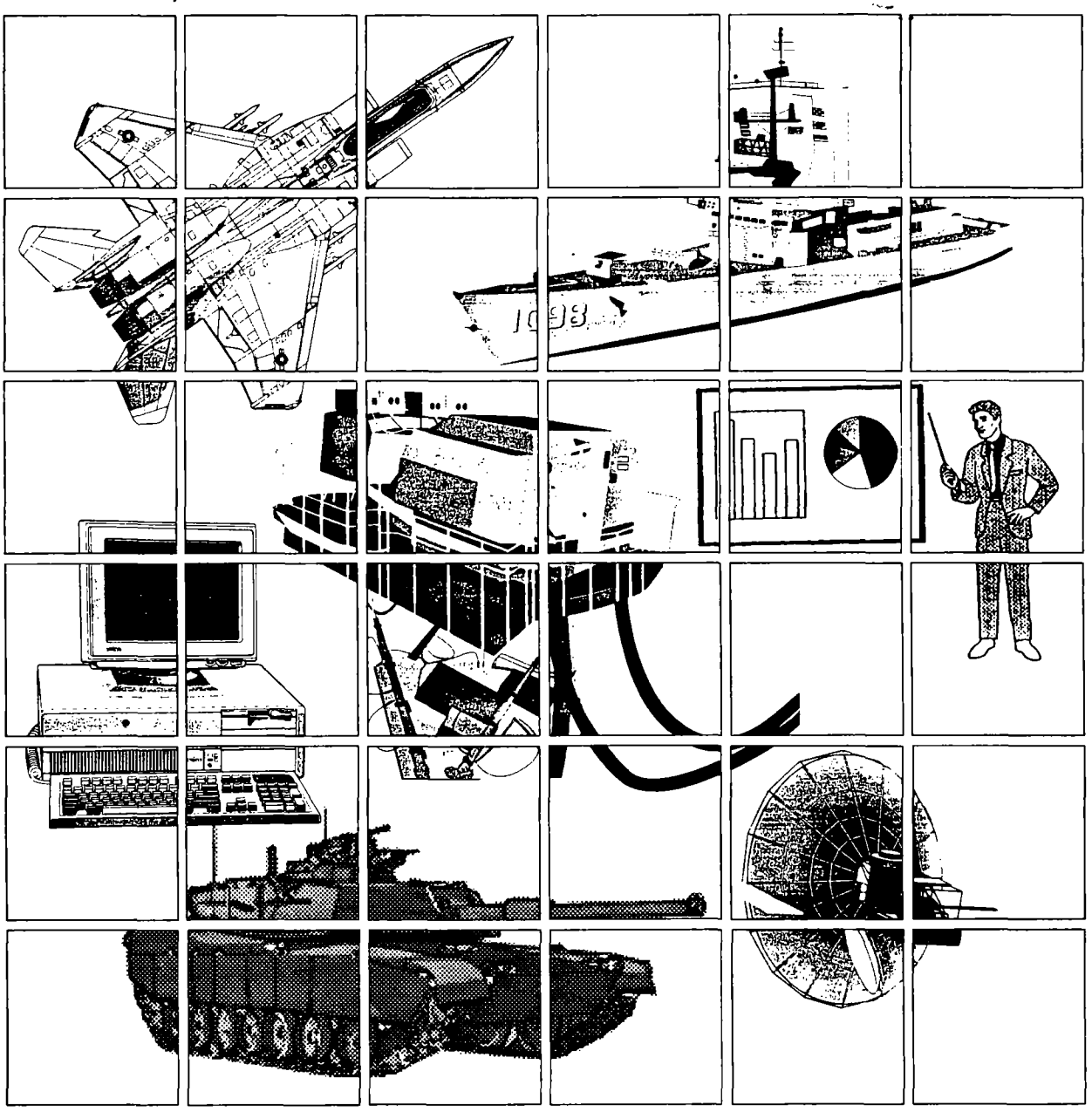
Interservice/Industry Training Systems and Education Conference



Program

Orlando Marriott World Center
Orlando, Florida

November 28–December 1, 1994

Sponsored by
The National Security Industrial Association

INTRODUCTION

The 16th Interservice/Industry Training Systems and Education Conference (I/ITSEC) is sponsored by the **National Security Industrial Association** and is hosted by the **Naval Air Warfare Center Training Systems Division** (NAWCTSD), Orlando, Florida.

The theme chosen for this year's conference, **"The Defense, Industry and Academia Team: Shaping the Future with Technology,"** conveys the direction that the country is moving. It is through this team approach that the Information Super Highway was born and is growing. This communication network will provide the basis for the next major technology expansion, the Information Age.

This year, as in the past, the conference offers a wide range of papers and special events that provide insight into the leading edges of technologies. These presentations are broken into 6 categories. Each category has been assigned a presentation room for their papers to be presented. The categories for the paper "tracks" are:

Policy and Management
Education, Instructional and Training Methodology
Training Development and Delivery
Modeling and Simulation
Simulation and Training
Research and Development Technology Applications

An addition to this year's conference will be a Master Reference Disk. This will be offered for $5.00. It will contain an abstract for each paper, the time and location the paper will be presented, companies that have products that are related to the paper and their location in the exhibit area. There will be a "Key Word" search program loaded on the disk to facilitate the location of the subjects that the user desires quickly.

The Proceedings contain the accepted papers that will be presented. These papers were chosen from over 250 abstracts submitted to the I/ITSEC (pronounced It-Sic) Committee for consideration. This publication is provided as you register for your reference and enjoyment. Evaluation forms are provided at each session to encourage suggestions and comments for continuous improvement of material presented at I/ITSEC.

There are many individuals who have contributed significantly to the success of this year's conference. You will find their names and supporting organizations on the pages immediately following this Introduction. Without their talented support, this conference would not be possible.

On behalf of the entire Conference Committee, thank you for your participation; enjoy the conference!

Edward M. Ward
16th I/ITSEC Program Chair

DoD Standards of Clearance

The Department of Defense finds this event meets the minimum regulatory standards for attendance by DoD employees. This finding does not constitute a blanket approval or endorsement for attendance. Individual DoD Component Commands or Organizations are responsible for approving attendance of its DoD employees based on mission requirements and DoD regulations.

16TH INTERSERVICE/INDUSTRY TRAINING SYSTEMS AND EDUCATION CONFERENCE SCHEDULE

MONDAY, 28 NOVEMBER 1994

0800	Registration Opens	Crystal Ballroom Foyer
1300	Software Exchange Opens	Boston/Atlanta Rooms
	TUTORIAL: Information Analysis Center	Salons IX, X, XI
	TUTORIAL: Development and Assessment of Performance Support Systems	Salons XII, XIII, XIV
1500	**TUTORIAL:** Modeling & Simulation Information System	Salons IX, X, XI
	TUTORIAL: Progress, Change and Impact	Salons XII, XIII, XIV
1600	Exhibits Open	Crystal & Palms Ballrooms
1900	Exhibits, Registration & Software Exchange Close	

TUESDAY, 29 NOVEMBER 1994

0630	Registration Opens	Crystal Ballroom Foyer
0800	Opening Session Musical Medley Prelude, US Navy Band, Orlando	Grand Ballroom
0830	Opening Ceremony	Grand Ballroom
	Call to Order, Presentation of Colors, National Anthem	
	Opening Remarks: Conference Chairman, US Navy/Marine Corps Hosts, NSIA Sponsor	
	Keynote Addresses: General Carl E. Mundy, Jr., Commandant of the Marine Corps	
	Mr. Gordon England, President, Lockheed Fort Worth Company	
	I/ITSEC Scholarship Award Presentation	
1100	Box Lunch	Ballroom Foyers
	Software Exchange Opens	Boston/Atlanta Rooms
1200	Exhibits Open	Crystal & Palms Ballrooms
1230	PAPER SESSIONS	See Page 19
1300	**SPECIAL EVENT: R&D RODEO**	Salons IX,X,XI,XII
1430	Break	
1500	**SPECIAL EVENT: STRICOM BULLETIN BOARD**	Salons D,E,F
	PAPER SESSIONS	See Page 19
1700	**SPECIAL EVENT: DIS TUTORIAL**	Grand Ballroom
	No Host Beverage Service in Exhibit Halls	
1800	Software Exchange Closes	
1900	Exhibits Close	

WEDNESDAY, 30 NOVEMBER 1994

0630	Registration Opens	Crystal Ballroom Foyer
0800	**SPECIAL EVENT: Law Enforcement Training Requirements**	Salons IX, X, XI, XII
	PAPER SESSIONS	See Page 20
1000	BREAK	
	Exhibits Open	
	Software Exchange Opens	Boston/Atlanta Rooms
1030	PAPER SESSIONS	See Page 20
1200	LUNCH	Grand Ballroom
1330	PAPER SESSIONS	See Page 21
	SPECIAL EVENT: Cooperative Learning	Salons IX, X, XI, XII
	SPECIAL EVENT: Synthetic Theater of War-Europe	Grand Ballroom
1500	BREAK	
1530	PAPER SESSIONS	See Page 21
	SPECIAL EVENT: Maintenance Training Panel	Salons III,IV
	SPECIAL EVENT: Classroom of the Future	Salons XIII, XIV
	POSTER SESSION	Salons I,II
1700	No Host Beverage Service in the Exhibit Halls	
1800	Software Exchange Concludes	
1900	Exhibits Close	

THURSDAY, 1 DECEMBER 1994

0630	Registration Opens	Crystal Ballroom Foyer
0800	**SPECIAL EVENT: Dual Use Technology Panel**	Salons D,E,F
	SPECIAL EVENT: System Architecture	Salons I, II
	SPECIAL EVENT: Schoolhouse of the Future	Grand Ballroom
	PAPER SESSIONS	See Page 22
0930	BREAK	
1000	Exhibits Open	
	SPECIAL EVENT: Defense Science Board on Readiness	Salons D,E,F
	SPECIAL EVENT: Training Applications of Virtual Reality	Salons A,B,C
1200	LUNCH	Grand Ballroom
1330	**SPECIAL EVENT: The 21st Century Lifesaver Medical Ports**	Grand Ballroom
1500	**SPECIAL EVENT: General/ Flag Officer Training Panel**	Grand Ballroom
1600	Exhibits Close/Conference Registration Closes	
1800	No Host Reception	Grand Ballroom Foyer
1900	**16th I/ITSEC BANQUET** (Black Tie Optional)	Grand Ballroom
	Banquet Speaker, Admiral J.M. Boorda, Chief of Naval Operations Best Paper Award Presentation Entertainment: *The U.S. Navy Band Sea Chanters*	

KEYNOTE SPEAKERS

General Carl E. Mundy, Jr., USMC
Commandant of the Marine Corps

Gordon England
President
Lockheed Fort Worth Company

BANQUET SPEAKER

Admiral J. M. Boorda, USN
Chief of Naval Operations

INTERSERVICE EXECUTIVE COMMITTEE

CAPTAIN CHRISTOPHER L. ADDISON, USN
Commanding Officer,
Naval Air Warfare Center Training Systems Division
Orlando, Florida

The Naval Air Warfare Center Training Systems Division (NAWCTSD) is at the forefront of our nation's efforts to maintain force readiness through more effective simulation and training systems. NAWCTSD has been a leader in the development, procurement, and life cycle support of training systems for over 50 years. Captain Addison is a graduate of the U.S. Naval Academy and holds a Master of Science in Systems Acquisition Management from the Naval Post Graduate School and a Master of Arts in National Security and Strategic Studies from the Naval War College. He assumed command of NAWCTSD June 29, 1992.

COLONEL ROBERT R. TYLER, USMC
Liaison Officer/Program Director
Marine Corps Systems
Naval Air Warfare Center Training Systems Division
Orlando, Florida

Marine Corps simulation acquisition needs are met by utilizing the expertise of the Naval Air Warfare Center Training Systems Division and Industry. The USMC Liaison Officer at the Center, working with Headquarters, Marine Corps and Marine Corps field units, coordinates this effort. Colonel Tyler is a graduate of Chaminade University and holds a Master of Science in Safety from the University of Southern California. He assumed his present duties on July 9, 1993.

DR. ROBERT R. BARTHELEMY
Product Group Manager,
Training Systems Product Group
Air Force Aeronautical Systems Center
Wright Patterson AFB, Ohio

The Training Systems Product Group is responsible for the development, acquisition, support, and sustainment of ground based and airborne training systems for the USAF and allied nations. Dr. Barthelemy holds undergraduate and graduate degrees from MIT and a doctoral degree in Mechanical Engineering from Ohio State University. He assumed his duties on April 19, 1993.

BRIGADIER GENERAL JOHN F. MICHITSCH, USA
Commander, US Army Simulation, Training & Instrumentation Command
Orlando, Florida

The US Army Simulation, Training & Instrumentation Command responds to the needs of the Army and other customers by meeting training requirements established by the using communities and by managing the development, procurement and life cycle support of simulators, simulations, training devices, targets and test Instrumentation. General Michitsch is a graduate of the University of Dayton and has a Masters Degree from Case Western Reserve University. He also completed the Program for Senior Officials in National Security at Harvard University in 1988. General Michitsch assumed command on April 26, 1993.

DR. HAROLD F. O'NEIL, Jr.
Professor of Counseling and Educational Psychology, School of Education, University of Southern California

Doctor O'Neil is conducting research and development in workforce readiness skills, motivation and testing, and teaching and measurement of meta-cognition. He has published extensively and also teaches graduate courses in these areas. He has had a lifelong interest in technology in education and training. He has a Ph.D. from Florida State University, a Master of Science from Hollins College, and a Bachelor of Arts from Boston College, all degrees in the discipline of Psychology.

I/ITSEC SCHOLARSHIP RECIPIENT - MR. GARY R. GEORGE

The fifth annual award of the I/ITSEC $10,000 Scholarship is awarded to Mr. Gary R. George, a PhD Candidate at Binghamton University in New York. Mr. George received his Bachelor of Science and his Master of Science in Mechanical Engineering from the State University of New York at Buffalo and his Master of Science in Electrical Engineering from Syracuse University. He is a Senior Staff Engineer on leave from CAE-Link in New York where he worked with cue synchronization in flight simulators, avionics and sensor simulations and design, and large scale simulator networking. His paper on cue synchronization was published at the 11th I/ITSC and two mission rehearsal papers were published for the 11th and 12th I/ITSCs. The scholarship will provide financial support for Mr. George to develop a model of perceptual responses to cueing systems as well as the resulting behavior.

CONFERENCE COMMITTEE

CONFERENCE CHAIR
G.P. (PRES) McGEE

Mr. McGee is Project Manager, Engineering Training Systems at Lockheed Fort Worth Company. He is a graduate of Florida State University. Joining the U.S. Army in 1966, Mr. McGee completed Basic Training, Advanced Individual Training in Armor, and received his commission from OCS in June of 1967. Subsequently, he graduated from Officer Rotary-Wing Flight School in May 1968. His army career included consecutive tours in Vietnam and assignments in Europe. Mr. McGee's last active duty position was Project Director, Cargo Helicopter Training Systems at Project Manager, Training Devices (PM-TRADE). Since retiring from active duty in December 1986, Mr. McGee has served in project and program management positions in the training & simulation industry. At Lockheed Fort Worth Company, his efforts are centered around total training systems for Lockheed customers.

PROGRAM CHAIR
EDWARD M. WARD

Ed Ward is a Marketing Manager for Hughes Training, Incorporated in Arlington, Texas. A 1978 graduate from The Citadel, Ed served on active duty as a Naval Aviator in the United State Marine Corps for 8 years and has remained active in the Marine Corps Reserve in Quantico, Virginia. While on active duty, Ed was Chairman for the West Coast CH-53 Fleet Project Team that was responsible for the procurement and testing of Flight Simulators. Ed has been involved with the Conference for the last 6 years and served as the Chair for the Policy and Management Subcommittee that introduced the Distributed Interactive Simulation Demonstrations.

Deputy Program Chair
Dennis Shockley, Evans & Sutherland

Subcommittee Program Chairs
Policy & Management
Len Kravitz, Reflectone, Inc.

Education, Instruction & Training Methodology
Lou Hightower, Computer Sciences Corp

Training Development & Delivery
Stephen Stankiewicz, Evans & Sutherland

Modeling & Simulation
Jay Anton, Loral Aviation Testbed

Simulation & Training Systems
Kathy Walsh, SAIC

R & D Technology Application
[illegible] Electronics

I/ITSEC Publicity Chair
Allen Collier

NSIA Representative
Colonel Bruce Green, USA (Ret.)

Best Paper Subcommittee Chair
Dr. Robert Breaux, NAWCTSD

Academic Liaison
Lt. Col. Milt Nielsen, Ph.D. USAF Academy

Facilities Committee
Ron Johnson, Galactic Technologies

Scholarship Committee Chair
Jack Drewett

Publications Committee
JoAnne Puglisi, Martin Marietta
Don Jacobs, Pulau Electronics

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Head, Instructional Systems
Surface & Submarine Division
Naval Air Warfare Center Training
Systems Division

MAJOR RICK WRENN, USMC
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Naval Air Warfare Center Training
Systems Division

STEPHEN MILLER
Deputy Director
US Air Force Flight Training
System Program Office

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Chief Plans & Operations
U.S. Army Simulation, Training
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Chair
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Deputy Chair
William T. Melton, Ed.D., US Army Training & Doctrine Command

Members
Andy Andrews, Los Alamos National Laboratory
Gary Boycan, Office of the Secretary of Defense
John W. Hurlimann, American Academy of Distance Learning
Francis McCoy, Naval Undersea Warfare Center

MONDAY, 28 NOVEMBER 1994

TUTORIAL: 1300, Monday, 28 November 1994

INFORMATION ANALYSIS CENTER

Presentors: Ernest A. Smart, Deputy Manager, The Tactical Warfare Simulation and Technology Information Analysis Center, IST, University of Central Florida.

