



Empowering Our
Greatest Asset

Return on Investment (ROI) and Return on Value (ROV) of Army's Competitive Professional Development (CPD)

Presenter:

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Agenda

- Current financial situation
- Description of Army's CPD/ADT program
- Methodology of our analysis
- ROI and ROV defined
- Current data situation
- Demographic comparison
- Comparison of ratings
- Longitudinal analysis
- Awards
- Turnover
- Findings and conclusions
- Recommendations for Army

Questions Explored

- How do CPD graduates compare to non-participants demographically?
- How do CPD training participants compare to non-training participants in performance?
- Are CPD graduates experiencing success as a result of these programs?
- How does CPD training impact individual-level and Army-level outcomes?

Current Financial Situation

- Financially tight times:
 - Programs need to defend their budgets
 - Managers must demonstrate fiscal responsibility
- Civilian personnel programs are usually the first to experience budget cuts
 - Lack of appreciation for their impact on the mission
 - Can be seen as overhead
- Training is frequently one of the first places in personnel that gets cut
 - Lack of understanding of the importance or effect of training
- Necessary to demonstrate value of these programs in financial terms
- Political expedience to demonstrating the value of programs and proper fiscal stewardship.
 - ROI/ROV can do both

Army's CPD/ADT program

- Competitive Professional Development (CPD) is part of the Army Civilian Training, Education, and Development System (ACTEDS)
 - 2009: 5,952 students and \$14.6 million
- Four types of training:
 - Academic classes
 - Training with Industry (TWI)
 - Developmental assignments
 - Academic Degree Training (ADT)
- Selection is competitive – each employee applies with supervisor's permission, approved up the chain to the Functional Chief Representative (FCR) of each career field
 - Panel evaluations, performance appraisals, and recommendations are all considered
 - Can not use training to obtain professional credentials (i.e., professional licenses, certifications, and examinations)

Methodology of Our Analysis

- **Phase One – Qualitative**
 - Reviewed published material on calculating ROI and ROV of training programs
 - Conducted phone interviews with subject matter experts and consultants.
 - Government - Navy, National Security Agency, Office of Personnel Management
 - Private sector - The Conference Board, Marriott Corporation
 - Interviewed FCRs and Points of Contact (POCs) for each career program

Methodology of Our Analysis

- **Phase Two– Quantitative**
 - Collected data from Army databases
 - Training incidents from January 2005 to December 2010
 - Merged transactional information into longitudinal data
 - Database was 60 variables long, over 350,000 records, for a total of nearly 20 million cells of data
 - Compared performance ratings, awards, promotions, and turnover between employees with CPD training and employees without the training.
- **Phase Three – Continuous Feedback System**
 - Will develop standardized ROV measurements for integration into Army's Competency Management System (under development).
 - Will collect data from employee's application, training and post-training impact

Proposed Variables for Continuous ROV Monitoring and Calculations – The Ideal

Reaction/ Training Satisfaction

- End of course evaluation form
- Supervisor evaluation form

Learning

- Grades
- Annual evaluation questionnaire

Application and Implementation

- Capstone project
- Action plans

Business Impact

- Follow-up questionnaires
- Turnover reduction surveys and studies
- Morale and engagement studies

Return on Value

- Quantify impact of above
- Survey leaders on the value of training

Return on Investment

- Return on Investment (ROI) is a cost/benefit calculation
 - Quantifies the results and impact of programs
- $$\frac{(\text{Benefit of program} - \text{cost of program})}{\text{cost of program}} \times 100$$
- Developed in private sector, less applicable in government and military
 - Easier to measure ROI in sales increases, production outputs, or changes to the bottom line
 - How to measure military's mission in financial terms?
 - Jobs in government and military can be difficult to quantify
 - Employee may not have noticeable impact if performing job correctly
- ROI can generate seemingly inflated numbers - Return on Value (ROV) is one alternative
 - More holistic, and it focuses attention on impact on other measures and comparisons beyond ROI numbers

ROI – Voluntary Separation Reduction

- CPD can reduce voluntary separation
 - Continuation of Service Agreements (CSAs) or increased morale and dedication of employees
 - Will become a more cogent argument for Army as more career programs with hard-to-fill positions and mission critical occupations (MCOs) become available for CPD funding
 - Replacement of voluntary separations has been estimated by researchers to cost an organization between 1/3 to 150% of the departing employee's salary
- Example One: ROI to save the replacement costs of one person earning \$65,000 (33% estimate) = 519%
 - 1/3 of \$65,000 salary = \$21,667
 - $(\$21,667 - \$3,500) / \$3,500 \times 100 = 519\%$
- Example Two: ROI to save the replacement costs of one employee earning \$120,000 (150% estimate) = 5,043%
 - 150% of \$120,000 salary = \$180,000
 - $(\$180,000 - \$3,500) / \$3,500 \times 100 = 5,043\%$

