Additionally, those items that were contrary to Mississippi procedures are also being corrected. Remarkably, no spelling, grammar, or syntax errors were identified.

Student evaluators required, on average, seven hours to complete five lessons and the User Guide tutorial. Familiarity with the subject matter as well as reading and comprehension levels can and will vary this time significantly. At this point, it is believed that the ***Patrol Concepts and Techniques*** unit represents between 16 and 20 hours of instruction, depending on the aforementioned factors.

Perhaps the best testimonial to the effectiveness and validity of the training was the evaluators' personal debriefings after finishing their lessons. Every active or reserve student felt he/she had learned or had refreshed important

material necessary to do the job and thoroughly enjoyed the learning experience. Many offered to participate in future development efforts.

Recommendations

Upon incorporation of changes identified in the BETA Test, recommend that the BLEOST certify the ***Patrol Concepts and Techniques*** unit of the Basic Law Enforcement Training course for use within the State of Mississippi.

29 March, 1999

Mr. Keith May
Division of Public Safety Planning
Officers Standards and Training Board
401 N. West St.
Jackson, MS 39215

Subject: **BETA VALIDATION REPORT** on Unit 1, *Introduction to Law Enforcement*

This validation report pertains to the ***Introduction to Law Enforcement*** unit, Computer-Managed Instruction (student tracking data), and User Guide tutorial in the Basic Law Enforcement Training course developed by AST, Inc. for the Mississippi Board on Law Enforcement Officer Standards and Training (BLEOST).

The BETA Test, conducted on 23 March 1999, was designed to be a rigorous study of the *Introduction to Law Enforcement* unit of courseware. The student evaluators were recruited by BLEOST and were not involved in the training development. Because of the difficulty of scheduling a large group (14 to 16 evaluators), eight evaluators were originally scheduled to participate. Initially, three started the review, two showed up an hour late, and an additional two members of BLEOST agreed to participate.

METHODS

dent Evaluators

A total of seven student evaluators participated in the one-day field test and evaluation. The audience was comprised of four reserves and three members of BLEOST, one of whom has twelve years of previous full-time law enforcement service. A short briefing on testing requirements was provided to the evaluators and each was provided a BETA Test Booklet (designed to Kirkpatrick's Evaluation Model) to record demographics, unit component ratings, training reactions, error log entries, and recommended future changes. Each evaluator was assigned a student identification number to enable tracking data while providing anonymity. See Table 1: Evaluators' Law Enforcement Background and Experience.

Table 1: Evaluators' Law Enforcement Background and Experience

ID No.	Rank	Specialty	Active	Reserve	Yrs Svc
017	BLEOST	Special Projects Officer II	**X**		12
019	Patrolman	Pearl PD		X	9
020	Sgt./PD	Firearms Inst., Sniper		X	7
021	BLEOST	Training			None
022	BLEOST	Ops Mgmt.			None
023	Deputy	Hinds County		X	6
024	Deputy	Hinds County		X	2

Facilitators

In anticipation of a wide variance in computer literacy, two facilitators and two programmers from the AST development team attended the BETA Test. The programmers ensured the tracking data was in a format that could be tronically transferred to the Department of Public Safety. Some evaluators had little or no experience using computers or computer-based training. Student ID 023 expressed doubt, during the briefing, over the efficacy of using computers to accomplish training. He energetically took personal notes throughout the testing for future reference and volunteered to participate in the next BETA Test. The facilitators also conducted a personal debriefing with each evaluator to review all comments and questions, and to acquire individualized feedback.

Procedures

The training platforms at Strategic Employment Systems, Inc. in Ridgeland, Mississippi, were used to test the *Introduction to Law Enforcement* courseware. Again, this centrally located test site near the Jackson metropolitan area proved to be the most convenient location. One full day of testing was scheduled to complete the seven lessons in Unit 1, with one additional day for electronically transmitting the student tracking data, installing the Training Management System (TMS) to receive the data at the Department of Public Safety, and printing records of the data.