Information Analysis Centers are concerned with the scientific and technical content of worldwide engineering, technical and scientific documents and databases which focus on highly specialized, technical subject areas of major concern to DOD research and development programs. The presentation will cover the concept, purpose, and scope of an Information Analysis Center to include the sponsorship, charter, and the unique capabilities of the Tactical Warfare Simulation and Technology Information Analysis Center.

TUTORIAL: 1300, Monday, 28 November 1994

DEVELOPMENT & ASSESSMENT OF PERFORMANCE SUPPORT SYSTEMS

Presentor: Dr. Kent Gustafson, University of Georgia

Electronic Performance Support Systems (EPSS) are a special type of computerized help system that integrate a knowledge base about a specific job, practical tools required for the job, and guidance to provide a decision support system. During the workshop the need for EPSS in instructional design will be described. Also, the results of the evaluation of an electronic performance support system, called the Quality Information Product Process-Performance Support System developed for information product developers at NCR/AT&T Global Infomation Systems will be presented. The EPSS will be demonstrated.

TUTORIAL: 1500, Monday, 28 November 1994

MODELING & SIMULATION INFORMATION SYSTEM

Presentor: Robert Reed, Chief of Information, Technology and Information Integration Group, IST, University of Central Florida.

The Defense Modeling and Simulation Office (DMSO) provides the Modeling and Simulation Information System (MS&S) as an electronic service available to members of the modeling and simulation community from government, the military, academia, and industry. The system provides all users a single point of contact. The presentation covers the 1) centralized modeling and simulation knowledge base, 2) various documents and materials available, 3) electronic conferencing, and 4) use of MS&S to conduct initial modeling and simulation research.

TUTORIAL: 1500, Monday, 28 November 1994

PROGRESS, CHANGE & IMPACT

Presentor: Gary Boycan, OSD/P&R

This session will provide an update on the status o
DOD policies & procedures regarding the develop
ment, management and use of interactive courseware
Topics will include DOD views on producing portab
courseware, emerging industry standards affecting i
teractive courseware, in-house and industry testing f
compliance with MIL-STD-1379D, and the role of th
Defense Instructional Technology Information Syster

TUESDAY, 29 NOVEMBER 1994

SPECIAL EVENT: 1300, Tuesday, 29 November 1994

R&D RODEO

Chair: Dr. Barbara Sorensen, AL/HRP

During the 16th I/ITSEC a new forum will be established to give the attendees a first-hand look at promising new technologies and innovative technology applications. Companies, organizations and individuals will be participating in the R&D Rodeo by demonstrating unique concepts, inventions and applications in an area specifically set aside for these types of demonstrations. The conference R&D Applications subcommittee has coordinated the event and focused the demonstrations on the R&D Technologies and applications addressed in the Technical Papers it received. Candidate demonstrations are anticipated in such areas as Virtual Reality, Robotics, Dynamics and Medical/Surgical training concepts.

SPECIAL EVENT: 1500, Tuesday, 29 November 1994

S RICOM BULLETIN BOARD

Co-Chairs: David Creech, STRICOM
CAPT Denny Wright, USN, NAWCTSD

The STRICOM/Industry/Academia Bulletin Board has been in existence since February 1993. The briefings and demonstration will describe the purpose and use of the electronic Bulletin Board to date, as well as potential future usage. The panel discussion will include Army, Navy and industry representatives and serve as an open forum to solicit ideas for improvement & growth.

SPECIAL EVENT: 1700, Tuesday, 29 November 1994

DIS TUTORIAL

Chair: Jim Williams, IST, University of Central Florida

Featured Speaker: Dr. Anita K. Jones, Director,
Defense Research & Engineering

The DIS Tutorial is designed to inform the Simulation, Training and Education Industry at large about the challenges and opportunities that exist in the DIS environment. The tutorial presentation has four goals:

- Insure the attendees have a base level understanding of what Distributed Simulation means and the usage of the Protocol Data Unit (PDU) as a communication tool.
- Present examples of how DIS is being utilized by the military and industry.
- Help attendees to imagine future applications of DIS technology for the military and private sector.
- Provide attendees with information about what companies are participating in this year's DIS Demonstration and where they are located in the exhibit hall.

WEDNESDAY, 30 NOVEMBER 1994

SPECIAL EVENT: 0800, Wednesday, 30 November 1994

LAW ENFORCEMENT TRAINING REQUIREMENTS

Chair: Mike Walter, TSTC

A major issue facing the Department of Defense and defense contractors is DoD technology reinvestment into the non-DoD sector. The Federal Government's Technology Reinvestment Program is designed to accomplish this objective. This special event will support the reinvestment initiative by introducing a panel consisting of state level law enforcement simulation and training specialists from California, Illinois, New Mexico, Florida and

WEDNESDAY, 30 NOVEMBER 1994

Law Enforcement Training Requirements (Continued)

the city of Orlando. They will discuss: the simulation and training requirements from the perspective of local and state police agencies; lessons learned in police training activities; what simulation and training technologies they are using and still need; and what they envision as future law enforcement simulation and training requirements across the nation.

SPECIAL EVENT: 1330, Wednesday, 30 November 1994

SYNTHETIC THEATER OF WAR-EUROPE

Chair: LTC Jan Drabczuk, USA, STRICOM

Presentor: LTC Peter B. Marion, USA, Director, Training Support Branch, Deputy Chief of Staff for Operations, US Army Europe

The Synthetic Theater of War-Europe is co-sponsored by USAREUR, DMSO, ARPA, STRICOM, USAF, and USN. The presentation will be a status report of the STOWE-E project and demonstration during the Atlantic Resolve Exercise in November 1994. As an adjunct of the exercise and training support aspect of STOW-E, the project has organized the STOW-E Exercise and Evaluation Facility (SEAF), which is designed to show how simulations have evolved and where the technology potentially takes the Services in the future. This effort will include the linkage of the ALSP confederation of models and the STOW-E battlefield. This will be the first effort at demonstrating this technology.

SPECIAL EVENT: 1330, Wednesday, 30 November 1994

COOPERATIVE LEARNING

Chair: Karen McBee, NAWCTSD

Cooperative Learning is a teaching strategy that is being implemented throughout the nation as an effective learning technique for all students. Cooperative learning is a research-based instructional procedure designed to improve learning through students working together in heterogeneous groups to accomplish mutual learning goals. Research indicates these experiences promote high productivity and achievement, more frequent use higher-level reasoning strategies, and critical thinkir Cooperative learning also enhances a more positi self-esteem, psychological stability, and well bei while establishing stronger relationships among diver peers.

This workshop will introduce cooperative learning a teaching strategy. Attendees will participate in experiental exercise which will provide the basis discussing the essential elements of cooperative lea ing, the research base supporting cooperative learni and application of the methodology in military settin

SPECIAL EVENT: 1530, Wednesday, 30 November 19

MAINTENANCE TRAINING PANEL

Chair: CAPT Bert Coffman, USN, NAMTRAGRU

This year's Maintenance Training Panel will build on t 1993 I/ITSEC session, expanding it from the tutorial foc into a set of briefings and discussions on comm problems the aviation maintenance training commu ties of the Services face during times of consolidati and downsizing.

Each representative will brief the respective Servic current concept of maintenance training; the size, stru ture and characteristics of the assets devoted to t training; what elements of those resources have be affected by ITRO and the Base Realignment and Closu (BRAC) process; how advancing technology is affecti the training concepts and mix; and what initiatives changing the current status may be taking place.

Objectives are to:

- Further interservice understanding of aviation maint nance training concepts and approaches, now and the next decade.
- Share Service responses to common problems in av tion maintenance training regarding ITRO, technolo advances, and changing force structure.
- Enable industry representatives to learn and discu how best to anticipate aviation maintenance traini challenges in a changing defense environment.

SPECIAL EVENT: 1530, Wednesday, 30 November 1994

CLASSROOM OF THE FUTURE: THE HUMAN PERSPECTIVE

Chair: Bill Melton, HQ TRADOC

This panel will focus on a set of "new age" techniques designed to enhance human performance. These techniques promise to speed up the process of bringing unskilled and sometimes undereducated recruits to the level needed for an increasingly technical military force. Panelists will discuss the potential these techniques may offer for producing accelerated learning, improved motor skills, stress reduction, interpersonal influence, and group cohesion. The rapid enhancement in human performance implied by some of these techniques coupled with other technological innovations could radically increase the efficiency of our training and impact on both courseware design and the classroom configuration of the future. The audience will be encouraged to interact directly with individual panelists and with the entire group to explore specific applications of these technologies.

THURSDAY 1 DECEMBER 1994

SPECIAL EVENT:0800, Thursday, 1 December 1994

DUAL-USE TECHNOLOGY PANEL

Panelists:
Paul R. Chatelier, Office of Science and Technology Policy, Executive Office of the President
Warren Katz, Mak Technologies
Cliff Cox, Evans & Sutherland
Douglas Schiff,Division, Inc.
Joanna Alexander, Zombie, Inc.

The White House has identified as a high priority the transfer of mature government funded technologies into the commercial market. Approximately one billion dollars has been set aside to accomplish this, indicating the Administration's strong standing on this issue. Particular attention has been focused on the transition of technology into the commercial education and entertainment markets. In the former, the nation's need drives our interest, while in the latter the tremendous dollar value gets our attention. On the face of it the problem of making the transfer seems quite straight-forward, particularly since the technologies are already developed and tried, tuned and tested.

Of course the transfer is not always straight-forward since the two worlds have many fundamental differences. For example, the two markets have very different funding cycles: a regular five-year plan for the government vs a yearly spending plan at best for the commercial organization. Another difference is the users' expectations regarding a system's performance. The government user generally requires high fidelity; the commercial user will trade-off accuracy for low cost.

The panel presented here represents an interesting mix of the individuals in these different markets. Their roles range across setting policy in government and the commercial sectors. We have drawn individuals with high profiles from each of these areas to share their views on successful transfer mechanisms and their visions of how these markets will evolve in the near future. Their insights are very significant for individuals or organizations who are involved in or contemplating the exploitation of these markets.

SPECIAL EVENT: 0800, Thursday, 1 December 1994

SYSTEM ARCHITECTURE

Chair: Bob Epps, CAE-Link Corp.

The System Architecture process consists of challenges and trade-offs to achieve the functional and performance requirements of a product. This special event is designed to discuss the roles which occur from the End-User, the System Development and the Program Management. The End-User role defines the operational (functional, performance and mission) requirements. The System Development role analyzes, builds and integrates the system elements. The Program Management role identifies cost, schedule and technical risks and develops plans to mitigate the risks to insure that the product is developed within budget and schedule. The System Architecture must integrate the perspectives and requirements and enforce their position throughout the product lifecycle.

THURSDAY,1 DECEMBER 1994

System Architecture (Continued)

The special event will address the following questions; What is System Architecture? What does the system architecture look like? How is the effectiveness of the System Architecture determined? How does the System Architecture affect you as an End-User, System Developer or Program Manager? How does your role (End-User, System Developer, Program Manager) impact the adequacy of the system architecture? How does Program Managment decision impact the system architecture? How does the system architecture restrict Program Management options? How do new technology and/or methodologies affect the system architecture? This special event is intended to cross over the artificial barriers created by the traditional roles and identify how you may perform your role more effectively by understanding the System Architecture better. The special event will involve dialog among End-Users, System Developers and Program Managers to discover that the System Architecture will be used to insure that we are working to our plan ("We are not lost") and taking corrective action as unforeseen events occur ("We just are not where we want to be").

SPECIAL EVENT: 0800, Thursday, 1 December 1994

SCHOOLHOUSE OF THE FUTURE

Chair: Gareth Beitzel, AETC/TTPP

This Panel will discuss initiatives to meet training & education challenges over the next decade. The discussion will focus on the creation of an innovative "schoolhouse" using state-of-the-art technologies to provide efficient and quality training and education into the 21st Century.

This panel will consist of members representing each DoD component, Industry and Academia. Members will be charged with addressing a specific technology or initiative relating to the "Schoolhouse" of the future. Subsequent discussions will emphasize the potential for collaboration in responding to training & education opportunities.

SPECIAL EVENT: 1000, Thursday, 1 December 1994

DEFENSE SCIENCE BOARD ON READINESS

Presentor: General Max Thurman, USA (Ret.)

During the past year the Readiness Task Force reviewed a broad range of readiness topics and looked in depth at numerous specific aspects of readiness, particularly the readiness management and oversight process. In conducting its activites, the Readiness Task Force met as a group frequently, and its members visited numerous sites to gather information. Significantly, the Secretary or Deputy Secretary of Defense attended many of the group meetings so that they could take timely action rather than wait for the results of the reports. In addition the Task Force met with the Chairman of the Joint Chiefs of Staff, the Service Chiefs and available consultant CINCs as they developed observations and recommendations. As a result of these collaborative efforts, steps to implement many of the recommendations made in this report already are underway.

The Task Force concluded that the readiness of today's conventional and unconventional forces is acceptable in most measurable areas. That does not mean that the Task Force did not find "pockets" of unreadiness. Most of these "pockets" are a result of changes taking place in the armed forces and the turbulence created by these changes. However, the Task Force observed enough concerns that they are convinced that unless the Department of Defense and the Congress focus on readiness, the armed forces could slip back into a "hollow" status.

To prevent such back-sliding, the Task Force identified specific recommendations they believe will pay significant dividends in future readiness, and particularly in future joint and combined readiness training.

THURSDAY, 1 DECEMBER 1994

SPECIAL EVENT: 1000, Thursday, 1 December 1994

TRAINING APPLICATIONS OF VIRTUAL REALITY

Chair: Randy Saunders, Hughes Training, Inc.
Panelists:
Moderator: Denis Breglia, Project Manager, NAWCTSD Virtual Environment Training Technology
Lochlan Magee, Head of Simulation and Training Group, Canadian Defence and Civil Institute of Environmental Medicine
Peter Clark, Chief Scientist, Air Operations Simulation Centre, Australian Defence Science & Technology Organization
Stephen Goldberg, Head of Army Research Institute STRICOM Orlando Field Unit
Bowen Loftin, Head of Advanced Training Technologies, NASA Johnson Space Center
Clare Regan, Special Psychology Research Group, U.K. Defence Research Agency
Dee Andrews, Chief Scientist, Air Force Armstrong Lab Aircrew Training Research Division
This panel of International Experts will discuss recent research results in the application of Virtual Reality Simulation to training. Issues covered will include development methodologies, evaluation techniques, and analysis of experimental findings.

SPECIAL EVENT: 1330, Thursday,1 December 1994

1 21ST CENTURY LIFESAVER MEDICAL PORTS
(EDPORTS)

Presentor: Dr. Eric Allely, Director for the Center for Medical Education Technologies, Henry M. Jackson Foundation for the Advancement of Military Medicine

A series of new portals into the synthetic and distant environments for use by the DoD medical departments to improve training, requirements analysis, doctrine development and medical care on the battlefield is under development. Each echelon of medical care will be provided with a portal that would allow planners, physicians, corpsman/medics, and even casualities to "play" in the synthetic battlefield or operations environment and directly or indirectly effect actions in a realistic (and real-time) way. Designed for use across the DIS and ALSP architectures, the MEDPORTS architecture would send out tri-service DEPMED- based medical PDUs thus impacting the overall conduct of an operation.

MEDPORTS will integrate existing tri-service advanced technology demonstrations and other advancements in operational medicine into a useful system for the medical and warfighting communities.

Any number of the echelons could be live or virtual or constructive. The system could be used at the unit level alone, at the theater level of operations, or in a major joint exercise. This integrated system will cross unit and service lines and could eventually be used to validate existing models and test new postulates for the detection, treatment, and evacuation of casualites. Building on the modular nature of the portals, it will be inherently scalable, and via the transformation matrix it would be endowed with all the fidelity and granularity available in existing and emerging casualty rate models.

The Jackson Foundation will present two MEDPORT prototypes and realistically portray a fully implemented MEDPORT architecture.

SPECIAL EVENT: 1500, Thursday ,1 December 1994

GENERAL/FLAG OFFICER TRAINING PANEL

Moderator: VADM John S. Disher, USN (Ret.)
Executive Director, National Training Systems Association
Panelists:
- General William W. Hartzog, USA Commanding General, Training & Doctrine Command (invited)
- Commander USAF Air Education & Training Command (invited)
- Vice Admiral Timothy W. Wright, USN, Chief of Naval Education & Training
- Lieutenant General Charles E. Wilhelm, USMC, Commanding General, Marine Corps Combat Development Command

This event will emphasize the changes faced by the military officers who are the Executive Board of the Interservice Training Review Organization (ITRO) and who direct the training activities of their respective Services. The Panelists are expected to discuss major initiatives in training mission and policy as well as emphasis on joint training in opening comments. These comments will be followed by a period of responses to written questions from the audience.