ROV Approach

- These examples illustrate how ROI can produce exponentially high results
 - May be questioned by leadership, accounting or financial auditors, or by the media
- We conducted other analyses to measure the ROV impact of CPD's impact:
 - Performance ratings
 - Ratings over time
 - Other outcomes
- Limitations in current data make this more difficult (see following slides)

Current Data Situation - RASS

- Training data from Army's Resource Allocation Selection System (RASS)
- Requested all training incidents from 2005 to 2010
 - Hours, classes, and costs
 - Asked POCs to review and correct their career programs' data

Current Data Situation - DCPDS

- Defense Civilian Personnel Data System
- Requested employee demographic and outcome data from DCPDS
- Transactional database – list of Nature of Action (NOA) codes for each employee
 - Not designed to be a longitudinal database and was not designed for these types of analyses

Current Data Situation - Ratings

- Two systems that can not be analyzed together
 - National Security Personnel System (NSPS)
 - Pay-for-performance- system created to pay out awards and promotions to reward higher performers
 - Few employees received 4s and 5s
 - Total Army Performance Evaluation System (TAPES)
 - Not a pay-for-performance and fewer payouts to higher performers
 - Most employees received 4s and 5s
 - An employee receiving 5s in TAPES could receive a 3 in NSPS

Demographic Comparison of CPD and non-CPD employees

	Non-CPD	CPD
African American or Black	15%	17%
Asian	5%	6%
American Indian	1%	1%
Native Hawaiian and Pacific Islander	0%	1%
Hispanic	5%	4%
White	71%	69%
Other	2%	3%
Male	66%	66%
Female	34%	34%
Average Age	48.40	48.56

- Demographics of employees selected for CPD mirror demographics of workforce as a whole.

Comparison of Performance Ratings

	NSPS		TAPES	
	No CPD	CPD	No CPD	CPD
Average rating	3.85	4.02	4.78	4.83

- CPD employees received higher average ratings irrespective of their pay plan
- We did not anticipate seeing a difference in TAPES (because of low variability in ratings) but it emerged

Ratings Over Time - NSPS

NSPS Annual Ratings – 4s and 5s and Means				
Ratings	Year	% 4	% 5	Mean
Non-CPD	2005	21%	49%	4.18
CPD		5%	67%	4.38
Non-CPD	2006	17%	63%	4.42
CPD		8%	77%	4.62
Non-CPD	2007	19%	39%	3.96
CPD		30%	52%	4.34
Non-CPD	2008	37%	9%	3.53
CPD		42%	9%	3.60
Non-CPD	2009	40%	6%	3.51
CPD		46%	7%	3.60
Non-CPD	2010	43%	5%	3.51
CPD		48%	6%	3.60

- Every year a greater percentage of CPD employees than non-CPD employees in NSPS earned more 4s and 5s - and had higher average ratings

Ratings Over Time - TAPES

TAPES Annual Ratings – 4s and 5s and Means				
Ratings	Year	% 4	% 5	Mean
Non-CPD	2005	12%	85%	4.82
CPD		9%	89%	4.87
Non-CPD	2006	11%	86%	4.83
CPD		8%	90%	4.88
Non-CPD	2007	12%	85%	4.82
CPD		10%	89%	4.87
Non-CPD	2008	13%	84%	4.81
CPD		11%	88%	4.86
Non-CPD	2009	14%	82%	4.79
CPD		10%	88%	4.86
Non-CPD	2010	23%	69%	4.59
CPD		20%	73%	4.66

- Every year a greater percentage of CPD employees than non-CPD employees in TAPES earned more 4s and 5s - and had higher mean ratings
- The effect was less pronounced in employees in TAPES than for employees in NSPS

Time Spent in Training

NSPS Employees					
	2006	2007	2008	2009	2010
No CPD	4.42	3.98	3.54	3.52	3.52
CPD Training	4.82	4.16	3.66	3.59	3.60
CPD Education	5.00	4.23	3.66	3.64	3.72
TAPES Employees					
	2006	2007	2008	2009	2010
No CPD	4.83	4.82	4.81	4.79	4.59
CPD Training	4.92	4.88	4.90	4.89	4.67
CPD Education	4.93	4.91	4.91	4.89	4.65

