THE PRESIDENT'S TASK FORCE ON FEDERAL TRAINING TECHNOLOGY

Report to the President

Technology: Transforming Federal Training

July 2000

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July 28, 2000

The President of the United States
The White House

Dear Mr. President:

We are pleased to present our final report *Technology: Transforming Federal Training*. This report describes how the Task Force on Federal Training Technology implemented your Executive Order 13111: *Using Technology to Improve Opportunities for Federal Government Employees*. It also presents our research findings, our accomplishments, and our recommendations for accelerating the use of learning technology across the Federal Government.

The Task Force members and their agencies are excited about your emphasis on training as an investment in Federal government employees. They firmly believe that the public's ever-changing demand for government services makes accessible training for Federal employees a priority if we are going to have a skilled and responsive workforce. Technology is a key element in our ability to provide more training opportunities for all federal employees.

We now need your support to translate these recommendations into initiatives that will make e-Learning a reality for the Federal workforce. Our proposed recommendations will help assure that Federal employees are prepared to meet the complex demands of the American public in the growing e-Society.

Thank you for bringing focused attention to the need for the Federal Government to aggressively seek ways to incorporate e-Learning into the training of its workforce. We look forward to discussing this report with you, with members of your Administration, and with the members of Congress.

Respectfully,

Janice R. Lachance

Janice R. Lachance
Chairperson

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"America's competitiveness and the prosperity of our people in a changing economy depend increasingly on high-skill high-wage jobs. Realizing our potential will require investing in education and learning for all of our people throughout their lifetimes."

Al Gore, Vice President of the United States
Summit on 21st Century Skills for 21st Century Jobs
January 12, 1999

Executive Summary

As we cross the threshold to the new millennium, the way we live, work, and conduct business is being radically changed by the e-society. Private sector companies are constantly being forced to redefine their business model to meet customer demand for products and services provided via the Internet and other forms of e-commerce. This has produced a continuous need for skills enhancement and retraining that can only be efficiently addressed by using technology-based training. Public expectations for services from government agencies are now higher. To meet this new level of expectation, we need to ensure that Federal employees take full advantage of these new learning technologies and that they acquire the skills and learning needed to succeed in a rapidly changing workplace. Access to training is the key to a competent and responsive workforce. The Federal government will need to evolve with the Internet age and move aggressively toward using learning technology to provide "anytime" and "anyplace" training opportunities to its workforce.

Executive Order 13111

On January 12, 1999, President William J. Clinton moved to establish a coordinated effort to access and promote the use of technology to train the Federal workforce when he issued *Executive Order 13111, Using Technology to Improve Training Opportunities for Federal Government Employees.* This directive established the President's Task Force on Federal Training Technology with membership from a multidisciplined cadre of senior-level representatives of the Federal government. The cadre's principal charge was to develop a policy to "make effective use of technology to improve training opportunities for Federal government employees."

Task Force Interim Accomplishments

During the course of its work, the Task Force achieved several interim accomplishments that included:

- **Implementing 13 Agency Individual Learning Account (ILA) Pilot Programs** — These pilots will provide the Office of Personnel Management (OPM) with the empirical data necessary to determine the viability of establishing ILA programs government-wide.

- **Establishing a Joint OPM and Office of Management and Budget (OMB) Initiative to Help Agencies to Better Plan the Allocation of Training Resources** — This OPM and OMB alliance is working to produce a requirement in the FY-2002 OMB Budget Circular A-11 to direct agencies to annually develop specific training goals and measures aligned with mission requirements. In support of this initiative, OPM will publish guidance to help agencies strategically plan training.

- **Developing Consensus Standards for e-learning** — As a result of extensive cooperative efforts across the public and private sectors, on January 31, 2000, the Department of Defense (DOD), in consultation with the National Institute of Standards and Technology, released the *Sharable Courseware Reference Model (SCORM).* This pivotal work provides specifications and guidelines that will be the foundation for how organizations will use learning technologies to build and operate the e-learning systems of the future. DOD also established the Advanced Distributive Learning (ADL) Co-Laboratory to foster collaborative research, development, and assessment of the common tools, standards, content, and guidelines for the Advanced Distributed Learning Initiative.

- **Administering the First Government-wide Electronic Survey on Learning Technology** — The data gathered via a web-based survey from 349 respondents in 33 different agencies provided the most comprehensive benchmarking of Federal efforts to implement learning technology ever documented.

- **Establishing the Training Technology Implementation Group (TTIG)** — This interagency group of more than 40 project leaders was formed to help promote collaborations and share information about agency learning technology implementations among agencies.

These interim accomplishments, as impressive as they were, only highlighted the tremendous challenges the Task Force faced in finding ways to accelerate the acceptance and effective use of learning technology by Federal agencies.

Findings and Recommendations

The Task Force divided its work into six focus areas and established sub-groups to conduct research and provide recommendations to address the President's charge. Using a consensus approach, the full Task Force agreed that the President should be asked to support the following slate of recommendations:

1. Create a Steering Committee and One-Stop-Shop for Federal Training Technology — Agencies have recognized the tremendous payoffs that come with providing technology-based training opportunities to their employees. The Task Force found isolated examples of successful learning technology implementations. However, the lack of a coordinated government-wide effort to promote interagency collaborations and information sharing inhibits the widespread adoption of effective learning technologies. A Federal Learning Technology Steering Committee charged with establishing government-wide strategies to accelerate these implementations is critically needed. This interagency body would be responsible for an annual report to the President on the status of the Federal government's efforts to use learning technology. It would also provide coordination for a Federal Learning Technology Resource Center that will serve as the "one-stop-shop" for agencies seeking assistance and information on implementing technology-based training.