Monday, 28 November 1994

TUTORIALS

Salons IX,X,XI	Salons XII,XIII,XIV	Boston/Atlanta Rooms
		SOFTWARE EXCHANGE
Information Analysis Center Tutorial	Development and Assessment of Performance Support Systems Tutorial	
Modeling and Simulation Information System Tutorial	Progress, Change and Impact Tutorial	

EXHIBITS OPEN

Tuesday, 29 November 1994

OPENING CEREMONIES – Grand Ballroom

Band Musical Medley/Colors/National Anthem/Invocation/Keynote Addresses

BOX LUNCHES In the Ballroom Foyers

EXHIBITS OPEN

Tuesday, 29 November 1994

	[illegible] Salons D, E, F	EIT Salons III&IV	TD&D Salons V&VI	M&S Salons A,B,C	S&T Salons XIII&XIV	R&D Salons I&II	SPECIAL EVENT Salons IX,X,XI,XII
	[illegible]	Session 1B **Interactive Multimedia Courseware Development** *Chair: Eldon Riley*	Session 1C **Training Tools & Methods I** *Chair: Randy Buss*	Session 1D **Network Analysis** *Chair: Brian Goldiez*	Session 1E **Cognitive Training Concepts** *Chair: Ron Sheffer*	Session 1F **Image DB Generation** *Chair: Dr. Barbara Sorensen*	
1230	[illegible]	Interfacing Interactive Electronic Technical Manuals with Interactive Courseware	A Methodology for Selection of Training to Apply Computer-Based Instruction	Testing Conformance for Distributed Interactive Simulation Standards	Innovative Sonar Training: Linking Sonar Concepts with Familiar Mental Concepts	A PC-Based Photographic-Quality Image Generator	**R & D RODEO**
1300	[illegible]	Adventure Games for Technical Education	Automated Authoring: Some Preliminary Results	Dynamic Latency Measurement Using the Simulator Network Analysis Project (SNAP)	The Radar System Controller Intelligent Training Aid	Implementation of a High Performance Database Generation System Architecture	
1330	[illegible]		Application of Training Analysis and Design Tools	Dynamic Multicast on Asynchronous Transfer Mode for Distributed Interactive Simulation	Multiship Simulation as a Tool for Measuring Training Situation Awareness	Dynamic Terrain Database for Real Time Image Generation	
1400	[illegible]		Use of 'Off-the-Shelf' Application Software for Instructional Systems Development			Incremental Real Time Delaunay Triangulation for Terrain Skin Generation	
1430	**BREAK**						
	SPECIAL EVENT Salons D, E, F	**SPECIAL EVENT Grand Ballroom**	**TD&D Salons V&VI**	**M&S Salons A,B,C**	**S&T Salons XIII&XIV**	**R&D Salons I&II**	
	[illegible]		Session 2C **Program Applications** *Chair: Lt Col Don Poe, USAF*	Session 2D **Constructive/Live/Virtual Interoperability** *Chair: LTC Jan Drabczuk, USA*	Session 2E **F-22 System Architecture Lessons** *Chair: Maj Chuck Delair, USMC*	Session 2F **Behavioral Issues** *Chair: John Potts*	
1500	[illegible]		The USAF T-3A Training System: New Directions in Flight Screening	The IRIS Architecture: Integrating Constructive, Live, & Virtual Simulations	Systems Engineering & Architecture: Lessons from the F-22 Training Program	Non-Invasive Monitoring of Helicopter Pilots' Instrument Scan Patterns in a Motion Based Simulator	
1530	[illegible]		Time-Compressed Tank Gunnery Training in the Army National Guard	A Status Report on the Integrated Eagle/BDS-D Project	Lessons Learned in Developing Multi-Use Simulations for F-22	The Impact of Cue Fidelity on Pilot Behavior & Performance	
1600	[illegible]			Constructive to Virtual Simulation Inter-Connection for the SOFNET-JCM Interface Project			
1700	[illegible]	***DIS TUTORIAL***					
1900			No Host Beverage Service in the Exhibit Halls				

EXHIBITS OPEN

Wednesday, 30 November 1994

	EIT Salons III&IV	T&E Salons V&VI	M&S Salons A,B,C	S&T Salons XIII&XIV	R & D Salons I,II	SPECIAL EVENT Salons IX,X,XI,XII
	Session 3B **Expanding the ISD Process** *Chair: Jim White*	Session 3C **Multimedia I** *Chair: Katharine Gates*	Session 3D **Visual Data Base Modeling** *Chair: Ron Schneider*	Session 3E **Reuse-Capturing the Past for the Future** *Chair: Bob Epps*	Session 3F **Software Engineering** *Chair: James Burke*	***LAW ENFORCEMENT TRAINING REQUIREMENTS***
0	High Transfer Training (HITT): Instruction Development Procedures & Implementation Strategies	Digital Video in Training	Achieving Consistent Colors & Textures in Visual Simulations	The Heritage of the Air Vehicle Training Systems Domain	Feeding Hungry Processors: Real-Time I/O Demands on High-Performance, Multiprocessing Computers	
0	Instructional Design: Integration of Technical Content & Cognitive Styles	Digital Video for Multimedia: What are the Alternatives?	Visionics Data Base Generation: An Integral Part of Training, Planning & Mission Rehearsal	Customizing an Object-Oriented Design of Leadship Effects	Technical Expectations for the Full Scale AVTS Demonstration Project	
10	Impact of Total Training System Acquisition on Instructional System Developement	An Interactive Multimedia Trainer for Software System Maintenance	Statistical Certification of Terrain Databases	Megaprogramming & Methods of Reuse: The Navy/ STARS Pilot Project	The Mapping of Object-Oriented Design to Ada Implementation	
30					Interfaces and Their Management in a Large Ada Project	
00	**BREAK**					
	EIT Salons III&IV	**T&E Salons V&VI**	**M&S Salons A,B,C**	**S&T Salons XIII&XIV**	**R & D Salons I,II**	
	Session 4B **Training & Education through Non-Traditional Methods** *Chair: Steve Husak*	Session 4C **Training Tools & Methods II** *Chair: Jackie Townsend*	Session 4D **Environmental Modeling** *Chair: Todd Repass*	Session 4E **DIS Applications** *Chair: Frank Lawler*	Sessions 4F **Training Exercise Generation** *Chair: Tom Mastaglio*	
30	An Analysis of Distance Learning Applications for Joint Training	Intelligent Embedded Trainers: A Next Step for Computer-Based Training	Modeling the Cloud Environment in Distributed Interactive Simulations	Weapons Simulation Execution, In the Target? or In the Shooter?	Application of Multimedia Technology to Training for Knowledge-Rich Systems	
00	Partners in Education Changing the Way Students Learn	Determining Training Resources & Requirements in New Weapon Systems	Modeling Simulation Objects with RASP, NIAM and HCPN	ARPA Reconfigurable Simulator Initiative (ARSI)	Planning for the Future: Leveraging Technologies and Data	
30	Providing Military Occupational Training Using Community Colleges and Video Teletraining	The Future of Selective Fidelity in Training Devices	Describing the Littoral Ocean Environment for Military DIS Applications		Automated Exercise Preparation & Distribution for Large Scale DIS Exercises	
00						

EXHIBITS OPEN

Wednesday, 30 November 1994 (cont.)

	EIT Salons III & IV	TD & O Salons V & VI	M&S Salons A,B,C	Special Event Grand Ballroom	R&D Salons I,II	Special Event Salons IX,X,XI, XII
	Session 5B **Perspectives on CBT** *Chair: Hal Hansen*	Session 5C **Maintenance II** *Chair: Margot Moore*	Session 5D **DIS Applications Present** Chair: Bruce Montag	***SYNTHETIC THEATER OF WAR-EUROPE***	Session 5F **Neural Network Applications** *Chair: Bob Parker*	***COOPERATIVE LEARNING***
1330	Computer-Based Training in the German Armed Forces-The Didactic & the Use in the Area of Teaching Affective Objectives	Voice Recognition: A Recom Technology for Education & Training	Large DIS Exercises- 100 Entities Out of 100,000		Applying Artificial Neural Networks to Generate Radar Simulation Data Bases	
1400	A Strategy Model for Computer-Based Training	Computer-Based English Language Training for the Saudi Arabian Navy	A DIS Network for Evaluating Training Systems: Effectiveness		Simulation Database Extraction	
1430			Application of GPS to Hybrid Live/Constructive/Virtual Training Systems		Smart JARMS- A Neural Network Solution	
1500	**BREAK**					
	Special Event Salons III, IV		**M&S Salons A,B,C**	**Special Event Salons XIII, XIV**	**R&D Salons I,II**	
	MAINTENANCE TRAINING PANEL		Session 6D **DIS Applications Future** *Chair: Joe Brann*	***CLASSROOM OF THE FUTURE***	Session 6F **Poster Session**	
1530			Simulation Management in Distributed Interactive Simulation		**Authors will only be available from 1530 to 1730 to Discuss Their Posters** *Using Benchmarks & Simulator Loads for Multi-Processor Computer Evaluation* *Predicting Network Performance in Heterogeneous, Multi-Fidelity, Simulation Networks*	
1600			Implementation of the Laser Message Protocol in a DIS Network			
1630			Dynamic Environment Simulation with DIS Technology			
1700						
1900	**NO HOST BEVERAGE SERVICE IN THE EXHIBIT HALLS**					

EXHIBITS OPEN

National Security

Thursday, 1 December 1994

	EIT Salons III&IV	M&S Salons A,B,C	SBT Salons XIII & XIV	SPECIAL EVENT Salons I&II	SPECIAL EVENT Grand Ballroom
	Session 7B **Using Virtual Reality for Mission Training** *Chair: Dr. Steve Goldberg*	Session 7D **Emerging Applications** *Chair: Gary Baker*	Session 7E **Training System Design & Modeling** *Chair: Jerry McLemoore*	**SYSTEM ARCHITECTURE**	**SCHOOLHOUSE OF THE FUTURE**
	Training Dismounted Soldiers in Virtual Environments: Route Learning & Transfer	Deployable Electronic Combat Mission Rehearsal, Training & Performance Support	Instructor Operating Systems - Effective Design to Maximize Student Learning		
	Virtual Environments in Training: NASA's Hubble Space Telescope Mission	Dismounted Infantry in Distributed Interactive Simulation	Threat Simulation: Trade-Offs Between Tactical Realism & Training Value		
		High Fidelity Virtual Prototyping to Support Ground Vehicle Acquisition			
	BREAK				
		SPECIAL EVENT Salons A,B,C **TRAINING APPLICATIONS OF VIRTUAL REALITY**			
	LUNCH-Grand Ballroom				
	Special Event- The 21st CENTURY LIFESAVER MEDICAL PORTS (MEDPORTS)-Grand Ballroom				
	Special Event-GENERAL/FLAG OFFICER TRAINING PANEL- Grand Ballroom				
	NO HOST RECEPTION-Grand Ballroom Foyer				
	16th I/ITSEC BANQUET-Grand Ballroom (Black Tie Optional) GUEST SPEAKER, Admiral J.M. Boorda, Chief of Naval Operations ENTERTAINMENT: The U.S. Navy Band Sea Chanters				

EXH OPEN

EXH CLOSED

PAPERS/AUTHORS/PRESENTORS

Session 1A-Changing the Way We Do Business- Chip Lanier

Combined Test: A Team Approach to Achieving Simulator Aircraft Concurrency-John K. Clapp

Training Systems Via "New Way", Best Value Contracting and MIL-STD-1379D-Steven L. Griffin, William Kitterman, Neal M. Finkelstein

Moving in a New Direction: Training & Simulation Technology Consortium-Janet M. Weisenford, Bill Jorgensen

Minimum Essential CDRL Requirements for Simulator Software Documentation-Igor V. Golovcsenko

Session 1B- Interactive Multimedia Courseware Development- Eldon Riley

Interfacing Interactive Electronic Technical Manuals with Interactive Courseware-James D. Chenvert, Sterling (Chip) Keen, Michael E. Gentry

Adventure Games For Technical Education- Dr. Henry M. Halff

Session 1C-Training Tools & Methods I- Randy Buss

A Methodology for Selection of Training to Apply Computer-Based Instruction- LTC David W. Raes

Automated Authoring: Some Preliminary Results- William J. Walsh

Application of Training Analysis and Design Tools-Dr. Michael Reakes, William Carpenter

Use of "Off-the-Shelf" Application Software for Instructional Systems Development-Mark C. Stevens

Session 1D-Network Analysis- Brian Goldiez

Testing Conformance for Distributed Interactive Simulation Standards- Amy F. Vanzant-Hodge

Dynamic Latency Measurement Using the Simulator Network Analysis Project (SNAP)-Barry Bryant, D. Scott Douglass, Ron Ewart, G. Jeff Slutz

Dynamic Multicast on Asynchronous Transfer Mode for Distributed Interactive Simulation- Thomas L. Gehl

Session 1E-Cognitive Training Concepts-Ron Sheffer

Innovative Sonar Training: Linking Sonar Concepts with Familiar Mental Concepts- Dr. Thomas J. Hammell, Frederick M. Ewalt, Dr. Robert Ahlers, Cathy Matthews

The Radar System Controller Intelligent Training Aid- James E. McCarthy, Ph.D.

Multiship Simulation as a Tool for Measuring Training Situation Awareness- Wayne L. Wang, Ph.D.

Session 1F- Image DB Generation- Dr. Barbara Sorensen

A PC-Based Photographic Quality Image Generator- Izidor C. Gertner, George Wolberg, George A. Geri, George R. Kelly, Dr. Byron J. Pierce, Melvin Thomas, Elizabeth L. Martin

Implementation of a High Performance Database Generation System Architecture- Kenneth L. Merchánt

Dynamic Terrain Database for Real Time Image Generation- Xin Li, Dale Miller, Marky Illing, Mark Kenworthy

Incremental Real Time Delaunay Triangulation for Terrain Skin Generation-Ravi Sundaram, Don E. McArthur, Venkat Devarajan

Session 2C-Program Applications- Lt Col Don Poe, USAF

The USAF T-3A Training System: New Directions in Flight Screening- Lt Col James Mohan, Ed.D., Maj John Paterson, USAF

Time-Compressed Tank Gunnery Training in the Army National Guard- Joseph D. Hagman, LTC Charles Lambert

Session 2D-Constructive/Live/ Virtual Interoperability-LTC Jan Drabczuk, USA

The IRIS Architecture: Integrating Constructive, Live, & Virtual Simulations- Jason Paul Kazarian, Majorie Anne Shultz

A Status Report on the Integrated Eagle/BDS-D Project- Clark R. Karr, Eric D. Root

Constructive to Virtual Simulation Inter-Connection for the SOFNET-JCM Interface Project- Mark Castle

Session 2E- F-22 System Architecture Lessons- Maj Chuck Delair, USMC

Systems Engineering & Architecture: Lessons from the F-22 Trainer Program- George R. Rovny, Tony DalSasso

Lessons Learned in Developing Multi-Use Simulations for F-22- Dorothy M. Baldwin, James H. Gault, Matt Landry, Stephen S. Zimmel

Session 2F-Behavioral Issues-John Potts

Non-Invasive Monitoring of Helicopter Pilots' Instrument Scan Patterns in a Motion Based Simulator- P.W. Kerr, L.A. Temme, G.A. Ouellette, D.L. Still

The Impact of Cue Fidelity on Pilot Behavior & Performance- A.D. White

PAPERS/AUTHORS/PRESENTORS

Session 3A- Joint, Allied & Federal Initiatives- Jeff Marlin

Effective Selection & Use of Wargames for Operational Training or Campaign Analysis- Patrick Beautement

Support for Information Age Command & Control Training- Col. Michael J. Swords, Jeff O'Byrne

The Cost Effectiveness of Systematically Designed Training: Lessons from the FAA's AQP Program- J.S. Bresee, A.G. Whitley

The Combined Arms Tactical Trainer for the British Army- Roger Burch, Brian Rush

Session 3B- Expanding the ISD Process- Jim White

High Transfer Training (HITT): Instruction Development Procedures & Implementation Strategies- Dorothy L. Finley, Michael G. Sanders

Instructional Design: Integration of Technical Content & Cognitive Styles- Linda J. Brent, Ed.D., Richard P. Brent, Ed.D.

Impact of Total Training System Acquisition on Instructional System Development- Conrad G. Bills

Session 3C-Multimedia I- Katharine Golas

Digital Video in Training- Dr. Ann E. Barron, Susan Varnadoe

Digital Video for Multimedia, What are the Alternatives?- Dr. David J. Sykes, Paul C. Swinscoe

An Interactive Multimedia Trainer for Software System Maintenance- Jean D. Garthwaite, George A. Huff, Ph.D.

Session 3D- Visual Data Base Modeling- Ron Schneider

Achieving Consistent Colors & Textures in Visual Simulations- Roy Latham

Visionics Data Base Generation: An Integral Part of Training, Planning & Mission Rehearsal- J. Jeffery Lombardi, Lt Col Edward T. Reed

Statistical Certification of Terrain Databases- Russell S. Nelson, Brian Goldiez, Dr. Guy A. Schiavone

Session 3E- Reuse-Capturing the Past for the Future- Bob Epps

The Heritage of the Air Vehicle Training Systems Domain- David C. Gross, Lynn D. Stuckey, Jr.