- CPD trained employees were divided into two groups – less than 120 hours (“CPD Training”) and 120 and more hours (“CPD Education”)
- Employees with CPD Education received higher average ratings (most of the time) than employees with CPD Training Both had higher ratings than employees with no CPD at all

Longitudinal Analysis of Ratings

- CPD is designed to help top employees improve their performance
 - Not remedial or basic skills training
- Would these employees have achieved these results without this training?
- To answer this we compared employee ratings one year before, during, and one year after the training incident was received
- Small sample of employees was available
 - Removed anyone with two consecutive years of training
 - To isolate the impact of one training incident
 - Removed anyone not in NSPS or TAPES during all three years
 - Can not compare ratings of same person from two different plans
- Did not expect to see much of an impact
 - TAPES would yield little variation in scores
 - Employees already scoring 4s or 5s in either system would have difficulty improving on their already high ratings

Longitudinal Analysis - NSPS

NSPS Ratings Before and After Training in 2008 (2007 – 2009)	Non-CPD	CPD
Went down	13%	13%
Stayed same	55%	40%
Went up	32%	47%

NSPS Ratings Before and After Training in 2009 (2008 – 2010)	Non-CPD	CPD
Went down	20%	20%
Stayed same	47%	43%
Went up	33%	37%

- In NSPS nearly half (47%) of the employees who had CPD training in 2008 saw an increase in their ratings compared to one-third (32%) of non-CPD employees
- Among those employees receiving CPD in 2009, 37% of CPD trained employees compared to 33% of non-CPD trained employees sustained ratings improvements

Longitudinal Analysis - TAPES

TAPES Ratings Before and After Training in 2006 (2005 – 2007)	Non-CPD	CPD
Went down after training	10%	8%
Stayed same after training	80%	85%
Went up after training	10%	7%

TAPES Ratings Before and After Training in 2007 (2006 – 2008)	Non-CPD	CPD
Went down after training	13%	11%
Stayed same after training	78%	83%
Went up after training	9%	5%

- We did not see much difference between CPD and non-CPD employees in this analysis of the TAPES employees

Longitudinal Analysis - TAPES

TAPES Ratings Before and After Training in 2008 (2007 – 2009)	Non-CPD	CPD
Went down after training	13%	10%
Stayed same after training	78%	82%
Went up after training	9%	8%

TAPES Ratings Before and After Training in 2009 (2008 – 2010)	Non-CPD	CPD
Went down after training	9%	8%
Stayed same after training	85%	84%
Went up after training	7%	8%

- We did not see much difference between CPD and non-CPD employees in this analysis of the TAPES employees

Awards

- Two types of awards
 - Ratings-based awards – connected to performance ratings
 - Correlated (and same results) as ratings awarded in NSPS
 - On the Spot Cash Awards and Special Act or Service Awards
 - Non-ratings based
 - Did not see any differences between CPD and non-CPD employees

Turnover

- Voluntary Separations
 - Were approximately the same or slightly higher for CPD employees than for non-CPD employees
- Retirement
 - The rates were about the same in most years
 - In some years CPD employees had more retirements, in other years this was reversed

We used WASS+ Specifications on NOA Codes to compute separations and retirements

Findings and Conclusions

- Army career programs have strong commitments to maximizing the value of their training dollars
- Programs do not have formal ROI measures but instead rely on “intuitive ROV” in decision-making
- No bias in who receives training by age, RNO, or gender
- No consistent impact on awards, promotions, or separation or retirement
- CPD employees consistently get higher performance ratings than non-CPD employees
 - Improved levels of job performance were seen when we compared ratings before and after CPD training
 - Other factors may have impacted performance - did what we could to control for them
- Positive impact of CPD training was suggested by indirect measures of individual and Army-level outcomes

Recommendations for Army

- Continue using the intuitive ROV already in use and further develop and refine the measures
- Link employee utilization plans into CPD requests and make them an integral part of the way Army measures training ROV
- Enforce Continuation of Service Agreements (CSAs)
- Mandate the completion of a job-related capstone project connected to organizational goals at the conclusion of training
- Identify the demographics and interest of the CPD-eligible workforce and design the training programs in consideration of these factors

Recommendations for Army

- Conduct due diligence on training programs and compare different programs to ensure the most value for the money
- Reduce “back on the job” distractions for those in full-time training
- Continue to train leadership and management skills
- Use mentoring and shadowing as cost-effective training programs

Recommendations for Army

- Improve communications with careerists by promoting training programs and encouraging applications
- Provide career guidance, but emphasize to higher graded employees (e.g., GS13s and higher) that they are responsible for their own careers
- Ensure senior leaders model behaviors that demonstrate interest in training
- Encourage peer-to-peer information sharing about these training programs