2. Make Training a Strategic Planning Priority for All Agencies — Several recent studies in both the private and public sectors have shown that integrating and aligning training needs with corporate strategic goals positively impact the bottom line. A review of Federal strategic plans revealed that training is usually not an integral part of agency plans. The Task Force, therefore, recommends that OPM and OMB issue a requirement and guidance for all agencies to establish specific training goals and measures as a part of their Government Performance and Results Act (GPRA) Annual Performance Plans.

3. Establish a Government-wide Fund for Learning Technology Innovation Grants — Agencies identified a lack of funds for research and development (R&D) and start-up costs as a major barrier to implementing technology-based learning. The Task Force recommends that an OPM-managed Innovation fund be created to fund agency requests for assistance. The funds will offset the research and start-up costs associated with an effort to implement technology-based training. OPM would convene a blue-ribbon panel to review agency grant requests and give priority to proposals that involve interagency collaborations and external partnerships.

4. Launch a Campaign to Educate Decision-Makers on the Advantages of Using Learning Technology — Senior agency officials who have the authority to approve learning technology implementations often do not fully understand or appreciate the potential of learning technology. This predicament is exacerbated by a skills gap among human resource development professionals who are not prepared to make a compelling business case to support an investment in learning technology. The Task Force recommends that the deterrent effects of these problems be addressed via a multifaceted awareness and skills-building campaign. This effort should be initiated and coordinated by OPM and should be targeted at senior-level decision-makers and human resource development professionals charged with agency efforts to implement learning technology.

5. Develop a Program to Promote Existing Procurement Flexibilities for Agency Acquisitions of Learning Technology — Research affirms that procurement mechanisms currently available are more than capable of supporting agencies' transition to technology-based learning systems. Many, however, perceive the procurement process as too inflexible to efficiently service their needs. The Task Force's analysis showed that these perceptions are fueled by a general lack of understanding of the current flexibilities in the Federal procurement system. It is, therefore, recommended that a coordinated[1] government-wide awareness campaign be initiated for decision-makers and other stakeholders involved with selecting various options and methods for buying and sharing learning technology.

Conclusions

The Federal government's ability to provide the services and products that the American public expects depends on the talents and skills of the Federal workforce. Federal workers cannot meet the complex challenges of the e-society without continuous learning and development. Using technology to fulfill a growing need for retraining and new skills is no longer an option; it is a necessity. The recommendations of the Task Force, if accepted by the President, will create the foundation needed to accelerate the use of learning technology in the Federal government and strengthen the growth of a world-class Federal workforce.

[1] The General Services Administration (GSA), the Office of Federal Procurement Policy (OFPP), and the Office of Personnel Management (OPM) should join forces with representatives of the Procurement Executive, Human Resources Development, Chief Information Officers, and Chief Financial Officers Councils.

President's Task Force on Federal Training Technology

Report of Final Recommendations

July 2000

Report of Final Recommendations

Introduction: Technology — Transforming Federal Learning

The explosion of technological innovations and the Internet are positively affecting all sectors of our society. One concrete example is the private sector's acceptance of technology-based learning as a viable method for delivering training. Private sector employers are using distributed learning systems to provide employees with "just-in-time" training to satisfy the rapidly changing demands of the marketplace. This transition has made them more competitive and improved their responsiveness to customers.

The public's increasing desire to get services on-line is radically changing the way it wants to interact with its government. The flexibilities of the e-society bring with it a continuous need for employee retraining and skills upgrades. The Federal government must accelerate its use of technology to ensure the availability of readily accessible and high quality training to its workforce.

A wide divergence exists in the training needs of Federal employees. These needs range from training in basic literacy and math skills, information technology, leadership, and management to complex defense training scenarios. To be responsive to these needs, training must be delivered using a combination of traditional and nontraditional means. Technology-based training affords employees access to training that fits their schedule, allows them to proceed at their own pace, and lets them decide when to proceed after having mastered a topic. Research also shows that when training is provided using a "just-in-time" model, the efficiency and value of the training are enhanced.

Toward these ends, the Federal government is increasing its use of and investment in learning technology. A variety of independent initiatives, such as training delivered through CD-ROMs using computer-based training (CBT), satellite down-links, expert systems, Internet/Intranet based systems, and sophisticated 3-D virtual simulations, represent a monumental attempt to integrate technology into the way training is delivered. However, more needs to be done to accelerate and coordinate learning technology integration so that new technology-based training opportunities are available more broadly to Federal employees.

Two key elements will play a major role in facilitating this integration. First, common software and system standards need to be adopted across the public and private sectors to enable programs to be exchanged and reused on a large scale. Second, agencies must undergo a cultural change that encourages more interagency collaborations and private sector partnerships to aggressively promote e-learning systems.

Task Force Formation

To address this critical need for change, President William J. Clinton, on January 12, 1999, issued Executive Order (E.O.) 13111: *Using Technology to Improve Training Opportunities for Federal Government Employees.* This groundbreaking directive established the President's Task Force on Federal Training Technology, composed of senior-level representatives of the Federal government, and charged them with developing a policy to "make effective use of technology to improve training opportunities for Federal government employees." The E.O. specifies that the focus of the Task Force should go beyond training and should encompass the broader concept of learning:

"A coordinated Federal effort is needed to provide flexible training opportunities to employees and to explore how Federal training programs, initiatives, and policies can better support lifelong learning through the use of learning technology."