Customizing an Object-Oriented Design of Leadship Effects- Jerome M. Weiss

Megaprogramming & Methods of Reuse: The Navy/STARS Pilot Project- Brian E. Cahill

Session 3F- Software Engineering- James Burke

Feeding Hungry Processors: Real-Time I/O Demands on High-Performance, Multi-processing Computers- Bruce Johnson

Technical Expectations for the Full Scale AVTS Demonstration Project- Glenn W. Dillard, Greg Pryor, Lynn D. Stuckey, Jr. , David C. Gross

The Mapping of Object-Oriented Design to Ada Implementation- John Glaize

Interfaces and Their Management in a Large Ada Project- Walter E. Zink, Sr., Richard E. Poupore

Session 4A- The Evolving Role of the User- LTC Buck Leahy, USA

Integrating Users into System Development: User Evaluations in CCTT- Thomas W. Mastaglio, Everett A. Goodwin III

Defining The User's Training Technology Needs: The Army's Experience- Marta Bailey, Dr. Diana Tierney

Resource Trade-Offs for AVCATT- Alan R. Keller

Session 4B-Training & Education through Non-Traditional Methods- Steve Husak

An Analysis of Distance Learning Applications for Joint Training- CDR Kenneth P. Pisel, LTC Bruce G. Bennett, LTC William T. Shockley

Partners in Education Changing the Way Students Learn- Michael D. Williams, Marsha Vandivort

Providing Military Occupational Training Using Community Colleges and Video Teletraining- Neill H. Foshee

Session 4C-Training Tools & Methods II-Jackie Townsend

Intelligent Embedded Trainers: A Next Step for Computer-Based Training- Jonathan P. Gluckman, PhD, Ruth Willis, Ph.D.

Determining Training Resources & Requirements in New Weapon Systems- 1st Lt. David M. Quick

The Future of Selective Fidelity in Training Devices- Dee Howard Andrews, Lt Col Lynn A. Carroll, Herbert Bell

Session 4D-Environmental Modeling-Todd Repass

Modeling the Cloud Environment in Distributed Interactive Simulations- Maureen E. Cianciolo, Brian Soderberg

Modeling Simulation Objects with RASP, NIAM and HCPN- Bo Hagerf

Describing the Littoral Ocean Environment for Military DIS Applications- Steve D. Haeger

Session 4E- DIS Applications- Frank Lawler

Weapons Simulation Execution, in the Target? or in the Shooter?- Ted Clowes

ARPA Reconfigurable Simulator Initiative (ARSI)- Duke Buster, Jim King

Session 4F- Training Exercise Generation- Tom Mastaglio

Application of Multimedia Technology to Training for Knowledge-Rich Systems- Janis A. Cannon-Bowers, Ph.D., Eduardo Salas, Ph.D., Philip Duncan, Paul Frey

Planning for the Future: Leveraging Technologies and Data- Dr. Mona Crissey, Major George Stone, Cpt. David Briggs, Dr. Mansooreh Mollaghasemi

Automated Exercise Preparation & Distribution for Large Scale DIS Exercises- Barbara J. Pemberton, Douglas J. Classe, Charles W. Bradley, Mike Wilson

Session 5A- Software Management Challenges- Bob Bret

Source Data Acquisition for the Close Combat Tactical Trainer (CCTT)-Dr. Robert H. Wright

The Challenge of Managing Domain Engineering- John Freeman, Greg Pryor, David C. Gross, Lynn D. Stuckey, Jr.

Software Configuration Management: A Modern Prospective- John W. Schulke

Session 5B- Perspectives on CBT- Hal Hansen

Computer- Based Training in the German Armed Forces- The Didactic and the Use in the Area of Teaching Affective Objectives- LTC Albert H. Wimmel

A Strategy Model for Computer-Based Training- Dr. William A. Platt

Session 5C-Multimedia II- Margot Moore

Voice Recognition: A Reborn Technology for Education & Training- Wayne E. Creech

Computer-Based English Language Training for the Saudi Arabian Navy-Katherine C. Golas, Ronald C. Fredrickson, Margary A. Negii

Session 5D- DIS Applications Present- Bruce Montag

Large DIS Exercises - 100 Entities Out of 100,000- Steven D. Swaine, Matthew A. Stapf

A DIS Network for Evaluating Training Systems Effectiveness- Christina L. Bouwens, Rick E. Jones, Dr. Linda Pierce

Application of GPS to Hybrid Live/Constructive/Virtual Training Systems- R. Van Wechel, R.P. Jarrell

Session 5F- Neural Network Applications- Bob Parker

Applying Artificial Neural Networks to Generate Radar Simulation Data Bases- Harry H. Heaton III

Simulation Database Extraction-Edward W. Quinn

Smart JARMS-A Neural Network Solution- Shelia Burgess, Steven A. Manzi, Debbie L. Berry

Session 6A- Internet-Dr. Ann E. Barron

Introduction To Internet- Dr. Ann E. Barron

Session 6D- DIS Applications Future- Joe Brann

Simulation Management in Distributed Interactive Simulation- Huat K. Ng, Ronald S. Klasky, Kenneth P. Kelly

Implementation of the Laser Message Protocol in a DIS Network- Randall K. Standridge, John D. Micheletti, Richard P. Weyrauch

Dynamic Environment Simulation with DIS Technology- Curtis Lisle, Mark Kilby, Marty Altman, Michelle Sartor

Session 6F- Poster Sessions

Using Benchmarks & Simulator Loads for Multi-Processor Computer System Evaluation-Carl Mickelson, Scott Hill, Steve Scibetta

Predicting Network Performance in Heterogeneous, Multi-Fidelity, Simulation Networks-Ron Matusof, Christina Bouwens

Session 7B- Using Virtual Reality for Mission Training- Dr. Steve Goldberg

Training Dismounted Soldiers in Virtual Environments: Route Learning & Transfer- Dr. Bob G. Witmer, John H. Bailey, Bruce W. Knerr, Kimberly Abel

Virtual Environments in Training: NASA's Hubble Space Telescope Mission- R. Bowen Loftin, Ph.D.

Session 7D-Emerging Applications- Gary Baker

Deployable Electronic Combat Mission Rehearsal, Training & Performance Support- Patrick G. Heffernan, David W. Galloway

Dismounted Infantry in Distributed Interactive Simulation- Robert W. Franceschini, Mikel D. Petty

High Fidelity Virtual Prototyping to Support Ground Vehicle Acquisition- Prof. Jon G. Kuhl, LTC James Wargo

Session 7E- Training System Design & Modeling-Jerry McLemoore

Instructor Operator Systems: Effective Design to Maximize Student Learning- Linda J. Brent, Ed.D., John B. Heisler

Threat Simulation: Trade-Offs Between Tactical Realism & Training Value- Samuel F. Bass

POLICY AND MANAGEMENT SUBCOMMITTEE

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CAPT John McGill, Chief of Naval Education & Training
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Gary Neuman, STRICOM
Bob Parker, General Dynamics/Land System
John Potts, Naval Air Systems Command
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Doug Smith, HQ, U.S. Army Materiel Command
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Gary Teper, Information Spectrum, Inc.
Rick Worel, STRICOM/NAWCTSD

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Please complete the enclosed Conference Registration Form and mail or fax along with the appropriate fee to: (Faxes accepted for credit card payments ONLY.)

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FEES

Registration fees are **$300.00** for NSIA members, **$360.00** for industry non-members of NSIA, **$150.00** for Government (U.S., Foreign or State). This fee includes lunches, banquet, coffee breaks, proceedings and other administrative expenses.

NOTE: THE GOVERNMENT FEE APPLIES ONLY TO FULL-TIME GOVERNMENT EMPLOYEES AND ACTIVE DUTY MILITARY PERSONNEL.

LATE REGISTRATION/CANCELLATIONS

Late registration includes all registrations recieved after November 11, 1994 and registration at the door. All late registrations and payments at the door will incur an **additional $50.00** fee. This includes attendees who have pre-registered but have not pre-paid.

NOTE: THERE WILL BE BE NO REFUNDS FOR CANCELLATIONS AFTER 5PM EST NOVEMBER 18, 1994.

INQUIRIES

For futher information concerning this meeting, please call the NSIA representative Colonel Bruce E. Green, USA (Ret.), or Ms. Romaine Gaskins at (202) 775-1440 or by fax at (202) 466-9080.

MESSAGE CENTER

Messages can be left for attendees by calling (407) 239-4200. Please ask for the I/ITSEC registration desk. Attendees can pick up messages at the message center in the conference registration area.

GENERAL INFORMATION

ACCOMMODATIONS

A block of rooms has been reserved at the following hotels. You must call the hotel directly to make your res tions and refer to the 16th I/ITSEC Conference. First night's deposit or credit card number required to guarant reservation.

Marriott's Orlando World Center
8701 World Center Drive
Orlando, FL 32821
PHONE (407)239-4200
FAX (407)239-5757
Rates: Govt. - $112.00 Single/Double
Industry - $149.00 Single/Double

Hyatt Orlando
6375 West Irlo Bronson Memorial Highway
Kissimmee, FL 34746
PHONE (407)396-1234
FAX (407)396-5090
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EDUCATION STANDARDS OR STRAIGHT JACKETS?

by Arnold Packer

"The year was 2081 and everybody was finally equal. They weren't only equal before God and the law. They were equal every which way. Nobody was smarter than anybody else. Nobody was better looking than anybody else. Nobody was stronger or quicker than anybody else."

So begins a story Kurt Vonnegut wrote in 1961. The story ends with the "Handicapper General" shooting a rebellious pair of young dancers who dare to excel and soar above the universal "standard" by casting off the sandbags that render them "equal" to everyone else.

This fanciful story could become a parable for the current effort to set standards for American education. One risk is setting standards that are too low so that they will be "reasonable" for the average student. Too often these lowest common denominators (LCDs) act as a stop sign for the talented, telling them not to try to soar above the standard. Often, the LCD trap begins with the best of intentions. Arkansas, for example, set high standards for its teachers. But political pressures forced the requirements down to an eighth grade reading level, with coaching sessions and re-test opportunities for teachers who couldn't cut that thin mustard.

Paradoxically, the trap can also be sprung by setting standards that are too high. Consider the recently issued standards for instruction in the arts. To meet these standards, eighth graders will have to "competently perform dances from various cultures," "improvise short melodies," "generalize about the effects of visual structures," **and** "demonstrate acting skills." At face value, universal adoption of requirements like these would mean that a certain number of otherwise capable klutzes will never make it into the ninth grade and more advanced studies.

Of course, as a practical matter, a school will not keep all

"artistically challenged" pupils in the eighth grade until they can competently perform dances and improvise short melodies. Instead, standards set at levels above what most test takers can achieve will inevitably be watered down until they reach the LCD level.

Given the pressure to let good students graduate, many dance teachers will adopt the Arkansas strategy of bending the definition of competent performance to the breaking point or LCD level. Once the process of watering down standards begins, it will undermine all academic rigor. The mathematically challenged will be accommodated in the same way as the artistically challenged.

Straight Jackets for Students

Mary Denkler, a psychologist at Johns Hopkins University, writes that minds are as different as faces. Denkler points out that while everyone can learn, some of us need much more time and have much more difficulty learning one set of skills than another. Howard Gardner, in his book *Frames of Mind*, writes about multiple intelligences: logical, linguistic, musical, spatial, kinesthetic and personal. These intelligences are so independent that a stroke can destroy one of these without harming the others. A genius in one intelligence may only be adequate in another, something that Charles Murray and others who venerate IQ tests do not seem to understand.

Standard setting should begin by recognizing what parents discover when they have a second child. **Every child is unique.** One is good at math and another excels at languages. The trap is a "one-size-fits-all" straight jacket that assures LCD mediocrity in everything and excellence in nothing. Standards are especially interesting to me because I was chafed by such a straight jacket. As a high school student (many years ago) I was required to take three years of a foreign language to stay on the academic track leading to a four-year college. I suspect that I have the auditory equivalent of dyslexia which made getting a passing grade in Spanish (the easiest language I could find) a very difficult

challenge.

There are those who would say that learning Spanish "could not hurt." But it did. The time and effort I put into getting my "C" in Spanish exceeded that put into all my other courses put together. As a result I did not excel in developing whatever natural talents I had. Perhaps more damaging was the career choice that I made as a result of meeting this "standard." Engineering was the only four-year college degree that did not require a foreign language. So an engineer I became, despite having no particular passion or talent for that profession, because of the standards then in place.

A *standard*, according to the Random House Dictionary, is "an approved model." The model for all high-school graduates should be no more or less than someone who knows how to make his or her way in the world. In the world, excellence in one or two talents can far outweigh deficiencies in others. Fortunately, the world wants and rewards the numerical-wizard accountant who may have an uninteresting personality, as well as the affable and effective salesperson who can barely make out an expense account.

The philosopher Mortimer Adler contends that the successful student must acquire sound preparation for three dimensions of adult life: productive employment, responsible citizenship, and self-fulfillment. In concrete terms, this means the ability to get and hold a decent job; to understand important public issues and be willing to participate in civic life; and, not least, to be aware of great art and philosophy that enriches life aesthetically and spiritually.

The standard for productive employment should allow for diversity of talent and demand excellence in one or two fields with only minimum competence in others. It should avoid the trap of setting floors that become ceilings as well. There is room in our economy for nerdy software geniuses whose specialty is computer languages as well as for computer-phobic chefs with impeccable French.

Standards for responsible citizenship, in contrast, should be

far less flexible. Every high-school graduate should know about constitutional guarantees (civics) and the American heritage (history). The model graduate also needs enough basic economics, science and statistics to make sense of our complex modern society.

The standard for self-fulfillment should permit, even encourage, diversity. The chance to explore various eras, cultures, and styles counts for more than holding students to a single designated standard. If folk dancing speaks to me, by all means let me try it. But don't make me take a dance competency test to get into the ninth grade. I can hate Bach and yet be a good citizen. However, I can't be a responsible member of the American polity if I am clueless as to why the Civil War was fought or why health care reform is an important issue.

There are good reasons for standards. Empirical evidence demonstrates that lower expectations systematically depress educational attainment. Disbelief in the ability of girls to succeed in math and science has certainly kept many outstanding women from these fields. Ghetto youngsters have surely suffered from teachers who did not think their students were up to challenging materials. Many African Americans successfully ignored advisors who told them to settle for less and many more were irrevocably harmed by taking this bad advice to heart.

The drive for standards springs from recognition of such tragic realities. We now know that all children can learn, and can learn challenging material. The mistake would be to think that all children can -- or should --learn the <u>same</u> challenging material.

Straight Jackets for Curriculum

The school's curriculum, as well as its students, is in danger of ending up in a straight jacket. Teacher groups are developing the standards. For example, the math standards were written by the National Council of Teachers of Mathematics, the arts standards by the American Council for the Arts. It is as dangerous to ask teachers what students **must** learn of their discipline as it is to ask any group of suppliers what consumers **must** buy of their

product. (Doctors are rarely persuaded by the evidence that many annual check-ups are unnecessary until, that is, they join an HMO.)

The standard efforts have become victim to academic politics. Teacher groups have fought, with great success, to keep the current subjects -- and, more importantly, current teachers -- in the curriculum. In the Bush years, there were going to be standards for only five subjects (mathematics, science, history, geography, and English). Teachers of arts, civics and government, and foreign languages quickly realized that their jobs were in jeopardy. As a result of heavy lobbying, all these groups are now charter members in the new standards legislation. Moreover, each of the eight groups wants at least 25% of the school day (more if you are slow to learn how to "competently perform dances from various cultures" and "improvise short melodies".)

Jostling over teaching turf favors established curricula, at the expense of subjects that are needed for citizenship and work in the 21st century. For example, citizens and workers need much more statistics and economics than are currently taught in high school. But replacing trigonometry with statistics threatens current math faculty. Slighting the French and Indian War to make room for economics does the same for history teachers. The standards for science are proving a challenge because the teachers of biology, chemistry, and physics want to maintain their separate traditions.

Sometime soon, in accordance with the *Goals 2000, Educate America Act* he signed last spring, President Clinton will appoint a dozen eminent citizens to a National Education and Standards Improvement Council (NESIC). They will be asked to make sense of all this by approving standards which all students and teachers must meet. Their mission is to bring an end to the all too common situation of students holding diplomas that they cannot read and teachers conspiring to make few demands for rigor in exchange for tolerable behavior in the classroom.

The NESIC has to decide whether schools should be about turning out a standardized product so that we are all "equal every which way," or about removing the sandbags that prevent youngsters

from soaring. Do the standards apply to academic subjects or to unique students? If the NESIC chooses the former, standards will encourage uniform results in yesterday's academic disciplines. If it chooses the latter, they will seek Adler's ideal of productive, responsible citizens for the 21st century. Such student-based standards will:

-o- help school administrators prune the curriculum of less important subjects to make room for new skills, without abandoning what is valuable for what is faddish;

-o- allow teachers the time to develop their students' strengths -- whether they be in the arts, history, mathematics or science -- rather than focusing exclusively on meeting minimum standards; and

-o- encourage parents to demand that their children be given the time and support to be creative and excellent in at least one field while achieving minimum competence in others.

Arnold Packer is a Senior Fellow at the Institute for Policy Studies at Johns Hopkins University. Christine Surowiec, a recent graduate of the Institute, assisted in preparing the article.

12 October 1994

Jonathan:

Here's a first cut at a "common themes" discussion. It's based on just the four program summaries I've seen so far. For this reason alone, it can only be regarded as preliminary.

Comments, suggestions, and re-directions are welcome, of course.

