

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY 2 - Applied Research	PE NUMBER AND TITLE 0602785A - Manpower/Personnel/Training Technology	PROJECT 790					
COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate
790 PERSONNEL PERFORMANCE & TRAINING TECHNOLOGY	11658	15175	14335	14591	14879	15148	15434

A. Mission Description and Budget Item Justification: The objective of this program element (PE) is to provide the scientific and technical basis for personnel selection, leader development, and training for Future Combat Systems and the Objective Force. This applied research program will provide advanced tools to improve the selection and classification procedures to ensure the right person is placed in the right job, determine leader skills and requirements, and provide the behavioral technologies required for the development of effective individual and collective (unit) training strategies. Research topics include training strategies for the digitized battlefield, training strategies in simulated environments, optimum designs and utilization of simulators and training devices to achieve maximum learning at minimum cost, and modernization of the selection and classification systems to maintain warfighting capabilities for future forces. Research in this PE is consistent with the Army Science and Technology Master Plan, the Army Modernization Plan, and Project Reliance and supports the Human Systems - Personnel Performance and Training - Defense Technology Area. This Program Element is managed by the U.S. Army Research Institute (ARI) for the Behavioral and Social Sciences. The program element contains no duplication with any effort within the Military Departments. This program supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

FY 2001 Accomplishments:

- 11658 - Identified potential training issues emerging from the Initial Brigade Combat Team (IBCT) that are relevant to the Future Combat Systems (FCS).
 - Developed, demonstrated, and evaluated extended instructional modules for versatile thinking skills required by division staff.
 - Evaluated the use of virtual environments for night operations training.
 - Prepared guidelines on the training, transfer, and adaptability of digital skills as a function of training method.
 - Incorporated prototype system for computer recognition of human gestures into Virtual Environments for dismounted soldier training and mission rehearsal.
 - Determined the relationships between 21st century NCO attributes and mission performance measures to identify the best predictors of success.
 - Assessed effectiveness of Dismounted Leader After Action Review System.
 - Recommended procedures to enhance transfer of performance across upgrades of digital systems.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY
2 - Applied Research

PE NUMBER AND TITLE
**0602785A - Manpower/Personnel/Training
Technology**

PROJECT
790

FY 2001 Accomplishments: (Continued)

- Described changes in unit behavior associated with digitization.
- Developed and evaluated simulator instructional support features for Initial Entry Rotary Wing phases of flight training.
- Completed upgrades to Simulator Training Research Advanced Test bed for Aviation (STRATA).
- Identified and developed preliminary new screening tools for recruiters.

Total 11658

FY 2002 Planned Program

- 15175
 - Develop simulation-based program of instruction for OH-58D aircraft qualification using advanced methodologies adapted from Intelligent Flight Trainer (IFT).
 - Identify simulation collective task training requirements for current and future aircraft and for joint operations.
 - Implement and evaluate VE-based training system enhancements such as improved locomotion and visual systems, and voice and gesture control of simulated subordinates.
 - Identify variables that could influence performance in network-collaborative environments.
 - Develop graded measures of digital proficiency.
 - Identify common demands for future Army initial entry jobs.
 - Identify or develop measures and initiate validation of new screening tools for recruiters and recruiting station commanders.
 - Determine the best indicators of future NCO performance.
 - Pilot test new approaches to leader development within the Command and General Staff Officer's Course; initiate follow-up assessment of the impact on leader performance in the field.
 - Identify and select critical FCS C4ISR skills for commanders and staffs.
 - Refine existing Think Like a Commander leader development tool to support multi-echelon vignettes; implement pilot versions of the new system and initiate field trials.
 - Develop prototype computer-based situational awareness skills training for small unit leaders.
 - Implement experimental leader development program at Command and General Staff College (CGSC).
 - Field test small unit leader situational awareness measurement instruments.
 - Identify or develop candidate interventions to reduce first term attrition.

Total 15175

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)**February 2002**BUDGET ACTIVITY
2 - Applied ResearchPE NUMBER AND TITLE
**0602785A - Manpower/Personnel/Training
Technology**PROJECT
790**FY 2003 Planned Program**

- 14335 - Develop simulator and in-flight performance measurement technologies for determining training outcomes in the school and in field unit collective and joint training.
- Conduct experiments in virtual simulation to assess alternative methods/techniques for future C4ISR tasks.
- Develop prototype training for efficient digital-skill acquisition, retention and transfer within selected digital environments.
- Develop general principles of training and transfer for TRADOC use in digital skill acquisition programs.
- Evaluate the effectiveness of alternative aviator skill sustainment approaches for collective task training in field units, including in-flight training.

- Develop model for predicting first-term enlisted attrition and validate attrition interventions.
- Complete predictive validation of new screening tools for Army recruiters and station commanders.
- Identify candidate attributes for successful future job performance in the Objective Force.
- Develop prototype enlisted promotion measures geared to the needs of the 21st Century.
- Establish requirements for PC-based prototype system with VE-based simulation capability for training dismounted soldiers and units.
- Begin implementing materials on the worldwide web to support officer self-development of conceptual skills.

Total 14335

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY
2 - Applied Research

PE NUMBER AND TITLE
**0602785A - Manpower/Personnel/Training
 Technology**

PROJECT
790

<u>B. Program Change Summary</u>	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2002 PB)	11759	16315	13530
Appropriated Value	11869	15315	0
Adjustments to Appropriated Value	0	0	0
a. Congressional General Reductions	0	-140	0
b. SBIR / STTR	-250	0	0
c. Omnibus or Other Above Threshold Reductions	0	0	0
d. Below Threshold Reprogramming	148	0	0
e. Rescissions	-109	0	0
Adjustments to Budget Years Since FY2002 PB	0	0	805
Current Budget Submit (FY 2003 PB)	11658	15175	14335