OPM Director Janice Lachance serves as the Chair, and Assistant Secretary for the Office of Administration and Management at the Department of Labor, Patricia W. Lattimore, serves as Vice Chair of the Task Force. Emzell Blanton Jr., a senior advisor to the Director of OPM, serves as the Executive Director.

The 63 Task Force members and alternates were appointed from a cadre of senior-level representatives from 25 Federal agencies and four interagency councils. Having representatives from the Human Resources Development (HRD), Chief Financial Officers (CFOs), Chief Information Officers (CIOs), and Human Resource/Personnel (HR) councils makes this one of the most professionally diverse groups ever assembled to address training in the Federal government.

The work of the Task Force and its sub-groups are highlighted in the following sections.

Methods and Research

Given the high number of deliverables in the Executive Order, the work of the Task Force was broken into six focus areas and sub-groups established for each. The focus areas were:

- Individual Learning Accounts
- Learning Technologies
- Financial Investments
- Training Technology Implementation
- Procurement Options
- Standards

Each Task Force representative was assigned to one of the six sub-groups using a self-nomination process. After more than a year of conducting research using a variety of methods, which included focus groups, surveys, and personal interviews, each sub-group issued a comprehensive report of its findings with draft recommendations. The sub-group reports provide detailed information on the strategies and methods used to gather information and formulate recommendations.

Each report is catalogued on the President's Task Force on Federal Training Technology web-site at www.technology-taskforce.gov/reports.html

These reports will serve as historical benchmarks for the Federal government's efforts to implement learning technology at the beginning of the new millennium. They will also be an invaluable resource for agencies seeking information on strategies, resources, and pitfalls of initial ventures into implementing technology-based learning systems.

Recommendations and Findings

Together the Task Force reviewed all draft recommendations and consolidated them into five final recommendations, which are detailed in the next section. These recommendations are presented in the following manner: (1) the text of the recommendation

with a short narrative explanation, (2) a suggested agency or group of agencies that should be tasked with implementing the recommendation, and (3) a suggested timeframe for completing the actions required in the recommendation.

Recommendation from the Individual Learning Account Report: Establish Pilots for Individual Learning Accounts

The Individual Learning Account (ILA) Sub-Group submitted its report[2] on the feasibility of establishing ILAs for Federal employees to the Task Force in early June 1999. The report indicated that ILAs have great potential as tools for Federal agencies to allocate training resources and to ensure employee input, and they deserved further study.

On July 12, 1999, the Task Force sent the President a recommendation calling for a series of OPM-coordinated agency ILA program pilots. These programs would provide the empirical data to access the value added by ILAs and give OPM the information it needs to establish government-wide guidance.

In November 1999, after the President's approval of the ILA recommendations, OPM issued guidance for agencies to establish 17 ILA pilots among 13 agencies. Initial reports are due to OPM in October 2000. During the latter part of FY-2001, OPM will share "lessons learned" from the pilots and provide government-wide implementation guidelines.

Recommendation 1: Create a Steering Committee and One-Stop-Shop for Federal Training Technology

The **Learning Technology Sub-Group** was chartered to make recommendations on integrating the effective use of current and emerging training/learning technologies into the Federal government's efforts to provide more accessible and cost-effective training opportunities for its employees. Its survey identified four primary types of technology in use by the Federal government: (1) computer-based training (CBT), (2) the Internet/Intranet, (3) satellite television, and (4) videocassettes. Of these delivery venues, the majority of the technology-based training in use was noninteractive and considered low-tech by today's standards.

This Sub-Group also recognized the value and potential of establishing external partnerships with the private sector, academia, and other nonfederal stakeholders in the e-learning community. The Sub-Group, in conducting a study to determine their use by Federal agencies, found very few external partnerships and concluded that the Federal government is bypassing a constructive opportunity as a result.

[2] Individual Learning Accounts Focus Area Sub-Group Report — www.technology-taskforce.gov/reports.html

The Sub-Group also was asked to review current agency on-line training information systems to determine whether a likely candidate exists for a government-wide training information repository. After reviewing scores of agency specific systems, the Sub-Group recommended the adoption of the Department of Labor's (DOL) on-line Federal Learning Exchange (FLX). This system met all of the evaluation criteria. DOL is now working with the Task Force and other interested stakeholders to continually update and refine the system.

The *Learning Technology Sub-Group Report*[3] also indicates that agencies have recognized the tremendous payoffs that come with providing technology-based training opportunities to their employees. Several examples of successful learning technology implementations were found. In general, however, the lack of a coordinated government-wide effort to promote interagency collaborations and information sharing inhibits the widespread adoption of effective learning technologies.

A Federal Learning Technology Steering Committee charged with establishing government-wide policies and strategies to accelerate learning technology implementations is critically needed. This interagency body would be responsible for an annual report to the President on the status of the Federal government's efforts to use learning technology. It could also provide coordination for a Federal Learning Technology Resource Center. The Resource Center would serve as the "one-stop-shop" for agencies seeking assistance and information on implementing technology-based training in the Federal government.

Tasking:

OPM, in coordination with the Office of Science and Technology Policy, should prepare an Executive Order to:

- Establish the Steering Committee and outline its responsibilities, and
- Define the structure, funding, and staffing of the Resource Center.