Mike Harrington

COMMON THEMES AMONG PROGRAM DESCRIPTIONS DEVELOPED BY THE FEDERAL PROGRAMS WORKING GROUP TO DATE

The Federal Programs Working Group (FPWG) has been charged by the White House Education, Training, and Re-employment Working Group to achieve two broad objectives:

- To advance the missions of major Federal programs through technology
- To advance the Administration's priority of integrating effective uses of technology into the Nation's education and training system

As part of this effort, representatives of participating agencies have been preparing summaries of relevant programs for use by the FPWG. To date, draft summaries have been circulated for the following programs:

- Compensatory Education (Chapter 1)
- Eisenhower Professional Development
- Job Corps
- School-To-Work

Several themes run through the program descriptions. Some of these themes are summarized below, not necessarily in order of importance. Table 1 provides a preliminary overall comparison among the four programs.

1. FEDERAL CAPACITY FOR PROMOTING THE DEVELOPMENT AND USE OF AUTOMATED TEACHING TOOLS REMAINS LIMITED AND MUST BE CAREFULLY FOCUSSED

Education at the K-12 levels in the U.S. remains primarily a state and local enterprise. The Federal government can sponsor research, support demonstration projects, and provide financial support for selected activities. It can also strongly influence the role played by technology in the educational programs it manages directly (e.g., Job Corps). But the initiation, testing, acceptance and use of automated tools tools primarily take place at the local level. Moreover, Federal resources are limited relative to the breadth of technological applications potentially worth pursuing.. For these reasons alone, Federal programs focus primarily on stimulating local initiative, and on developing prototypes with high potential for exportation to wider environments. Most of the programs summarized have this focus in significant respects.

– it can also play a role in influencing how technology is used – tech support,

2. FEDERAL PROGRAMS TARGET GROUPS PRESENTING SIGNIFICANT EDUCATIONAL CHALLENGES

Many of the groups targeted by Federal programs (e.g., educationally deprived children, disadvantaged youth) present difficult educational challenges. Among other obstacles such groups face, they have typically had little exposure to computer-based technologies. This compounds the difficulty inherent in developing and applying automated educational tools effectively. Developmental and demonstration programs must produce effective automated teaching tools, and they must do so for student populations that often present extraordinary teaching challenges. Several of the Federal programs summarized undertake this challenge.

– yes, but actually technology is quite effective/essential for some populations (disabled)

no - not "Automated Teaching" ed/learning technologies

3. AUTOMATED TEACHING TECHNOLOGIES ARE BEING INTEGRATED INTO SCHOOL PROGRAMS BUT AT A COMPARATIVELY SLOW PACE

The use of automation for record keeping purposes is well established, but examples of automated technologies achieving a central role in teaching programs are still comparatively rare. Reasons include the spotty success records such technologies have exhibited to date, uncertainties concerning the most effective ways to use such technologies, reluctance among educational professionals to alter traditional teaching modes without clear evidence that automation-intensive methods are effective, the need for substantial training in new methods, budgetary restrictions, and more. Effective ways to employ teachers with automated teaching tools in an effective, mutually-reinforcing manner are still emerging. Several of the Federal programs are contributing to this emergence.

4. AUTOMATED TEACHING IS BEGINNING TO REACH LEVELS AT WHICH HIGHER ORDER THINKING SKILLS ARE DEVELOPED

Automated tools have established a promising track record in teaching rote skills, testing on subjects involving well-defined, unambiguous answers, and keeping records. The ability to stimulate conceptual thinking involving broader, non-quantitative notions, and to simulate complex learning environments is now beginning to emerge. Several Federal programs are beginning to promote the adaptation of automated learning tools to the K-12 environment, and to assist in their dissemination.

5. THE QUALITY OF GENERALLY-AVAILABLE EDUCATIONAL SOFTWARE IS UNEVEN

High quality off-the-shelf educational software packages are still outnumbered by low quality offerings. Despite the apparently large potential market for educational software in U.S. schools, the software industry has been slower to develop imaginative, effective offerings than might be expected. Reasons include uncertainty among commercial software developers concerning what is needed, the fragmented, unfocussed nature of the market for such software, the fact that there are other, more promising markets to be exploited by firms using scarce software development talent (e.g., business applications, computer games), and more. In this environment, the Federal government has a major role to play. It can promote research on the subject of software "educational quality", and it can sponsor demonstration and proof-of-concept projects to develop a clearer picture of ways to exploit automation. Several of the program initiatives summarized play one or more of these roles.

6. IMPROVED SUCCESS MEASURES ARE NEEDED FOR AUTOMATED LEARNING TECHNOLOGIES

The educational literature acknowledges that it is difficult to obtain valid measures of the comparative success of an automated learning tool. Empirical studies are needed that can show whether a particular automated tool improves learning when used by a significant population as compared to non-automated alternatives. Such studies must deal effectively with complex factors (e.g., differences in educational background and ability already possessed by participants, test validity, "Hawthorne effects", the degree to which results are statistically significant, the limits to which results can be generalized to wider populations). The Federal government is well positioned to support such investigations on behalf of an interested national audience. Several Federal programs summarized are sponsoring such investigations.

FEDERAL PROGRAMS ORIENTED TOWARD TECHNOLOGY IN EDUCATION: A PRELIMINARY SUMMARY

PROGRAM	COMPENSATORY EDUCATION (CHAPTER 1)	EISENHOWER PROFESSIONAL DEVELOPMENT	JOB CORPS	SCHOOL-TO-WORK OPPORTUNITIES
Overall Purpose	Improve educational opportunities in high poverty schools	Promote teaching of mathematics and science	Improve the employability of disadvantaged youth	Create school-to-work systems for all youth in all areas of the country
Lead Agency	Department of Education	Department of Education	Department of Labor	
Planned Expenditures	$6.7 billion (all programs)		$2.9 million for ADP	
Target Population(s)	• Educationally deprived children • Teachers • Administrators	• Teachers of mathematics and science • Administrators	Disadvantaged youth seeking to enter work force	All youth seeking to enter the work force
Principal Uses Of Technology Currently Supported By Program	• Computer laboratories in schools	• Networking to promote sharing of instructional materials • Instructional videodiscs and software	Computer Managed Instruction (CMI) system supporting record keeping, diagnosis, assignment, testing and tracking	To be decided by local grant recipients
Related Technology-based Activities Supported	• Technical Assistance Centers • Rural Technical Assistance Centers	• Forums for promoting technology		To be decided by local grant recipients
Planned Expansion of Automated Tools	• Connection of standalone systems to networks		• Job Corps ADP System • Educational software packages usable with LANs	
Experimentation or Demonstration Programs Funded				To be proposed by local grant recipients
Research or Evaluation Projects Underway		Annual performance reports from states (but not specifically technology-oriented)		To be proposed by local grant recipients

U.S. Department of Education
Office of the Deputy Secretary
400 Maryland Avenue, SW
Washington, DC 20202

DATE: 10-12-94

TO: Mike Schmidt, Bob Portman, Henry Kelly

ORGANIZATION:

PHONE: **FAX:**

FROM: Jonathan Hoyt

PHONE: **FAX:**

MESSAGE:

Please review this draft by Mike Harrington & give him comments by 12:00 Thursday. We will discuss ~~this~~ a revised draft at the meeting Friday. (12:30-1:30, WH Conference Center)

4 **PAGE (S) TO FOLLOW**

THE WHITE HOUSE

WASHINGTON

September 16, 1994

MEMORANDUM FOR BILL GALSTON

FROM: PAUL DIMOND PD

SUBJECT: ETR -- POLITICAL AND POLICY DIVIDING LINE

I offer the following analysis for your consideration of the appropriate political and policy responses to the anxiety American workers and voters feel about the economy. I hope this will be helpful in your own thinking and in framing the separate discussion with Glynn, Ross, Smith, Sawhill.

Among those who agree that we need to take action to make continuing economic change work as an ally rather than an enemy of the vast majority of Americans, I believe there is at least one major fault line in the debate -- the appropriate role of government and national leadership. There are two camps on either side of this fault line:

- **Institutional Security.** Those who propose creating new (or better working) institutions of government -- witness regional alliances and price control boards for health care; reinventing government so that it works better and costs less; Goals 2000 (at least the portion that relies on the traditional SEA/LEA/AFT-NEA public delivery system); regional Workforce Boards and ES, and consolidating ETR programs to make ~~public schools~~ and local labor markets work better and become more accountable; cost-benefit analyses to make government regulation more efficient; proposals to regulate the communication industries to make sure that supposed have-nots (e.g., schools, libraries, museums) are hooked up to the NII; giving greater flexibility to state and local recipients of federal aid in exchange for meeting stricter performance/accountability standards; telling the American people how we're going to make a successful transition to the 21st century.

- **Opportunity and Responsibility.** Those who propose new approaches to empower families, firms, and communities with increased opportunity to take responsibility for achieving their own destinies in the new economy -- witness the transformation of student loans to enable every person to invest in their own learning; Ross's proposals to build markets to empower all students and workers with the skills, tools and connections to navigate their own careers; DLC Charter Schools; Health and Pension reform proposals based on portability, choice, and competition; use of tax costs (combined with deregulation) to make the market work continuously to limit environmental and health hazards; encouraging the communication industry to engage in a very competitive "land rush" to hook up as many users (and uses) of the NII as rapidly as possible (including schools, libraries, museums, and homes as major

markets rather than have–nots requiring regulatory mandates); providing carrots to encourage the private sector, community–based institutions, state and local officials to build their own plans and partnerships so that the private sector can drive growth within each region, including in the inner cities (e.g., CDBanks, EZ–EC, TLC, School–to–Work); establishing voluntary standards and world class benchmarks to enable consumers and firms to make informed choices based on improving information, goods, and services anywhere in the world (other portions of Goals 2000); engaging in a dialogue with the American people about the diverse ways each family, firm and community can make its own successful transition to the 21st century.

I could provide other examples on both sides of this fault line (and there are some examples, arguably National Service, that straddle this line). Nevertheless, I think the basic division is accurate. I only ask that you consider whether this analysis captures the right metric, scale, plane, axis or framework. If it does, it may help you think harder about your own position; and it may serve as one possible starting point for the discussion with Glynn, Ross, et al.

[Naturally, I have my own tentative views on where we should come out if this is the right framework for analysis. As a matter of policy and politics, I believe that in every substantive area there should be a strong (albeit a rebuttable) presumption that the second camp is right; and that when the President's strategy across all substantive areas is viewed as a whole, that the second approach dominates. Why?

The American public rightly distrusts government, bureaucracy, and monopoly (including in firms, unions, and health care): war, the depression, and the unalloyed power of the big firm during the height of the old industrial economy obviously overcame the American people's basic understanding that freedom, voluntary association, free enterprise, and a variety of overlapping if not shared values and aspirations provide the most effective way to enable the vast majority of American families, firms and communities to move forward. I believe that if you think institutional security is the answer to the current anxiety now, you bear the burden of persuading either (a) what circumstances now require governmental or monopoly institutions or (b) what new types of governmental or monopoly intermediaries will be trusted by the people to promote choice, diversity, free enterprise, and voluntary association.

I think the first case is very difficult to make in most areas: the means of production continue to change in ways that increase choice, put a premium on skills and agility rather than size, and erode even the previously assumed powers of national governments to redistribute wealth and of monopolies to dominate any market. Thus, if the answer to anxiety over the changing means of production is new institutions in any area, these institutions must serve intermediary or mediating functions that promote choice, opportunity, responsibility: so, case by case, there might be a way to invent some new Democrat institutional response to meet the burden of persuasion. But the vast majority of American voters are totally cynical about such proposals. Witness the fate of the regional health care alliances (which supposedly acted as intermediaries to increase choice): most Americans, after due consideration, said "No Way!."

In any event, I'm still open to persuasion, whether through proposing a different framework for analysis or new approaches on either side -- or straddling -- this fault line.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

OCT 0 5 1994

TO: Tom Glynn
Mike Smith
Paul Dimond
Bill Galston

FROM: Belle Sawhill

SUBJECT: ETR

Attached is a slightly revised version of the two-pager I shared with you earlier. (The only significant change is that the four original options have been collapsed into three.) We will be sending you a somewhat longer paper with pros and cons on Monday. In the interim if you have comments or input, please get them to Barry White.

c.c.: Barry White

OPTIONS FOR REFORM OF ADULT EDUCATION AND TRAINING

This paper identifies four options for restructuring adult employment and training programs, and discusses two issues that need to be resolved whichever option is chosen: how to encourage the private sector to do more training and how to assure quality programs. A strategy for reform of youth programs (vocational education, JTPA youth, School to Work) is addressed separately.

Option 1. Voucher-centered system.

- Funds would flow directly to individuals as in the GI bill or the current Pell grant program.
- Vouchers (grants) could be used to purchase employment counseling, placement assistance, skill training and education (below the BA level).
- The following programs would be eliminated: JTPA adult programs (including dislocated workers), adult education, JOBS, parts of Pell grants (non-BA spending) and vocational education (postsecondary), thereby freeing up $6-$7 billion.
- The current universally available student loans ($25 billion in capital) would continue, providing additional resources.
- Vouchers would be available to all, regardless of income, but the disadvantaged would get larger value vouchers and specified shares of the annual sums available.
- A central labor exchange (the $.8 billion Employment Service, eventually a One-stop system) would provide: eligibility screening and the voucher; high quality information on job openings, and information on available providers and the types and quality of programs provided.

Option 2. State flexibility.

- Same funds (as above) flow to States which are then free to build their own systems, either around existing structures (ES, JTPA), or a new one.
- State plans for use of funds must be submitted and approved based on prospects for achieving measurable outcomes for the target populations. Federal government would require rigorous evaluations and provide technical assistance on effective models. No preferred Federal design initially but over

time a growing share of funds would be distributed on the basis of performance.

- States would be required to spend the same proportion of the funds on the disadvantaged as they do now. A state match might be required, thereby augmenting the available resources and giving states a stake in mounting effective programs.

- Variants of this option could entail more federal say in the initial design -- such as use of one-stops as providers of, or contractors for, all services. One stops could be created from existing ES or JTPA system or could be new entities.

Option 3. Incremental Improvement.

- REA-proposed model: build up One-stop centers; permit States to require more programs to use One-stops as client's point of entry.

- Current programs and funding streams remain intact, with coordination focused on common point of entry, enhanced labor exchange services and high quality information and counseling. States implement at their own pace.

- As in REA, a consolidated program for experienced dislocated workers provides them more benefits and training than others.

Crosscutting Issue A. Private sector role.

- Includes for all Options: (i) Assistance to firms in restructuring workplaces and training workers through technical assistance (MTCs) and best practice information; recognition of firms with best human resource use through Baldridge award. (ii) Improved Targeted Job Tax Credit. (iii) Participation of local business in program decisions (as in JTPA and School to Work) under all three Options. Other options include: tax credits for training and training mandates.

Crosscutting Issue B. Provider "gatekeeping" and quality assurance. Choices:

(1) Market mechanisms. Competition among providers for vouchers or services contracts, plus full program quality information to users, leads to good providers continuing, bad ones not surviving.

(2) Regulatory mechanism. Require that providers be "certified" by states, federal gov't, or other accrediting body according to criteria or standards established by Departments in consultation with provider community.

Enrollment in noncertified programs/institutions would not be eligible for public subsidy.

(3) Incentive system. Create funding formulas (in state grant or one-stop models) that includes incentives for performance.

Note: Require regular evaluations and good data with which to measure performance in all options.

Youth Programs

A separate effort is underway to come up with reform options for youth programs (JTPA, School to Work, vocational education, and TJTC). These options are being developed by the Youth Development group as part of a potential urban initiative. When this work is a little further along, it should be possible to integrate it with the options for adults.

October 6, 1994

MEMORANDUM FOR BILL GALSTON
GENE SPERLING

FROM: PAUL DIMOND

SUBJECT: ADULT ETR -- MARKET-DRIVEN VS INSTITUTION-DRIVEN REFORM

Attached is a sketch of what a market-driven reform of all adult education, training, and reemployment ("ETR") -- not just targeted federal programs -- might look like. To understand the genesis for this proposal, this cover memo explores how such a market-driven reform may better fit the terrain of what now exists than institution-driven (or what Bill calls federalism) reform. This analysis may also help us explore whether there are ways to encourage the states to move toward market-driven rather than institution-driven reform, even within the federalism approach that devolves substantial flexibility to the states for operating targeted federal ETR programs as set forth in Belle's Option 2.

1. K-12 Education. The dominant norm is a public institution -- the public school, operated by some 15,000 local districts, with substantial state support and regulation; in the main, choice is limited to opting out of the public system entirely or paying the costs of housing to relocate to a different neighborhood. Goals 2000 and School-to-Work are premised on influencing institutional reform of this public system --e.g., through establishing national goals, catalyzing voluntary performance standards, encouraging leading edge states to show the way, and mobilizing a campaign for excellence with parents, business, educators, community leaders, and elected officials. I think Bill would rightly characterize this as institution-driven or federalism reform.

2. Adult ETR. In contrast, the vast bulk of public and private investment supports individual choice in a mixed, public-private, but nevertheless largely market-driven system: fees for tuition, payments for training, diverse networks for job-changing and hiring are the means of choice for most students, workers, and firms. Even the large state and local public support for public universities and colleges is driven at the point of access primarily by the choice of users (mostly students, although increasingly firms) through payment of a fee. These public, post-secondary education institutions are usually separate from the general state and local governments and have their own independent base of support (through special districts or largely autonomous charters or separate state-wide elections). Within firms, the vast bulk of expenditures on training the workforce is chosen and paid for by the firm; and increasingly, continuous learning is embedded in the daily work of the workers in the workplace. Finally, new waves of learning programming (whether in videos, books, magazines, cassettes, T.V., or interactive media of phones, computers, and other telecommunication networks) increasingly make learning available to adults wherever they are -- in the workplace, in school, at a learning center, or at home.