Initial entry into the training courseware required the evaluators to complete the User Guide tutorial to detail features and navigation procedures, explain remediation and feedback, and identify testing procedures and requirements.

Although the pretest is optional by design, student evaluators were instructed to complete the pretest prior to starting the instruction. Student evaluators failed to do this on eleven occasions. One evaluator forgot to take the pretest on five of the lessons, three didn't complete one of the lessons, and three others forgot to take the pretest on one lesson.

The ***Introduction to Law Enforcement*** unit is divided into the following seven lessons:

1. **History of Policing**
2. **Overview of the Criminal Justice System**
6. **Law Enforcement Agencies**
7. **Professionalism and Ethics**
8. **Community Relations**
6. **Officer Liability and Rights**
7. **Well-Being and Fitness**

During the BETA Test, four student evaluators were instructed to complete the unit beginning with lesson one and the remaining three evaluators were instructed to begin with lesson seven. Three of the seven student evaluators completed only six of the seven lessons. It is believed that the test scores are skewed in this evaluation because of the small test group and the fact that three of the seven evaluators occupy management positions within BLEOST. A review of the lesson titles would indicate that this unit is more academic and less procedural in content. Nevertheless, all scores increased from pretest to posttest. The Computer-Managed Instruction (CMI) software captured all test scores, attempts, and individual test question performances. See Table 2: Test Scores

Table 2: Test Scores

ID NO.	Avg. Pretest Scores	Avg. Attempts Per Lesson to Pass	Avg. Attempts Per Lesson to Improve	Avg. Posttest Scores
017	84.43	1.00	0.00	94.00
019	67.17	1.20	0.16	77.43**
020	68.71	1.00	0.00	88.43
021	80.17	1.00	0.14	96.00
022	70.33	1.00	0.50	100.00
023	69.00	1.17	0.17	93.00
024	80.50*	1.00	0.43	92.57
AVG.	**74.30**	**1.05**	**0.20**	**91.63**

* ID No. 024 completed just two pretests

** ID No. 019 failed four of the six lessons completed

The above data was collected on each student evaluator and stored on a floppy diskette. Test questions for the pretest and posttest were randomly selected from two test banks in each lesson. Additionally, the order of the questions was randomized each time a test was attempted. Selected answers and correct answers were recorded to permit assessment item analysis and validation. Electronic transmission of these files was demonstrated on 24 March 1999 using the Training Management System (TMS) developed by AST for their commercial products. The TMS package provides student log-on procedures, tracking of student data, electronic data transfer in various formats, analysis reports, and security. Students were pre-logged on to the training platforms by identification number to save review time. However, the log-on procedure was demonstrated to Mr. Keith May with BLEOST.

Two evaluation questionnaires were developed for the BETA Test. The Unit Component Rating required the student evaluators to rate nine separate components of the courseware. Their ratings are reflected in Table 3. The Training Reaction questionnaire had the student evaluators rate seven statements on course effectiveness and provided an opportunity to add comments. These ratings are depicted in Table 4.

Table 3: Unit Component Rating

Courseware Component	Student ID NO.						
	017	**019**	**020**	**021**	**022**	**023**	**024**
Log On Procedures	VG	E	VG			G	E
User Guide	VG	E	VG	VG	VG	G	E
Introductions	VG	VG	VG	VG	VG	G	E
Menus/Navigation	VG	VG	VG	VG	VG	G	E
Screen Presentations	VG	VG	VG	G	VG	G	E
Training Flow	VG	VG	VG	VG	VG	G	E
Progress Feedback	VG	VG	VG	E	VG	G	E
Review Features	E	VG	VG	E	VG	G	E
Tests	VG	G	VG	F	G	G	E