The Training Technology Steering Committee should have six standing member agencies and five rotating member agencies each serving two-year terms. The six standing agencies should be:

Office of Personnel Management
For its role as the agency responsible for establishing government-wide training policy;

Department of Labor
For its leadership in the creation and use of Internet-based training databases as a part of its America's Career Kit, which includes the America's Learning Exchange and the Federal Learning Exchange;

Department of Defense
For its leadership in the creation of a consensus-based standard for learning technology software and systems, and sponsors of the Advanced Learning Distributive (ALD) Co-Laboratory;

Department of Commerce
For its leadership in promoting more commercial and intellectual collaboration between the Federal government and the private sector to accelerate the use of technology in training;

[3] Learning Technology Focus Area Sub-Group Report — www.technology-taskforce.gov/reports.html

General Services Administration

For its role as the leading procurement source for agencies seeking hardware acquisitions, and off-the-shelf learning technology software and learning-management systems; and

Office of Management and Budget

For its ability to ensure that agency budget submissions reflect and support investments in training technology.

The Steering Committee should determine the rotating agencies based on the value they add to the continuing effort to promote technology-based training solutions.

Timeframe:

Target Date for Issuance of Executive Order - October 16, 2000.

Recommendation 2: Make Training a Strategic Planning Priority for All Agencies

The **Financial Investments Sub-Group** was chartered to provide guidance to agencies on integrating training goals and measures into annual planning and budget processes. The Sub-Group's research showed that leading private sector companies view training as an investment that must be strategically and continually planned, budgeted, and evaluated. In contrast, its review[4] of the Federal process showed that training is usually not an integral part of agency strategic planning processes.

To address this critical shortfall, a recently formed alliance among the Task Force, OPM, and representatives of the OMB needs to complete the work it has underway to get agencies to integrate specific training goals and measures into the FY-2002 Annual Agency Performance Plans. Once in place, these new goals and measures would be governed by the same strictures of content and timeframe currently required of Government Performance and Results Act (GPRA) Agency Performance Plans.

Tasking:

OMB should establish a requirement for integrated training goals and measures as a principal element of an agency's Annual Performance Plan. Appropriate language should be added to the FY-2002 Budget Circular A-11.

OPM should publish guidelines for agencies seeking to strategically align training resources with mission requirements.

Timeframe:

OMB should complete revisions to its Budget Circular A-11 in time for agencies to include goals and measures in its FY-2002 Annual Performance Plans. OPM should publish its guidelines no later than October 1, 2000.

[4] Financial Investments Focus Area Sub-Group Report — www.technology-taskforce.gov/reports.html

Recommendation 3: Establish a Government-Wide Fund for Learning Technology

The Training Technology Implementation Group (TTIG) was established to facilitate more agency collaborations and information sharing. The Sub-Group has established four platform-specific focus areas, each having a lead agency, to promote interagency exchanges of ideas centered on a common implementation strategy. The group holds frequent meetings, that are usually highlighted by agency demonstrations of efforts to implement learning technology. With support from OPM, this Sub-Group will continue as a principal interagency forum for information sharing and dialogue associated with the implementation of technology-based learning systems.

A principal finding of this group was that a lack of funds for Research & Development and start-up costs is a major barrier to implementing technology-based learning. The Task Force recommends that an OPM-managed, competition-based Innovation Fund be created to fund agency requests for assistance. Assistance may also offset the research and start-up costs associated with efforts to implement technology-based training. OPM would convene a blue-ribbon panel to review agency grant requests and give priority to proposals that promote interagency collaborations and external partnerships.

Tasking:

OPM, working with the OMB, should develop a budget proposal to establish a Training Technology Innovations Grant Fund.

Timeframe:

The proposal should be completed in time for the FY-2002 budget appropriation.

Recommendation 4: Launch a Campaign to Educate Decision-Makers on the Advantages of Using Learning Technology

Senior agency officials who have the authority to approve innovative uses of learning technology for training often do not fully understand or appreciate the potential of learning technology. This is exacerbated by a skills gap among human resources development professionals who subsequently fail to make the compelling business case that is needed to support an investment in learning technology. The Task Force recommends that the deterrent effects of these problems can best be addressed via a multifaceted awareness and skills-building campaign.

Tasking:

Under its responsibility for government-wide training policy, OPM will work in partnership with the Human Resources Development Council (HRDC). It should design specific curricula to increase management knowledge with respect to learning technology. Additionally, the curricula could address the skills gap that exists among HRD professionals, who could then make a compelling business case for the integration of learning technology into agency training programs.

Successful programs would include information provided using a wide assortment of methods including the Internet, classroom, special forums, seminars, and written materials/brochures.

Timeframe:

Initial interventions (courses, seminars, etc.) should be targeted for the first quarter of FY-2001.

Recommendation 5: Develop a Program to Promote Existing Procurement Flexibilities for the Acquisition of Learning Technology

The **Procurement Options Sub-Group** was chartered to assess the viability and flexibility of the Federal procurement system as the principal means for acquiring technology-based training solutions. Its findings[5] showed that the current system can do the job; however, it seems that many users of the system lack a fundamental awareness of the flexibilities currently available to them. This lack of awareness promotes a belief that the current system is a barrier to the efficient acquisition and implementation of learning technology. It is, therefore, recommended that GSA create an extensive awareness campaign for decision-makers and other stakeholders about the many procurement options and methods available for acquiring learning technology.

Tasking:

The General Services Administration (GSA), the Office of Federal Procurement Policy (OFPP), and OPM should work with representatives of the Procurement Council, Human Resources Development Council, Chief Information Officer Council, and Chief Financial Officer Council, to develop an on-line, interdisciplinary training program on using the Federal procurement system to acquire learning technology. This program would be used to mount an aggressive awareness campaign for managers, human resource development professionals, budget professionals, and employees about the way the procurement system can be used to efficiently acquire technology-based training and learning-management systems.