3. Already Enacted Adult ETR Reform. Not surprisingly, we have already recognized the market-driven nature of the vast bulk of adult ETR: we are transforming the student loan program to make it much easier for any person to invest in their own chosen course of learning and to repay the costs through a small fraction of their future earnings. As the primary work of learning is done by the learner, and the primary benefit of learning accrues to the learner, this transformation of the student loan program not only fits the market driven terrain of Adult ETR: it also gives the individual the opportunity to take responsibility for their own extraordinary achievement, much as the G.I. Bill succeeded in doing for returning veterans after WWII.

We have also articulated a major goal and several relevant objectives for adult ETR in Goals 2000:".... (6) By the year 2000, every adult American...will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship." The objectives for this goal include: "(i)every major American business will be involved in strengthening the connection between education and work; (ii)all workers will have the opportunity to acquire the knowledge and skills, from basic to highly technical, needed to adapt to emerging new technologies, work methods, and markets through public and private educational, vocational, technical, workplace, or other programs; (iii) the number of quality programs....that are designed to serve more effectively the needs of the growing number of part-time and mid-career students will increase substantially...." Note that the first objective seeks to recognize a growing reality in the new economy: in most industries knowledge and skill are increasingly important, and the most valuable asset of firms is the skills of their workers. The second objective seeks to empower workers with the opportunity to take responsibility for learning higher skills. The third objective speaks to increasing the supply of providers to increase opportunities for such learning (for example, as the federal government did at an earlier time with the establishment of Land Grant Colleges). Each of these three objectives is entirely consistent with the market-driven terrain of adult ETR, and none requires an institutional approach to reforming adult ETR.

4. Federal, Targeted ETR. What, then, complicates our thinking about the appropriate approach to reform of the predominantly market-driven ETR for most adults and firms? The bulk of federally appropriated dollars (apart from the student loan program) goes to pay for quasi-public, institutional approaches to providing ETR program services to targeted populations -- dislocated workers, disadvantaged, diverse passes at second chances for older youth and adults. Whatever the proposed approach(es) to reforming the crazy quilt pattern of these federally targeted "programs," we ought not let this relatively minor federal ETR tail confuse our thinking: most of the ETR ball game is played on market-driven terrain by adults and firms making choices about where they want to invest their own time and money. Even the bulk of state and local ETR funding supports autonomous public colleges and universities that market their services to individuals and firms.

From this perspective, I ask that you consider the attached outline of a market-driven reform for all adult ETR, starting with the 85-90% of the dollars and transactions that are driven by the market choices of individual adults and firms.

A MARKET-DRIVEN APPROACH TO REFORM OF ADULT ETR:

A NEW G.I. BILL FOR ALL AMERICAN WORKERS

A. The four minimum elements of market-driven reform of adult ETR could include:

- market (and, to the extent necessary, modify) the student loan program so that it can operate as a career credit line (or skill bank) by which any worker can choose the education and training each demands to upgrade their skills, change jobs, or secure career counseling and job networking services for new job opportunities

- encourage workers and firms, e.g., with Sallie Mae or with state support, to join together to use the federal career credit line and firm funding to provide skills training and to embed learning in the workplace

- mobilize firms, community colleges, universities, and successful specialized education, training and job networking providers to join in a campaign to make their market services more readily available to all workers and firms (e.g., through a new award, high performance workplace extension, skills training as an integral part of technology deployment in the service as well as manufacturing sectors, federal procurement policies with suppliers)

- initiate a sensible, cost effective, user friendly approach to labor market, career, and education provider information, which intermediaries and consumer guides may use to add substantial value to individual, firm, and policy users

I do not believe that any of this **necessarily** requires legislation, although it could be a part of a legislative package. [N.B.: To be decided under this non-legislative approach is how to regulate the accreditation of "providers" of services eligible to cash-in the learning/career loans; how to implement and to leverage voluntary adult skill standards in Goals 2000; and how to catalyze the development of an alternative to the GED that is valued by employers, as well as higher education providers.]

B. Three additional elements of market-driven reform that could be helpful that **may** require legislation (but not necessarily more funding):

- provide new learning stipends (including support for job search, job networking and career counseling, as well as a combination of grant/loan support for learning) to veteran American workers who are dislocated after working five years

- individualize extended income support <u>contingent</u> on job search first and shared investment (loan as well as grant) for learning to upgrade skills

- join with States (or other sources of funding) to support (a) firm training of incumbent workers and (b) increasing the supply of education providers (This last provision might get the States and diverse providers more fully on board the total proposal: it could also help to orient the States toward encouraging firms/education providers to develop a learning skill market instead of having

the States use federal "Workforce Development Policy" to try and get control of higher education, which holds a unique position of independence with respect to traditional state and local governments).

In considering this second set of elements, we should examine whether we could pass such legislation through a budget reconciliation process, perhaps under the banner of UI reform and targeting use of the .2% FUTA tax for these three elements, without requiring any authorizing legislation from Education and Labor Committees. Even if such legislation does not pass, however, the President could implement the rest of the market-driven reform as a part of a campaign for 1996 to arm all Americans with the tools they need to take responsibility for competing and prospering in the years ahead.

C. What is the role of "government" and the "UI/ES public office" in this market driven reform? Consider four possibilities:

1. information and clearinghouse functions to which all users should have easy access (perhaps for a fee)
2. gate keeping for dislocated (e.g., qualification for UI benefits)
3. evaluation of providers, firms, markets, jobs, careers
4. non-exclusive provision of job counseling, job-matching, job-networking, talent and job banks

All four of these functions could be devolved to or shared with the states (and/or local labor markets).

D. Finally, what does this say about the reform of the crazy quilt pattern of federally targeted disadvantaged and second chance adult ETR programs? Belle's option 1 is to cash in all of the existing programs (which have no great record of success) for a mix of stipends and learning loans targeted to serve whatever purpose or group is now covered. We could do this across Agencies and for any of the programs that you want. Belle's second option is to devolve authority for consolidation of targeted federal programs to the States; this option could include a package of repealing and consolidating a number of the programs and some mechanism to encourage states to expand market-based reforms of Adult ETR.

My major concern with the second option is that Hill politics may lead to an independent National Workforce Board overseeing state institutional reform based on exclusive regional workforce-UI/ES consortia: this just doesn't fit the adult ETR market-driven terrain, and I don't think it helps the POTUS build a new majority for 1996. If I read the policy and the politics right, adults want and need real choice and opportunity, not the false promise of a new monopoly, governmentally prescribed, institutionally driven workforce "system."

[N.B.: The two major programs for youth ages 16-20 fall into two categories. First, as DoEd recommends, use Perkins secondary ed money to mainstream more youth through learning in the context of work; this fits our institutional reform strategy of Goals 2000 and School-to-Work for the public terrain of K-12 schooling. Second, accept DoL's proposal for a different approach for school drop-outs under JTPA -- build the capacity of intermediaries like CET that will connect drop-outs with a job, provide work support, and encourage learning in the context of work. This fits the market reform approach that we are proposing once any person exits the public K-12 system.]

NOTES OF 9/28/94 MEETING

1. **Purpose of Options.** We need to articulate a range of ETR options for adults to provide POTUS with real strategic and political choices for FY96 Budget, State of the Union, and campaign to establish a new majority among the electorate. Pros and cons from perspectives of policy, budget cost, electorate, constituency groups and Hill must be considered.

2. **Foundation of Accomplishments and Implementation.** The options should build on the basic foundation and understanding of what we can do without additional legislation:

-- to implement lifelong learning, build workforce skills, facilitate informed labor market exchange, encourage firms to embed learning in work and to invest in workforce skills

-- to implement POTUS promise to empower ALL families, firms and workers to gain the skills they need to compete and win in the new economy if they are willing to learn, to play by the rules, and to work hard and smarter

-- to fit with the respective role, size, and kind of investments now made by families, workers, firms, states, localities

The bi-partisan enactment of the relevant objectives in Goals 2000 provides one starting point for building this foundation and for providing direction for reforming adult ETR.
[N.B.: How do plans (a) to implement Skills Standards and DoL's proposed "America's Labor Market Information System" and (b) to demonstrate power of career credit line and one-stops in a few markets fit with the two basic options described below?]

3. **Firm Investment in Learning.** All options should include some campaign of recognition, encouragement or rewards with firms that embed learning in work or continuously invest in skills of their workforce. (We should include Commerce and Small Business in planning).

4. **Basic Options.** Two basic types of options for adult ETR should be fully explored:

-- market driven/G.I.Bill/Direct Loan model with federal dollars/grants from adult ETR programs transformed into mix of grants/loans to empower individuals to take charge of their own careers for (1) counseling and job brokering and (2) learning. Targeting of grants/loans will be based on definitions of need, e.g., dislocated workers, rather than maintaining or establishing a governmental or non-competitive consortia to serve. Start with the 85% of American workers (including veterans of workforce who are being dislocated) to help them make the choices about their careers for themselves; this option would eliminate rather than create a new layer of bureaucracy, although consideration of gate-keeping function for eligible providers needs careful attention. Then explore fully how and the extent to which this model could be expanded to substantial portions or all of remaining 15%; need to explain how this market-driven approach will actually serve the diverse categories of need if there are not separate federal programs funding providers.

-- institutional reform/"make government work better" model to make diverse federal program funding streams for targeted classes work better with States, education providers, local labor markets, business and labor. Need to explain how federal oversight, state responsibility, and local consortia with one-stop models have real potential to actually work to improve adult ETR (and for which persons) over time

The basic principles of each approach must be few in number, clear and direct, powerful in content and message.

5. **Related Issues.**

a. Waivers/Consolidation. What is the role of waivers, flexibility? What can be achieved without legislation? If we truly want to get waivers and flexibility won't we have to propose reorganization of departments and consolidation of programs (which is what drives Spinner types to seek to do by creating independent National Workforce Board to effectively consolidate federal administration of all ETR in "bi-partisan" commission ?) Can we reasonably seek broad waiver authority based solely on a proposal for interagency coordination (without meaningful consolidation) and one-stops on the ground to respond to state/local requests for flexibility? What are the substantive/process/performance criteria for granting flexibility/waivers? Are waivers/flexibility a way to get State option to choose market driven as well as institutional reform approaches? Should we consider a leading edge State strategy under either option, to be achieved through process of granting flexibility in exchange for approval of plan? Do waivers, flexibility and/or consolidation fit with any achievable legislative scenario? Do we need waiver authority under market driven option?

b. Labor Market Information. There is general agreement that additional labor market information (on job trends, job openings, career options, providers, job-seekers, longer term earning/learning projections, etc.) is essential for both the market driven and the institution reform options. There is less agreement on what is really useful to workers and firms, the cost and accuracy of the data, who is to collect and disseminate the data, and what is the nature and extent of the access for individuals, intermediaries and brokers, and firms. How does this labor market information relate to job-brokers or other intermediaries matching up workers and firms in market-driven and institutional reform approaches? What can and cannot be achieved without legislation?

c. Budget Reconciliation. What is the potential in Budget Reconciliation to achieve UI reform or any other elements of the two basic options (e.g, incentives for firms, putting purchasing ETR power in hands of workers/families)? If there is no budget reconciliation is there a way to reform UI without legislation; if legislation is required, what is the legislative vehicle to achieve? Is UI reform essential to market-driven and/or institutional reform options?

What about using .2% of FUTA extension to cover state staffing & retraining of workers.

d. Disadvantaged Youth and Young Adults. What are the options for dealing with disadvantaged youth through age 21? The Urban policy group will recommend "mainstreaming" a substantially greater percentage of youth ages 10-19 in school through on-going networks of learning in context of work, first jobs, next jobs, continuous learning -- i.e, youth development and mentoring (as in the 1000 school-National Service proposal from Welfare Reform), and the equivalent of school-to work. Do we support this approach? If so, how does it fit with vocational ed reauthorization and adult ETR options. For those youth and young adults who still drop-out, is the better investment in building networks to virtually any legal job (and from there to a next job and learning) rather than investing in second chance education/training programs? What role, if any, should JTPA for youth and other second chance programs play here?

e. Consultation Process. What should be the extent and timing of discussions, process, and timing for encouraging new thinking from important constituency interests (e.g., business, labor, Urban league, Governors/Mayors, providers, civil rights, Hill, etc.)?

[N.B.: We should integrate our substantial efforts to promote interactive communication and learning and NII as a part of adult ETR plan and message].

U.S. Department of Education
Office of the Deputy Secretary
400 Maryland Avenue, SW
Washington, DC 20202

DATE: 9-19-94

TO: See Below

ORGANIZATION: White House Technology & Learning Challenge

PHONE: Federal Programs Working Group **FAX:**

FROM: Jonathan Hoyt

PHONE: 205-0755 **FAX:** 401-3093

MESSAGE:

Addressees
Judith Gilbert, STW/DOL
Jim Kolb, HHS
John Chowning, DOL
Bob Litman, DOL
Mike Schmidt, DPC
Jim Vollman, DOL
Others by e-mail

2 **PAGE (S) TO FOLLOW**

MEMORANDUM

To: Federal Programs Working Group members

From: Talmira Hill, ED
Jonathan Hoyt, ED

Date: September 19, 1994

Following up on the discussion at today's meeting, we have compiled some questions below that should be helpful in putting together the first draft of the implementation plans. Please treat these questions as a general guide to the topics to be covered in the drafts; they are not intended to be exhaustive. If a question is not relevant to your program or is unanswerable, simply note this briefly in your draft. The questions do not need to be answered in the order listed here.

If you have questions or concerns (or if we have missed an important area of inquiry), please contact Jonathan at 202-205-0755 or Talmira at 202-401-3389.

The responses should be faxed by COB Wednesday, September 28 to John Vesey at Mitre, 703-883-5200. His telephone number is 703-883-5262.

What is the purpose of the program? (from previous one-pager)

How can technology advance the mission? (from previous one-pager)

What is the target audience for the program? Are there particular target groups in regards to technology use?

Questions relating to the implementation plan:

Is there evidence (research, evaluation) of how technology is helping to address the goals of the program now?

What types of technology applications are *most* relevant or useful in this program area? (e.g. local area networks in schools, electronic mail, use of Internet resources, instructional software, distance learning, simulations, support for training, etc.)

What is the current federal mechanism/policy for promoting technology - if any - in your program? (e.g. legislation and/or regulations permitting use of funds for technology, demonstrations, pilot projects, conference presentations, set-asides, etc.)

What policy issues does the use of technology raise for the program? (E.g. in Chapter 1, the chief

policy issue is whether computer-aided instruction has been effective for its target population.)

If program funds are not being used to support technology-based learning, why is this the case? (e.g. state or local laws, rules governing credit for courses, lack of knowledge, fiscal restraints, lack of convincing models or research, etc.)

What is the estimated amount of program funds used now for technology and related services and training?

What forums for technology demonstrations or outreach are available (e.g. conferences, regional meetings, technical assistance, publications, etc.)

Task 6 -- 9-16-94

- Who are the Customers
- What is your MISSION

Special Ed -> ∴ People with Disabilities

How can technology Further

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From: Jonathan Hoyt
Department of Education
Tel. 205-0755 Fax 401-3093

2 pages + follow

THE WHITE HOUSE
WASHINGTON

September 13, 1994

MEMORANDUM

To: Federal Programs Working Group
White House Technology and Learning Challenge

From: Mike Schmidt, White House Domestic Policy Council MS
Rob Portman, Department of Labor RP
Jonathan Hoyt, Department of Education JWH

Re: September 16 Working Group Meeting

There will be a meeting of the Federal Programs Working Group on September 16 from 11:00 to 12:00 in room S 2203, Department of Labor. The purpose of the meeting is to review the mission of the working group, identify any new members, and to discuss the proposed work plan outlined below. If you will not be able to attend the Friday meeting, please notify Jonathan Hoyt at (202) 205-0755 and indicate who will be representing you.

Background and Mission of the Working Group

The Working Group has been charged by the White House Education, Training, and Re-employment working group, co-chaired by Paul Dimond of the National Economic Council and Bill Galston of the Domestic Policy Council, to identify opportunities to advance the missions of major federal programs through technology and advance the Administration priority of integrating effective uses of technology into the education and training system. The ETR working group includes the Secretaries of Labor, Education, Health and Human Services, Commerce, Defense, and others. Consensus on the work plan was reached through senior leadership meetings on 9 July and 11 August.

The identification of opportunities in many program areas has already begun through the one-page program summaries prepared for the 11 August briefing. These will be distributed at the Friday meeting. Program areas that have identified for attention are:

Goals 2000: Educate America Act
School-to-Work Opportunities Act
Eisenhower Professional Development Program
Special Education (several programs)

Perkins Vocational Education
Head Start
Compensatory Education (Title I)
Elementary and Secondary Education Act (ESEA) Consolidated Technical Assistance Centers
Job Corps
"One-Stop" Job Training Centers
NIST Manufacturing Extension Program

With the exception of the Job Corps program, no fiscal impact in FY 1996 is expected from the action plans developed in each program area.

While *administrative technologies* (e.g. electronic networks linking administrators in numerous work sites) will be important, the emphasis should be on proven *learning technologies* that contribute to the learning process -- such as software, simulations, authoring tools, and networks linking learners.