***KEY:** E = Excellent; VG = Very Good; G = Good; F = Fair; P = Poor*

Table 4: Training Reaction

Reaction Statement	Student ID NO.						
	017	019	020	021	022	023	024
The lessons covered all of the most important topics.	SA	SA	SA	A	A	N	SA
The material was presented in an interesting way.	A	D	A	A	A	A	SA
I learned or had reinforced what was needed about the subject.	A	A	SA	SA	SA	A	SA
The training stimulated my interest in the subject.	SA	N	A	A	A	A	SA
The remediation and review activities helped me prepare for the tests.	A	A	SA	A	N	A	SA
The level of difficulty was about right.	A	D	A	A	A	N	SA
The reading difficulty was about right.	SA	N	A	N	A	D	SA

KEY: SA = Strongly Agree; A = Agree; N = Feel Neutral; D= Disagree; SD = Strongly Disagree

The "Disagree" reactions of student ID 019 to the second and sixth questions were accompanied with the following comments: "Less reading more sound or reading by computer" (sic) and, "Level seem to go to different levels did not seem steady" (sic). This individual, who failed four of the six lessons, is obviously a strong auditory vice visual learner. During the debrief, he also indicated that he did not take advantage of the Glossary for the more sophisticated terms as used in the Overview of the Criminal Justice System lesson. Student ID 023 also indicated that he did not use the Glossary and added the comment, "Education levels in MS might find some people having trouble understanding some lessons."

Verbatim Student Evaluators' training reaction comments; N/C indicates "no comment."

The lessons covered all of the most important topics.

Student ID NO.	*Comment*
017	N/C
019	N/C
020	N/C
021	It would be better to include screen of related topics and particularly where things will be covered in more detail.
022	N/C
023	N/C
024	The lessons had the depth and scope necessary to provide new officers a fine introduction to police work, and to give veteran officers renewed emphasis.

The material was presented in an interesting way.

Student ID NO.	*Comment*
017	Still could use more audio input.
019	Less reading more sound or reading by computer
020	N/C
021	N/C
022	The use of recognizable law enforcement personalities might be helpful, i.e. the A.G., the Governor, the Public Safety Commissioner, Sheriffs, Chiefs of Police, etc. Use in videos and audios
023	N/C
024	The mix of visual and aural material was well done which serves to hold the interest of the user.

I learned or had reinforced what was needed about the subject.

Student ID NO.	*Comment*
017	N/C
019	N/C
020	N/C
021	N/C
022	N/C
023	N/C
024	As a relatively new entrant to law enforcement, I feel this program has the essential elements needed in my training.

The training stimulated my interest in the subject.

Student ID NO.	*Comment*
017	N/C
019	N/C
020	N/C
021	N/C
022	N/C
023	N/C
024	An outstanding feature of this program is that even while sitting before the monitor for 8 hrs. steady, I did not lose interest.

The remediation and review activities helped me prepare for the tests.

Student ID NO.	*Comment*
017	N/C
019	N/C
020	N/C
021	N/C
022	I didn't review material.
023	N/C
024	Although difficult to score 100% on any of the pretests, they are a good introductory opener. I like the fact that areas of weakness are shown after final testing.

The level of difficulty was about right.

Student ID NO.	*Comment*
017	N/C
019	Level seem to go to different levels did not seem steady.
020	N/C
021	N/C
022	N/C
023	N/C
024	The level of difficulty is right for the degree of education expected of law enforcement officers.

The reading difficulty was about right.

Student ID NO.	*Comment*
017	N/C
019	N/C
020	N/C
021	Hard target! Too high in my view for some slower readers.
022	N/C
023	Education level in MS might find some people having trouble understanding some lessons.
024	It is my opinion that the level of reading ability required is the right level in terms of style and vocabulary. The material is easily understood.

Summary

The *Introduction to Law Enforcement* unit presents a great deal of information to the students and expecting evaluators to complete seven lessons in one day was excessive. The lessons are challenging and extremely important to law enforcement training to avoid litigation and to improve community relations. Two individuals from BLEOST scored 100% on the pretest for the Law Enforcement Agencies lesson, which covered not only the various agencies, but their interaction and specialties. While skewing the scores, this result does substantiate the validity of the test questions because these people would be well informed on this subject.

ain, the quantitative and qualitative data collected during the BETA Test indicate that the ***Introduction to Law Enforcement*** unit is exceptionally valid. Test scores unanimously improved from pretest to posttest by an average of **17.33%.** Feedback and comments continue to be very positive.