A successful program would use a broad spectrum of approaches, thereby, reaching as many stakeholders as possible. These approaches would include programs based on the Internet, formal course offerings, forums/seminars, and specific literature/brochures.

Timeframe:

Initial procurement interventions (courses, seminars, etc.) should be targeted for the 2nd quarter of FY-2001.

[5] Procurement Options Focus Area Sub-Group Report — www.technology-taskforce.gov/reports.html

Emerging Issues and Future Directions

The overwhelming embrace of the e-society brings with it many new issues never faced by the Federal government. These issues include equity of access, privacy, and intellectual property rights. The Task Force believes that these issues will be the focus of many public policy debates over the next five years and that a serious dialogue needs to be started to address them. Two issues that need immediate attention are intellectual privacy rights and Federal employee access to the Internet.

Agencies contracting for e-learning systems in the future will need special contract language to ensure that the products they acquire may operate and be shared across locations and agencies. Restrictive contract language that does not vest ownership and distribution rights of the final product to the government will defeat efforts to significantly reduce costs through inter-agency sharing of learning technology products. The Learning Technology Steering Committee, once it is established, should prioritize the development of a government-wide policy to address the issue of intellectual property rights with respect to learning technology software and related systems.

Statistical survey information gathered on the Internet revealed the existence of an "Internet digital divide" in some Federal agencies. Specifically, several agencies still have in place very restrictive policies on who has access to the Internet. These policies, in many instances, contribute to the lack of acceptance of web-based training as a viable and more cost-effective alternative to traditional training methods. The "anytime" and "anyplace" advantage offered by web-based learning technology will not be available to those employees whose agencies have decided that they have no need for access to the Internet.

The President's Management Council supports making preparations for all Federal employees to be web-competent and to prepare them for the transition to an environment using more on-line services. Having a Federal workforce where all are proficient in the use of the Internet is in keeping with the President's goals to address the social and economic issues posed by the e-society. The Learning Technology Steering Committee should include this as a priority issue on its agenda once it is established.

Conclusions:

The recommendations in this report, supported by the research codified in the Focus Area Sub-Group Reports, form the basis for a coordinated government-wide approach to implementing e-learning for the Federal workforce. These recommendations should be considered as an integrated package of tools, all of which address specific weaknesses in the current Federal effort to use technology to enhance the skills of its workforce. If the initiatives in these recommendations are successfully implemented, the Administration will have put in place the foundation of an e-learning environment that will grow exponentially and provide the universal access to the knowledge resources needed to fuel a nation of highly skilled, competitive, and adaptive lifelong learners.

The President charged the Task Force with finding ways to make training more accessible through the use of learning technology. The Task Force believes that having Innovation Grants, targeted awareness raising programs, and the Training Technology Steering Committee to serve as a centralized coordinating body, will accelerate the acceptance and use of learning technology in the Federal government.

Appendices

Learning Technologies Focus Area Sub-Group Report -
www.technology-taskforce.gov/reports.html

Financial Investments Focus Area Sub-Group Report -
www.technology-taskforce.gov/reports.html

Training Technology Implementation Group Report -
www.technology-taskforce.gov/reports.html

Procurement Options Focus Area Sub-Group Report -
www.technology-taskforce.gov/reports.html

Standards Focus Area Sub-Group Report -
www.technology-taskforce.gov/reports.html

Individual Learning Account Focus Area Sub-Group Report -
www.technology-taskforce.gov/reports.html

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Special thanks and appreciation are also extended to the following members of the White House's Office of Science and Technical Policy:

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A Guide to Strategically Planning Training and Measuring Results

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT
OFFICE OF WORKFORCE RELATIONS

A Guide to Strategically Planning Training and Measuring Results

U. S. Office of Personnel Management

Office of Workforce Relations

OWR 35 July 2000

"The way work is organized is being affected by the speed of change. Work processes are increasingly driven by what employees know– that is to say; how the work is done is increasingly dependent upon the level of knowledge the employee brings to the job. The more knowledgeable an employee is across disciplines, the better job she or he can do, and the more valuable she or he becomes."

"The result of this trend is that the distinction between working and learning is becoming blurred– part of every employee's job will be to keep learning about the ever-changing work to be performed."

Janice Lachance
Director, U.S. Office of Personnel Management
Human Resource Training Forum (August 1999)
Baltimore, Maryland

Workforce Inveatments

Chances are that you have read something lately or participated in a discussion about the payoffs of investing in training. For example, two major corporations recently made front-page news by providing their employees with home computers. These corporations believe that this investment will contribute to an acceleration of skills for both employees and the company throughout the 21st century.

You are also aware that, in both public and private sectors, there are a growing number of examples of how a better trained workforce correlates with reduced costs, increased profitability, improved services, and increased customer satisfaction. No major, successful corporation fails to invest significantly in its people – the most important resource.

According to data collected by organizations such as the American Society for Training and Development (ASTD) about leading-edge companies, one of the components that gives these companies an edge is commitment to and investment in learning. Further, research also shows that high impact companies, public-sector agencies, and other institutions attribute much of their front-runner status to recognition of the importance of including training as a key element in their strategic planning process.

Throughout the business world, there is increasing recognition that training the workforce is a win-win business strategy.

Executive Order 13111

The President of the United States provided pivotal direction to Government leaders about workforce learning and development in January 1999 through Executive Order 13111, *Using Technology to Improve Training Opportunities for Federal Government Employees*

This Executive Order embodies many tenets that Federal executives can use to harness the power of training. For example, learning should be an integral, planned part of doing business, as opposed to an afterthought. Every agency's strategic plan should identify training and education as a means for achieving goals. It is a business strategy that makes sense.