The Federal Programs Working Group is one of seven working groups. Others are focused on the Challenge Grants, the R&D agenda, Demonstrations, Digital Resources, Regulations & Public-Private Partnerships, and Outreach/Communications.

Proposed Work Plan

The Working Group has been tasked with completing a white paper containing implementation plans for each program area. These implementation plans will build upon the one-page plans prepared for the 11 August briefing.

Friday "tollgate" meetings will take place every two weeks, on September 30, October 14, and October 28, in order to review progress, exchange ideas across programs, and get complete updates on the status of the initiative.

Each program area should identify a team, headed by a team leader, to design and obtain departmental approval for the action plan. Team leaders should be identified for these program areas by Friday, September 16. Each team leader is expected to attend the tollgate meetings in September and October.

The project completion date is November 4. The work product in November will be a detailed implementation plan for each program area that is realistic and has the support of both agency and TLC leadership. In many cases, the work plans will already be underway by early November.

cc: Paul Dimond
Henry Kelly

COMPENSATORY EDUCATION (CHAPTER 1)

PURPOSE:

* Provides approximately $7 billion to local education agencies to improve the educational opportunities of educationally deprived children in high poverty schools by helping those children to succeed in the regular classroom, attain grade-level proficiency, and improve achievements in basic and more advanced skills.

* Funds are concentrated on elementary schools, although there are programs from pre-school to high school. The Chapter 1 program has national scope, serving more than 6 million children in over 53,000 schools.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

* Technology is now a central part of the way Chapter 1 funds are used. Approximately 15%, or $400 million, in Chapter 1 money supports school purchases of computer equipment, hardware, and software. However, schools typically purchase computer laboratories that provide only limited access to resources and are used to operate software that drills students on basic skills. Schools are not typically linked to resources outside the school, such as Internet.

* Technology could more effectively advance Chapter 1's mission by supporting connections to networks and by supporting instructional applications of higher quality.

ACTION NEEDED:

* Develop strategies to increase effective technology use with Title I funds during FY 1995 implementation. Develop a vision statement for how Title I will support the NII and learning technologies.

* Develop a strategy to communicate with state and local program administrators - who have some influence over how program dollars are spent - on effective uses of technology.

* Develop means of ongoing technical assistance for the use of technology in Title I.

* Explore the possibility of including technology as a priority area in the award of demonstration grants.

EISENHOWER PROFESSIONAL DEVELOPMENT PROGRAM

PURPOSE:

* Provides financial assistance to State educational agencies, State agencies for higher education, local educational agencies, and institutions of higher education to:

  o provide access to high-quality professional development aligned to challenging State standards and

  o support sustained and intensive high-quality professional development activities in the core academic subjects.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

* Teaching to high standard for all children requires the use of innovative and varied strategies, including technologically-oriented ones. Appropriate training would allow teachers to access a wide variety of technologically-oriented teaching strategies.

* Training teachers in the use of technology enables them to expand their own content and pedagogy knowledge through access to network sources.

* Training teachers in network communications and establishing interactive networks, of teachers enhances professionalism to teaching and promotes teachers' responsibility for their own professional growth.

* LEAs use their funds to support any professional development activity consistent with the plan they submit to their State. Activities such as any of the above would be eligible activities.

* IHEs compete for funding to offer programs to elementary and secondary teachers; the above types would be eligible.

ACTION NEEDED

* The requested appropriation increase, coupled with required local match, would provide LEAs with the opportunity to begin a program of high-quality, intensive professional development in the utilization of technology.

ESEA TECHNICAL ASSISTANCE CENTERS

PURPOSE:

- The 10 ESEA Technical Assistance Centers, to be authorized under the new ESEA legislation, are designed to create a national technical assistance and dissemination system to help states, districts, tribes, and individual schools to use federal education dollars in the most effective way possible, including implementing promising and proven practices for improving teaching and learning. Contracts for these centers will be awarded in FY 1995.

- The Technical Assistance Centers will be required to maintain expertise in, and provide support on, all ESEA programs, including Title I, bilingual education, technology for education, and other areas.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

- Technical Assistance Center staff can help ensure that effective technology tools, such as software, networks, digital libraries, and voicemail systems, are fully considered by education leaders as tools for school improvement.

- TAC staff can help states, districts, and schools to plan for the use of technology.

- TAC staff can help educators to identify innovative funding strategies for technology, including the use of federal program funds.

ACTION NEEDED FOR 1996

- Identify greatest needs in states, school districts, schools, and other learning sites.

- Develop criteria for the capacity and expertise in technology that each TAC should have and incorporate them into the centers' required activities.

- Ensure that technology for education is a priority area for the TACs.

GOALS 2000: EDUCATE AMERICA ACT

PURPOSE:

* Goals 2000, the administration's framework for education reform, is designed to provide resources to states and communities to develop and implement comprehensive education reforms aimed at helping all students reach high academic and occupational skill standards.

* Key provisions include the establishment of national education goals, national education reform leadership, and standards & assessments of educational progress, the systemic improvement of State and local education, strengthening of parental involvement, and the formation of the National Skill Standards Board.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

* Title III technology grants are awarded to SEAs for integrating state-of-the-art technology in State educational improvement plans.

* Electronic networks can strengthen communication among educators, expand professional development opportunities, and support the development and implementation of content and performance standards by allowing teachers and other educators to converse with one another across states.

* Technology is a powerful resource in raising the motivation and performance of all students.

* Students must have technologies to enhance their learning and to master skills necessary for the workplace.

ACTION NEEDED

* Goals 2000 should be the guiding vision for the Challenge Grants and the TLC. The grants will support models to demonstrate applications of technology that complement local educational improvement efforts. States would be encouraged to consider the Challenge Grants as models to adapt in developing Goals 2000 sub grants and other programs related to Goals 2000.

HEAD START

PURPOSE:

* Provides services to economically disadvantaged preschool-aged children and their families to help prepare for life and for school. The program currently serves about 720,000 children. In addition to a developmentally appropriate curriculum for the education component, the program provides health and nutrition services, social services, parent involvement services, and some programs receive special funding to provide services to the parents in the areas of employment, literacy and substance abuse prevention.

* Is a community-based program sponsored by about 1400 grantees and 600 sub-grantees (who may be public or private non-profit agencies). Funding ($3.3 billion in FY 1994) is provided directly from Federal Regional offices to the grantees without State involvement.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

* as a teaching device in the classroom. A number of programs have used computers in the classroom, including participation in a demonstration project funded in part by hardware contributions from IBM. Head Start is involved in the planning and field testing of PBS's Ready to Learn program.

* as a way of training classroom teachers. a satellite training program for Head Start programs in remote areas has been successfully developed and implemented.

* as a resource to Head Start programs. A national bulletin board system (BBS) is currently in use. Head Start may be part of a national interactive information system in conjunction with the National Head Start Association and the Department of Commerce.

* as a learning tool for parents. Grantees are currently using a variety of applications in teaching literacy, providing job skills development training, and parenting skills.

* as a tool to reach special populations. Head Start funds three demonstration programs to explore the use of technology to meet the needs of children with disabilities.

ACTION NEEDED: Head Start has ongoing programmatic authority for research, development & evaluation, as well as for training and technical assistance to grantees. Both of these authorities should be used for technology applications.

JOB CORPS

PURPOSE

Job Corps is a major national training and employment program administered by the Department of Labor to address the multiple barriers to employment faced by disadvantaged youth throughout the United States. Its programs are open-entry, open-exit and individually-paced.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

Job Corps has developed a Computer Managed Instruction system to eliminate many of its manual records, and has developed a telecommunications network connecting critical Job Corps management and support functions. As a part of these planned FY 95 measures, Job Corps plans to use Department of Defense learning technology by:

* Accommodating learning technology into future software development,

* Reviewing DoD training materials for adopting into Job Corps curricula (if appropriate), and

* Including the potential use of learning technology in all Job Corps classrooms, shops, dormitories and offices as part of all future procurement.

ACTION NEEDED FOR FY 1996

Since the current Job Corps budget can not accommodate a valid pilot effort, $1,250,000 from sources other than the Job Corps budget are needed. If funds were made available, pilot centers could then begin full operation in early 1996 to:

* Integrate workplace, vocational and education skills and allow centers to tailor a comprehensive training plan for each student,

* Integrate traditional and computer-based instruction in all training areas,

* Provide "learning on demand" for vocational students as they work on training projects, and

* Allow students to access interactive training programs during evenings and weekend.

NIST MANUFACTURING EXTENSION PROGRAM

PURPOSE:

* Help small manufacturers become more competitive by implementing appropriate advanced technology, best manufacturing practices, and modern business an workforce approaches.

* Build a network of 100 manufacturing extension centers across the nation by 1997 to work directly with companies to deliver information an technical assistance on technology transfer and best practices.

* Coordinate with state manufacturing extension, economic development, and technology programs to ensure consistency of approaches.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

The MEP is already linking the manufacturing extension centers electronically and planning to use technology for disseminating information to companies -- ie., through two-way video teleconferencing and other distance learning methods. The Department of Labor is working with the NIST/MEP to build workforce training and workplace modernization into the services delivered by manufacturing extension centers. Information and technical assistance in these areas could be delivered through the emerging MEP electronic network. A logical next step would be for the extension centers to develop electronic linkages with individual companies, universities, community colleges, libraries, and other points of access.
This network a.so could promote the use of new learning technologies as part of the training and workplace modernization services provided by extension agents.

ACTION NEEDED FOR 1996:

* Develop electronic linkages between extension centers and individual businesses, universities, community colleges, and other points of access.

* Integrate new learning technologies into current curricula and provide information to companies on new learning technologies.

ONE STOP CAREER CENTERS PROGRAM

PURPOSE:

* Create a nation-wide "reemployment system" to serve the employment and training needs of all Americans, and encourage innovation in the delivery of services and information.

* Bring together information on a full array of employment-related services available to both job seekers and employers, and integrate delivery of all Department of Labor funded employment and training programs, as well as other employment and training programs, into the one-stop career center.

* Deliver high quality employment and training services to all Americans to permit them to manage their working lives more effectively.

HOW TECHNOLOGY CAN HELP ENHANCE THE MISSION:

* Provide lower cost, self-paced training and basic and occupational skills assessment.

* Provide central access to information on program eligibility and assistance in enrolling in programs.

* Assist workers seeking new jobs, first jobs in using comprehensive labor market information in order to identify possible career choices, job skill requirements and training options.

* Provide tools for extracting information from various electronic labor exchanges as additional sources of information on labor markets and emerging skill trends.

* Create communication links between the states and local labor market outlets to allow quick transfer of standard labor market information and to permit the operation of nation-wide job and talent banks.

ACTION NEEDED:

* To promote, encourage, and "incent" the use of learning and other technologies through subsequent State and Local solicitation for grant award to a greater extent.

* To focus technical assistance and research on the application of learning technology in the one-stop context.

* To fund demonstrations of local learning labs to operate pilot technology centers for possible replication.

PERKINS VOCATIONAL AND APPLIED TECHNOLOGY ACT

PURPOSE:

* Seeks to ensure that, by the year 2000, every adult American is literate and possesses the skills necessary to compete in the economy and lead productive lives. The FY 1995 budget includes $1.1 billion.

* Supports State and local efforts to establish and operate programs that provide American business with the technologically skilled and adaptable workers needed to compete in a global economy. The populations assisted range from secondary students in pre-vocational courses through adults who need retraining to adapt to changing technological and labor market conditions. Tech-Prep education supports planning and demonstration grants to consortia of local educational agencies and postsecondary institutions to provide high school students with mathematics, science, communications, and technological skills.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

* It is estimated that three-fourths of the individuals entering the American workforce between now and the year 2000 will have limited verbal and computational skills, while most new jobs during that period will require increasingly complex skills to meet the technological demands of the workplace.

* With the American economy in transition, increasing global challenges to our economic competitiveness, and more jobs requiring a high level of technical expertise, our employment and training systems must produce greater numbers of technologically skilled and adaptable workers than in the past.

* Because changes in Federal defense policy is resulting in thousands of dislocated workers, aggressive steps are being taken to address this issue, including the development of specialized training programs, support for innovative demonstration projects, and collaborative efforts with an emphasis on technology transfer from defense to private sector. Much coordination will occur with the School-to-Work initiative.

ACTION NEEDED FOR 1996:

* Support for effective technology applications should be considered during the FY 1996 reauthorization process in the fall of 1994.

* Effective uses of technology, including distance learning for rural areas, provision of labor market information via electronic networks, and greater emphasis on contextualized learning through simulated work environments, could be integrated into the existing program.

* Innovative uses of Perkins funds at the state and local level could be examined and promoted as national models.

REGIONAL EDUCATION LABORATORIES

PURPOSE

The ten Regional Education Laboratories provide information and services - including publications, policy reports, teleconferences, technical assistance, training, and online information systems - to state and political education agencies. Each laboratory serves a group of contiguous states and is governed by a board with representatives from the political, business, and education communities of the states they serve.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

Each regional laboratory offers resources to support planning and technology implementation, including research on telecommunications use, planning assistance, information databases, professional development, and in some cases, technical assistance to states and districts.

The laboratories are establishing a nationwide Internet-based online resource network that would provide education communities in all states with information and resources.

ACTION NEEDED

- The laboratories should continue to expand their nationally information network and its linkage to education agencies.

- The laboratories should support state education agencies and school districts in technology planning and in connecting to the NII.

- The laboratories should expand their R&D efforts to include the impact of technology on state and national education reform.

- The laboratories should expand their efforts to provide services as a one stop information resource for the effective applications of technology to support teaching and learning and achievement of the national education goals.

- The laboratories should be used as a regional link from the federal agencies to the local agencies to support the implementation of national reforms such as Goals 2000 and the Technology and Learning Challenge.

- The laboratories should work with schools and communities to establish student information systems between schools and community agencies.

SCHOOL-TO-WORK OPPORTUNITIES

PURPOSE:

* Creates, through seed capital grants to State/local partnerships coupled with technical assistance, school-to-work opportunities systems. Such systems must: (1) be part of comprehensive educational reform, (2) integrate Goals 2000 and further the national education goals, (3) Integrate academic and occupational learning, (4) integrate school-based and work-based learning, (5) provide performance-based opportunities for all students.

* Helps youth acquire knowledge, skills, abilities, and labor market information needed to make a smooth and effective transition from school to career-oriented work and to further education and training.

* Requires every school-to-work system to contain three core elements: (1) School-based Learning (2) Work-based Learning, and (3) Connecting activities.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

Being conversant with technology is a necessary precondition to developing high skills, which in turn, leads to high wages. The program can link schoolroom and workplace geographically and in subject matter content. It can also provide innovative, self-paced curriculum/instruction as well as creative and valid means for measuring performance against industry skills standards. Students an be assisted working with labor market information in order to identify possible career choices by the 11th grade. The availability and distribution of work-based learning opportunities, industry mentors and other connecting activities as defined by the Act can be managed.

ACTION NEEDED

* Promote, encourage, and "incent" the use of learning technology through subsequent State and local solicitations for grant award to a greater extent.

* Focus technical assistance and research more heavily on the application of learning technology.

* Fund and oparate pilot demonstrations (focused primarily on technology application) "National Activities" funds would need to be substantially increased.

SPECIAL EDUCATION

IDEA

PURPOSE:

- Provide free appropriate public education (FAPE) for each child with a disability and procedural due process safeguards. Grants are provided to States, Chapter 1 handicapped programs, preschool programs, and programs for infants and families.

- Assist States in meeting the costs of providing special education and related services to children, aged 3 through 21 years, with disabilities.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

- Technology combined with instruction can improve outcomes for children with disabilities by supporting student learning, classroom instructions, and teacher development and support.

- Notable technology applications currently operating and being developed include captioned programming, recording textbooks for the blind on tape, virtual reality, and integrating instructional technology into the classroom.

ACTION NEEDED FOR 1996

- Additional appropriations and expanded program authorization are needed to develop technologies to enable students with disabilities to achieve better outcomes in schools and lead productive live in a competitive work environment.

SPECIAL EDUCATION

TECHNOLOGY, EDUCATIONAL MEDIA, AND MATERIALS PROGRAM FOR INDIVIDUALS WITH DISABILITIES

PURPOSE:

- Invests in research, development, evaluation, and promotion of the use of technology tools for students with disabilities. Efforts include the promotion of literacy, study of education innovations, improvement of software design and the use of assistive technology with children.

- Sponsors "futures" projects to examine trends, studies how technology used in business or military environments can be adapted for children with disabilities, and supports multi-media instructional design. Two marketing and dissemination technology centers are sponsored.

HOW CAN TECHNOLOGY ENHANCE THE MISSION

- Technology allows children with disability to function with a natural and comprehensive curriculum and to learn as well as their peers.

- Technology is able to assist a child or adult with disabilities in everyday functions that lead to living independently at home and in maintaining a job.

- Technology that assists children with disabilities in classrooms and in living situations has also been found very helpful in learning for non-disabled children in school.

ACTION NEEDED:

- Technological activities need coordination and focus to national initiatives in regular education if their full value to learning for all children is to be realized.

SPECIAL EDUCATION

TECHNOLOGY-RELATED ASSISTANCE FOR INDIVIDUALS WITH DISABILITIES ACT OF 1988 AS AMENDED IN 1994

PURPOSE:

- Supports systems change and advocacy activities to assist States to develop and implement consumer-responsive, comprehensive programs of technology-related assistance for individuals with disabilities of all ages.