After incorporating many of the changes recommended during the first BETA Test, the quantity of feedback was greatly reduced. Student ID 024 provided the following written summary:

"I like the program as is and would not favor any changes. The program reflects thorough research and the narrative information is extremely well written. I look forward to completing the course in its entirety when it is adopted. In discussing the course with the AST representatives, I was impressed with their knowledge and technical expertise. I have total confidence in their ability to develop course software that will not only meet the requirements of officer standards, but will provide officers interesting and enjoyable course work."

Student evaluators required, on average, seven hours to complete the User Guide tutorial and five of the seven lessons. Familiarity with the subject matter as well as reading and comprehension levels can and will vary this time significantly. The ***Introduction to Law Enforcement*** unit will require an average of 12 hours for the typical student.

Recommendations

Upon incorporation of changes identified in the BETA Test, recommend that BLEOST certify the ***Introduction to Law Enforcement*** unit of the Basic Law Enforcement Training course for use within the State of Mississippi. In the coming months, two more units will be completed and ready for implementation. The results of BETA Testing indicate the training is educationally sound and meets the requirements of the objectives detailed in the Job Task Analysis. This product will exceed the legislated law enforcement training requirements for the State of Mississippi. Future design changes and upgrades should be based on a consolidation of feedback from actual usage and endorsed by the standards and training board.

Appendix IV

Installation & Log-On Procedures

Procedures used to log on to these ToolBook units and lessons and to collect and store CMI data are defined below.

The AST Training Management System (TMS) is used to control access to all student and administrator functions associated with this course. The ToolBook lessons will not function unless accessed through the TMS.

2. The learner logs in by entering a user name and password generated by the TMS and provided by the system administrator.
3. Upon authentication as a valid user, the learner is granted access to all units and lessons for which permission has been granted.
4. The learner begins the course by clicking the "Take a Course" icon in the TMS menu bar and selecting BLET.
5. The TMS passes the learner to the BLET course menu from which any available unit may be selected. New learners will be branched first to an embedded user guide that explains how to use this learning system.
6. End of lesson test scores are passed to the TMS and written to a database file that is protected from student tampering.
7. The system administrator can access (read only) student scores through the TMS.

8. The following events are to be logged in the CMI data file:

a.) Name: Last, First, MI
b.) SSN
c.) Jurisdiction
d.) Class number (if appropriate)
e.) Date/time entered unit/lesson
f.) Date/time exited unit/lesson
g.) Lesson/unit test scores (all attempts)
Date/time unit/lesson completed

Appendix V

CMI Database and Student Reports

BLET student CMI data for Unit 1 was collected and transferred electronically to BLEOST as part of the second beta test. The merged student data is contained within an Access database file named BLET_TMS.mdb and is included in deliverable. This data is the source from which the following reports were generated.

BLET Student Summary

This summary shows overall results for the 7 students who participated in the second beta test. Shown are the UserIDs, Module, Unit Title, Unit Score, and Unit Status. Scores are computed only when a student satisfactorily completes all lessons within the unit.

BLET Student Gradebook

The gradebook contains the detailed lesson status by student. Pretest and posttest scores are indicated by TestType 1 and 2 respectively. Only test scores of 80 percent, or better are considered complete. If all lessons are flagged complete, as determined by either pretest or posttest, then the unit is considered complete.

Test Item Analysis – Student 00017

Student 00017 had a unit score of 94 percent. The test item analysis shows the results of each test item for all of the lesson pretests and posttests. The sequence column depicts how the question distracters were randomized. For example, on question AATA005A, the student selected "A", but "C" was the correct answer.