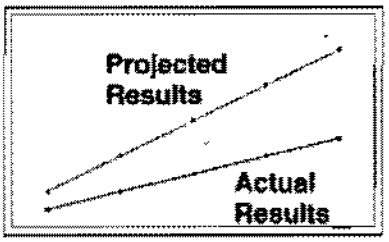
The Executive Order specifically calls on agencies to include a set of goals to provide effective training opportunities and allied performance measures as part of the annual budget process.

Further, agencies are to identify the resources needed to achieve the accomplishment of those goals in their annual performance plans. This planning process is an important step in integrating and linking learning and education to accomplish organizational objectives.

Typical Scenario

Imagine the following scenario.

You and your planning team have established a performance goal to improve the efficiency of processing time for one of your agency's mission-critical functions.



Three months have now passed and the actual results are lagging behind the projected results.

The Challenges

When analyzing the risks to goal achievement, the planning team identified a number of concerns including:

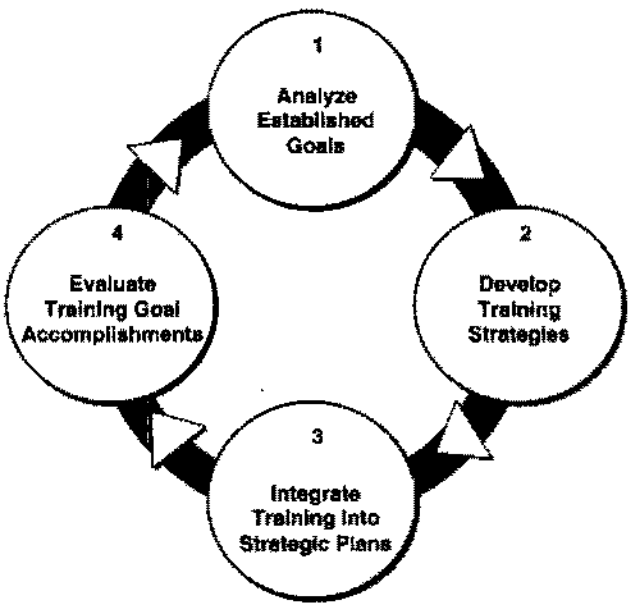
- Lack of computer capacity and other information systems.
- High turnover of key technical personnel due to competition from private industry.
- Loss of experienced employees due to a "retirement bubble."
- Rapid evolving technology requiring staff to learn new skills.
- Inadequate public awareness of agency services.

What is the key to addressing these risks to goal achievement?

With the exception of the first item above, training could be a key element to ensuring goal achievement. Effective training can help provide the employees with the skills they need while addressing other human resource problems such as turnover. **The key is to plan your training strategically.**

The Approach

In most cases training can play a pivotal role in ensuring that your agency's strategic and performance goals are met. The following process can be used to plan training strategically.



Process Overview

Listed below are the questions to ask when completing each step. The subsequent chapters of this guide are designed to provide additional information, tips, and examples for those who are responsible for completing the steps.

Analyze Established Goals

- To reach each goal, what competencies must the current and/or future workforce members possess?
- What benchmarks can be used to create innovative approaches to reaching this goal?
- Are there competency gaps that must be addressed to meet this goal?
- Could training help reduce other human resource problems such as high staff turnover?

Develop Training Strategies

- Could training address the competency gaps?
- Are there non-training strategies that are needed to support the training intervention?
- What types of training should be provided (e.g., classroom, distance learning, electronic performance support, on-the-job training, etc.)?
- Do the anticipated benefits from training outweigh the projected costs?

Integrate Training Into Strategic Plans

- What is the goal of the proposed training?
- Can you relate this training goal to an existing goal in your agency's strategic plan?
- How will you measure training goal accomplishments?
- What tasks and resources are required to implement the training?

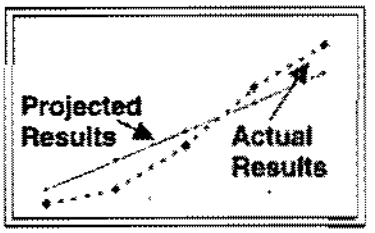
Evaluate Training Goal Accomplishments

- Did you achieve the training goal?
- How much did it cost to achieve this goal?
- Did accomplishing this training goal help support the agency's achievement of the related strategic goal?
- Did the benefits outweigh the costs?
- What modifications should we make to the strategic plan based on the evaluation findings?

The Results

The agency succeeded in reaching the strategic goal.

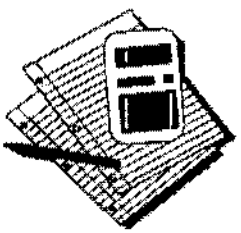
To reach these results, the team analyzed the gaps and identified the non-training and training issues.



- *Non-training Issues*: To address the computer and systems capacity issue, the planning team conducted an extensive benchmarking of current system capability. As a result the team developed an updated Information Resource Management plan to address system shortfalls.

- *Training Issues*: The team established a business case that demonstrated the benefits of providing enhanced training and electronic performance support to new and current employees. Given the competencies of the existing workforce, the team found that it was more cost effective to contract with a public relations firm to develop the public awareness.

The Benefits



The team then measured the interim and long-term results. The following training results support the achievement of the agency's strategic goal:

- Increased skill level on use of automated systems.
- Increased knowledge of agency regulations.
- Increased effectiveness and efficiency in processing public inquiries.
- Decreased absenteeism and employee turnover due to the acquisition of new ergonomic and stress reduction techniques.
- Increased favorable customer service ratings.