- Supports model demonstration direct service projects, activities that increase reliable and durable technology, participation of people with disabilities in testing technology, making common technology accessible to people with disabilities, and technology transfer.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

- Assistive technology devices and services enable individuals with disabilities to have greater control over their lives, participate in activities in home, school and work environments and benefit from opportunities taken for granted by individuals with no disabilities.

- Assistive technology devices can be used to increase the involvement of individuals with disabilities in, and reduce expenditures associated with, programs and activities such as early intervention, education, rehabilitation and training, employment, residential living, independent living, recreation, and other aspects of daily living.

ACTION NEEDED:

- Technological activities need coordination and focus to national initiatives in regular education if their full value to learning for all children is to be realized.

SPECIAL EDUCATION

CAPTIONED FILMS, TELEVISION, DESCRIPTIVE VIDEO AND EDUCATIONAL MEDIA

PURPOSE:

- Captioning and distribution of educational, general interest and special interest films and videos.
- Closed-captioned television programs which include: news and public information, children's, prime-time, sports, syndicated, daytime, and local programs;
- Recording for the Blind, Inc., audio cassette loan program;
- Video description for broadcast and cable television, and home video;
- Research, development and evaluation of captioning technology in educational, social and cultural settings.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

- Without assistive technology persons with sensory disabilities will experience an ever widening educational, cultural and social gulf with non-disabled individuals.
- The technology which assists persons with sensory disabilities can also assist many others, such as those with learning disabilities, partial sensory impairments, etc.
- Technology makes the world more accessible to individuals with disabilities.

ACTION NEEDED

- A TLC initiative can utilize this program to inform customers of these services, and to assist in making any demonstrations accessible to all children and adults, regardless of disability.

SPECIAL EDUCATION

SMALL BUSINESS INNOVATIVE RESEARCH

PURPOSE:

- Agencies are required to establish SBIR programs by reserving a statutory percentage of their extramural research and development budgets to be awarded to small business concerns.

- The award is provided in two phases. The first is for the development of the specifications for the requested project and/or a prototype and a marketing/dissemination plan. The second phase assists the grantee in preparing the product for market and for the beta testing of the product.

HOW TECHNOLOGY CAN ENHANCE THE MISSION

- This program has been prioritized with assistive technology parameters.

- Because of the annual nature of priority setting, such priorities could be set to articulate to national initiative in technology and learning and create a market for such technology.

ACTION NEEDED

- Careful planning and coordination with the TLC could make initiatives commercially viable.

Task #6

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Cross-cutting Themes Under Consideration by Team #6

- Technology Transfer (DoE, DoD, NASA)
- Direct Purchase
- Influencing Purchases of Technology
- Impact on S&E budget

  Standards

  Technical Assistance and Training

U.S.Department of Labor

Assistant Secretary
for the American Workplace
Washington, D.C. 20210

FAX Number: (202) 219-4315 **Telephone Number: (202) 219-6045**

FAX COVER SHEET

DATE: 7-27-94

TO: Mike Schmidt

AGENCY/FIRM:

FAX NUMBER: 456-7028

FROM: Robert Portman

PHONE: 219-6045

Number of Pages (including cover sheet): 12

If all pages are not received, please call: Marilyn on (202) 219-6045

MESSAGE:

Job Corps: Its Mission and Learning Technology

Background

Job Corps is a major national training and employment program administered by the Department of Labor to address the multiple barriers to employment faced by disadvantaged youth throughout the United States. Its residential aspect distinguishes Job Corps from other employment and training programs and enables Job Corps to provide a comprehensive array of services in one setting 24 hour a day, seven days a week. Approximately 90% of students are residential; the remainder commute to the center daily. Enrollment in Job Corps is voluntary, and programs are open-entry, open-exit and individually-paced to allow students to progress at their full potential.

Learning Technology and the Job Corps Mission

An innovative **Computer Managed Instruction** (CMI) system has begun to be phased into all Job Corps center education programs during the past two years. The newly designed CMI system automates many of the tasks that instructors and administrators have found tedious and time consuming. By eliminating manual records and assisting with the scoring and recording of assignments, the system frees instructors to spend more time with students in individual and small group instruction.

The CMI system enables Job Corps to offer a comprehensive, integrated education approach that allows teachers to assign instructional materials based on individual student needs. By means of computer-managed diagnosis, assignment, testing and tracking, the new Job Corps Education Program links the best conventional materials and audio-visuals with computer-assisted instruction, in a technologically advanced and individually responsive educational system.

CMI System terminals in the classroom have served to motivate students while increasing their responsibility for their academic training. Being able to logically think their way through the system by selecting menu options and choosing prompts to update their progress while increasing their computer literacy, students are gaining valuable skills for entering the workplace. The open entry, open exit enrollment results in students working at all levels of the curricula within the same classroom. Prior to the CMI System, completing placement and providing diagnostic information, instructors would spend valuable class time assessing where to begin working with the student instead of beginning the appropriate assignments.

Currently, the CMI System provides automated instructional management for the following academic curriculum areas:

- Basic Reading

- Graded Reading
- Math
- GED
- Writing/Thinking Skills
- World of Work

Vocational curricula will be the next area to became automated, while residential programs such as Social Skills Training, Student Orientation and Student Progress Evaluation will follow.

FY95 Actions for Acceleration the use of Learning Technologies

During the past five years Job Corps has made a concerted effort to take advantages of advances in technology in the areas of student records, student pay and instructional management. Over the next two to five years the CMI System (described above) will become a component of a larger Job Corps Automated Data Processing (ADP) System. The new ADP system will facilitate interconnectivity between the existing Job Corps data systems, including the Student Pay and Allotment Management Information System (SPAMIS), and new systems, including a standard local MIS, a Scheduler, and other program components.

Job Corps has increased its overall budget for ADP from 1.4 million in FY 94 to 2.9 million dollars in FY95 in order to produce an extensive upgrade of its data center. This large increase in funding will result in a telecommunications network connecting critical Job Corps management and support functions via a central data facility. It will use the transmission of student specific enrollment, allowance, status and termination data and other administrative communications.

Presently, centers use their own corporate or agency developed management information systems. However, with this expansion of the Job Corps Data Center DOL plans to develop and distribute a standard center MIS system. Plans are already drawn to expand and incorporate the Computer Managed Instruction system described earlier. Other program components slated for automation include student scheduling, counseling, behavior management and student progress and evaluation.

As a part of these planned FY95 measures, Job Corps stands poised to facilitate the inclusion of DoD learning technology by:

- Accommodating learning technology into future software development,

- Reviewing DoD training materials for adoption into Job Corps curricula (if appropriate), and

- Including the potential use of Learning technology in all Job Corps classrooms, shops, dormitories and offices as a part of all future procurement.

Options for FY96 and Beyond

Job Corps is committed to creating a meaningful context for learning, rather than simply providing passive listening or watching abstract demonstrations. The application of interactive learning technology can establish an atmosphere where students become active participants in a community of learning. Students can begin to learn new ways to communicate complex ideas and experiences, using the interactive learning tools required of them by the high performance workplaces of the future. The general education, technical training, and workplace skills learning technology developed by DoD may have the potential to greatly enhance the interpersonal and teamwork skills, thinking skills and basic academic skills presently taught in the Job Corps curricula.

Job Corps stands ready to more comprehensively meet its mission by employing maximum use of DoD leaning technology. Such an application of these learning tools could be made over the course of the next five years in order to:

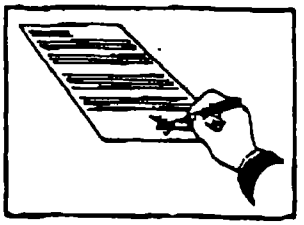
- Integrate workplace, vocational and education skills and allow centers to tailor a comprehensive training plan for each student,
- Integrate traditional and computer-based instruction in all training areas,
- More effectively monitor student progress by providing instructors, counselors and residential advisors with real-time reports,
- Provide "learning on demand" for vocational students as they work on training projects,
- Allow students to access interactive training programs during evenings and weekends,
- Allow staff to access interactive training programs as a part of their in-service training, and
- Offer students elective courses such as typing, personal finance and foreign languages.

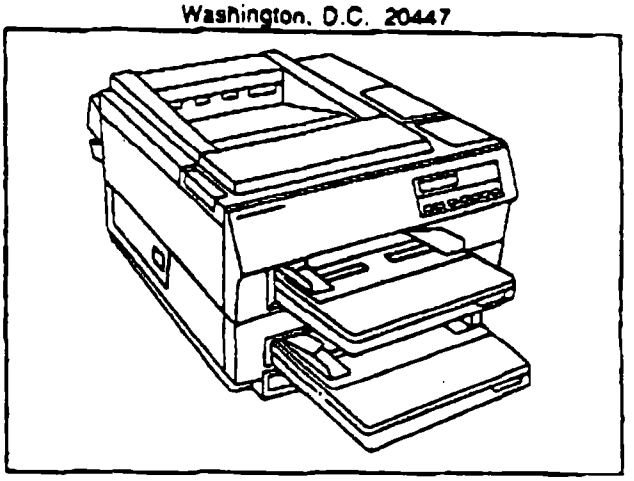
While Job Corps is not prepared to modify existing DoD software for its use, it is prepared to establish three pilot centers equipped with trained staff to utilize a fully integrated training delivery system which would take full advantage of applicable DoD learning innovations. In order for a valid pilot to be conducted, $1,250,000 from sources other than the Job Corps budget would be needed. The current Job Corps budget can not accommodate such a large project. If funds were made available, pilot centers would begin full operation in early 1996.

DEPARTMENT OF HEALTH & HUMAN SERVICES

FAX SHEET

ADMINISTRATION FOR CHILDREN AND FAMILIES
370 L'Enfant Promenade, S.W.
Washington, D.C. 20447





Administration on Children, Youth and Families
HEAD START BUREAU

To: (Mr.)/Ms. Rob Portman

Organization: DOL

From: (Mr.)/Ms. Jim Kolb (202) 205-8580

Fax Number: 219-4315

Number of Pages: 3

Remarks:

Head Start--Program Outline for Task Force on Learning and Technology

Purpose of Head Start

Head Start is a national program to help economically disadvantaged preschool-aged children prepare for life and for school. Both the child and the family are provided services. The program currently serves about 720,000 children, most of whom are age 4. Over 13 percent of the children have a diagnosed disability. The program is comprehensive--in addition to a developmentally appropriate curriculum for the education component, the program provides health and nutrition services, social services, parent involvement services, and some programs receive special funding to provide services to the parents in the areas of employment, literacy and substance abuse prevention. Through the requirement for a policy council with veto power over key aspects of the program, parents of children enrolled in the program play a strong role in shaping the policies which govern it.

Head Start is a community-based program sponsored by about 1400 grantees and 600 delegate (sub-grantees) agencies (who may be public or private non-profit agencies). Funding ($3.3 billion in FY 1994) is provided directly from Federal Regional offices to the grantees without State involvement, although a formula in the Head Start Act requires that funds be distributed to the States based on their relative numbers of poor persons and AFDC recipients. Grantees operate with indefinite project periods with funding provided annually based on a refunding application. Each grantee has a defined and approved service area. When new funds are available for expansion of the program, existing grantees apply for expansion within their service area; unserved areas (counties or Indian reservations) are advertised for competition in the Federal Register.

Grantees must comply with an extensive set of Performance Standards and program-specific regulations, against which they are assessed once every three years. Grantees are given wide latitude to make choices about curriculum and other key aspects of their program, including technology applications, within the parameters of the Performance Standards and regulations.

Role of Technology in Head Start--

Technology can advance the mission of Head Start in various ways:

as a tool in the classroom. A number of programs have used computers in the classroom, including participation in a demonstration project funded in part by hardware contributions from IBM. Head Start is involved in the planning and field testing of PBS's Ready to Learn program.

as a way of training classroom teachers. Through a grant to the South Carolina

Educational Television Network, a satellite training program for Head Start programs in remote areas has been successfully developed and implemented. The program results in satisfying part of the requirements for the Child Development Associate (CDA) credential.

as a resource to Head Start programs. A national bulletin board system (BBS) is currently in use. Potentially, Head Start may be part of a national interactive information system in conjunction with the National Head Start Association and the Department of Commerce.

as a learning tool for parents. Grantees are currently using a variety of applications in teaching literacy, providing job skills development training, and parenting skills).

as a tool to reach special populations. Head Start has funded three demonstration programs to explore the use of technology to meet the needs of children with disabilities.

Outlook for FY 1995 and 1996

Although Head Start has ongoing programmatic authority for RD & E and for Training and Technical assistance to grantees which could be used for technology applications, funds for FY 1995 have for the most part already been committed. Individual grantees may apply to purchase technology in their annual refunding applications and in applications for "one-time" purchases when funds are available.

SCHOOL TO WORK OPPORTUNITIES
U.S. DEPARTMENT OF EDUCATION ★ U.S. DEPARTMENT OF LABOR

DATE: July 26, 1994

MEMORANDUM FOR: DR. STUART STARR
GARY BRIDGEWATER

FROM: DENNIS LIEBERMAN
Representing Labor/Education
School-to-Work Opportunities Team

SUBJECT: School-to-Work Opportunities Outline
For Task Force on Learning and Technology

This memorandum follows up on Task # 6 "Use of Technology in Major Federal Programs" as requested by the White House Task Force on Learning and Technology.

Attached is a brief outline on possible applications of learning technology in relation to the School-to-Work Opportunities Act. It is based upon the instructions provided to me by Deputy Assistant Secretary Rob Portman (in Labor's Office of the American Workplace) who has been attending the Task Force meetings.

The School-to-Work Opportunities Act is jointly administered by the Departments of Labor and Education. The outline reflects a joint effort between myself (representing the Department of Labor) and Deputy Assistant Secretary Patricia McNeil (representing Education) on behalf of the Team.

cc: Rob Portman
Patricia McNeil
Jack Rapport

Outline For White House Task Force On Learning And Technology
Task # 6 Use of Technology In Major Federal Programs

School-to-Work Opportunities

I. Mission of The Legislation:

A. To create, through seed capital grants to State and local partnerships coupled with technical assistance, school-to-work opportunities systems in each State.

B. Such systems must:

1. Be part of comprehensive educational reform.

2. Integrate Goals 2000 and further the national education goals.

3. Integrate academic and occupational learning.

4. Integrate school-based and work-based learning.

5. Provide performance-based opportunities for all students: portable credentials; preparation for high skill/wage first jobs; linkage of secondary and postsecondary education (including 4-year college).

6. Build on and advance promising activities.

II. How Technology Can Help Advance The Purpose and Mission:

A. Learning Technology can be used in the STW Initiative at the grantee level to:

1. Link the schoolroom and workplace geographically and in subject matter content.

2. Provide non-traditional means of assessment.

3. Provide innovative, self-paced curriculum and instruction as well as creative and valid means for measuring performance against industry skills standards.

4. Assist students working with labor market information in order to identify possible career choices by the 11th grade.

5. Manage the availability and distribution of work-based learning opportunities, industry mentors and other connecting activities as defined by the Act.

6. Manage student and program information.

7. Serve as a focal point for learning in emerging careers.

B. Technology can be used in the STW Initiative at the national level to:

1. Network access to best practices, working models and information.

2. Bring businesses, schools, labor unions, parents, students, and other major stakeholders together in various learning community configurations.

3. Create electronic conferences, training sessions, and thematic developmental opportunities.

4. Transmit, share, and analyze system performance data from the State and local levels.

5. Provide instant access to industry skills standards.

6. Improve the linkages between secondary and post-secondary education.

C. What Is Already Being Done?

1. Venture Capital Grants are being made to State and Local partnerships to build school-to-work systems. Innovative use/application of technology is encouraged and an allowable cost under the published Solicitations for Grant Award.

2. Technical assistance funds earmarked under the Act's "National Activities" may be used to explore the use of learning technology as well as monies to be dedicated towards research and evaluation.

III. Programmmatic Authority

A. The School-to-Work Opportunities Act of 1994.

B. The Job Training Partnership Act.

C. The Carl Perkins Act.

IV. Possible Decisions For 1995 and 1996

A. To promote, encourage, and "incent" the use of learning technology through subsequent State and Local solicitations for grant award to a greater extent.

B. To focus technical assistance and research more heavily on the application of learning technology.

C. To use "National Activities" funds to operate pilot technology demonstrations for possible replication.

V. Possible Limitations On Authority

A. Dependent on subsequent Congressional appropriations.

B. Provisions limiting technology design and/or purchase contained in the Job Training Partnership Act, the Carl Perkins Act, and other Education laws cited in the legislation which might not be waivable under the current authority granted by the School-to-Work Opportunities Act.

DATE: August 2, 1994
TO: Rob Portman
FROM: Mike Schmidt
RE: Teleconference on TLC Task #6

Per your request, we are going to attempt to hold a conference call on Thursday, August 4, at 1:00 with the Technology and Learning Challenge Task #6 workgroup. The purpose of the call will be to bring everyone up to speed on where we are, what is needed for August 8, and where we would like to go from here. Henry Kelly's assistant Barbara Bernstein will be working to set this up. For technical reasons, however, I would like to ask you a favor: could you pull all of the DOL people involved in this project (according to your list they are you, Dennis Leiberman, John Channing, Brian Shea, and Jim Vollman) into your office and put them on speakerphone for the conference call? We are trying to do the same over here -- it just makes the conferencing process much easier to cut down on the number of connections. Please give me a call at 456-5567 and let me know if you are able to do this. Thanks!