Purpose of This Guide

This Guide is about planning training strategically. It was developed to assist agencies in fulfilling the direction contained in the Executive Order — to set goals and develop performance measures for training. It is a resource for those who plan the allocation and use of training resources, especially under the auspices of the Government Performance and Results Act (GPRA).

In this document, you will find approaches to integrating training into the strategic plan, situations in which training can contribute to the accomplishment of strategic goals, and ideas about how to develop a business case for training strategies.

Think of this Guide as a primer— a first step— to help Federal agencies begin to create long-term workforce investment strategies and plans.

A wide agency audience— from managers, to human resource development professionals, to agency planners— can use this Guide.

The ideas, examples, techniques and illustrations captured in this document will be of value to any agency, regardless of its particular strategic planning approach. These illustrations have come from both public and private sector entities that have recognized and successfully integrated strategic thinking into the ways in which training is used to achieve organizational goals. Some approaches will foster new and enduring collaborations among organizational components, as managers, budget analysts, program managers, and stakeholders focus on the potential of training as a key element in achieving corporate goals.

Consider this Guide as a storehouse of ideas and tools that will help agencies achieve their goals and accomplish their mission. These tips and techniques can serve as an asset to people throughout the organization and can be useful at many junctures throughout the strategic planning and implementation process. Examples and techniques are offered as catalysts, not as mandates, to effectively consider and integrate training strategies into strategic and performance plans.

How To Use This Guide

The remainder of this guide provides how-to guidance. The following icons are used to signal the type of information being presented:

This icon indicates that a "how-to"tip is being presented.

This icon indicates that an example is being presented.

This icon indicates that suggested additional resources are being presented.

> Once, land and capital were the key strategic resources. Now, knowledge is our key strategic resource and learning is our key strategic skill.
>
> Vice President Al Gore
> Lifelong Learning Summit (January 1999)

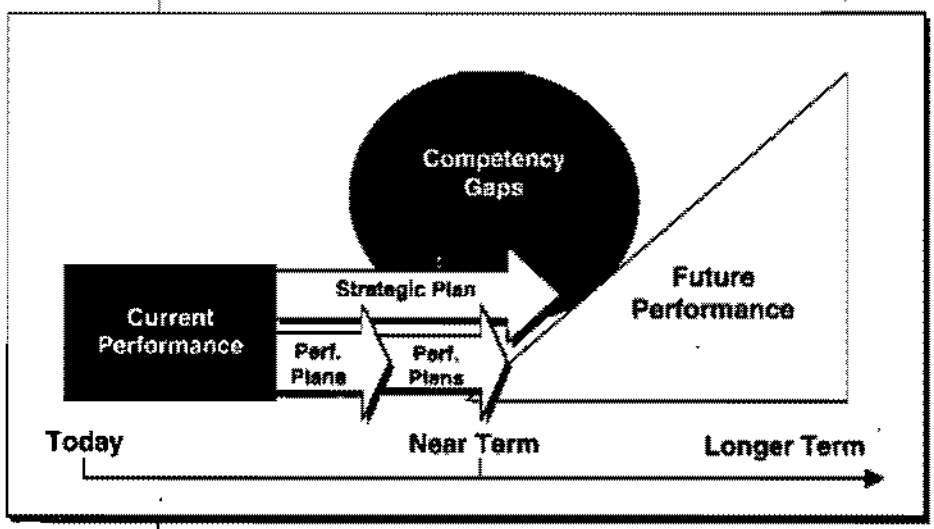
Step 1: Analyze Established Goals To Identify Training Requirements

Step 1: Analyze Established Goals To Identify Training Requirements

Introduction

The first step is to identify the training requirements based on your agency's strategic and performance plans. As illustrated below, the strategic plan and annual performance plans contain blueprints for transforming the agency's current performance into the desired future state. The performance plans include incremental goals that lead toward the achievement of the longer-term strategic goals. The performance plans are tools that can be used to help agencies identify the human, information/technological, and other resources to achieve the desired future performance.

Training is an essential component of this approach. The training process ensures that any competency gaps within the workforce are addressed so that the agency can achieve the future performance goals.



The Process

Suggested activities for completing this step include:

1. Analyze the agency's strategic and performance goals.
2. Identify the enterprise (organization)-wide competencies that the workforce will need to accomplish these goals.
3. Analyze **gaps** in the current or projected workforce.
   - Required proficiencies and deficiencies
   - Causes of deficiencies

Strategic Planning and Performance Accountability

Congress' determination to make agencies accountable for their performance lay at the heart of two landmark reforms of the 1990s: the Chief Financial Officers (CFO) Act of 1990 and the Government Performance and Results Act of 1993 (GPRA).

With these two laws, Congress imposed on Federal agencies a new and more businesslike framework for management and accountability. In addition, GPRA created requirements for agencies to generate the information congressional and executive branch decision makers need in considering measures to improve Government performance and reduce costs.

> Most fundamentally, under the Government Performance and Results Act of 1993 (GPRA), every major Federal agency must now ask itself some basic questions: What is our mission? What are our goals and how will we achieve them? How can we measure our performance? How will we use that information to make improvements? GPRA forces a shift in the focus of Federal agencies— away from such traditional concerns as staffing and activity levels and toward a single overriding issue: **results.** GPRA requires agencies to set goals, measure performance, and report on their accomplishments.
>
> Charles A. Bowsher
> Comptroller General of the United States (June 1996)

The Government Performance and Results Act (GPRA) is the primary legislative framework through which agencies will be required to set strategic goals, measure performance, and report on the degree to which goals were met. The Act requires each Federal agency to:

- Develop, no later than by the end of fiscal year 1997, strategic plans that cover a period of at least 5 years and include the agency's mission statement; identify the agency's long-term strategic goals; and describe how the agency intends to achieve those goals through its activities and through its human, information/technology, and other resources. Under GPRA, agency strategic plans are the starting point for agencies to set annual goals for programs and to measure the performance of the programs in achieving those goals.

- Submit to the Office of Management and Budget (OMB), beginning for fiscal year 1999, an annual performance plan. Agencies submitted the first annual performance plans in the fall of 1997. The annual performance plan provides a direct link between the strategic goals outlined in the agency's strategic plan and what managers and employees do day-to-day.

- Submit to the President and to the appropriate authorization and appropriations committees of Congress an annual report on program performance for the previous fiscal year.

GRPA and Training

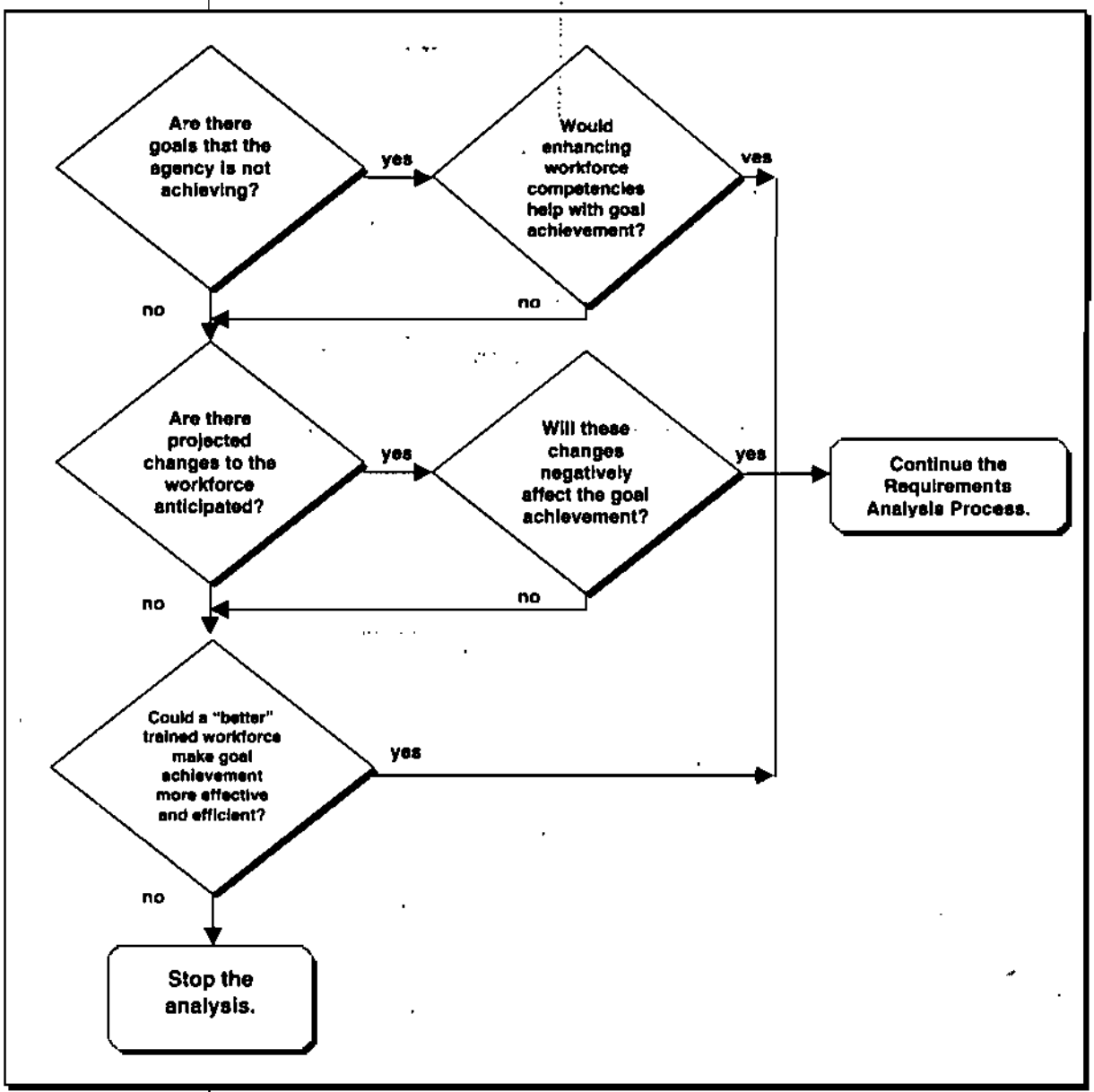
The following table summarizes the GPRA requirements and opportunities where agencies can strategically plan for training's role in supporting goal accomplishment.

Activity	Requirements	Training Opportunity
Develop and maintain strategic plans covering a 5-year period Updated every 3 years	Provide a description of: • Agency's mission • General goals and objectives • The means and strategies to achieve goals and objectives (processes, skills, technologies, various resources) • The relationship between performance goals in performance plan and general goals and objectives in strategic plan • The key factors that can affect achievement • The program evaluations to be used and schedule of evaluations	Analyze strategic goals to determine short-term and long-term training requirements.
Develop and maintain performance plans Updated every year	Provide a description of: • The relationship to strategic plan • The performance goals and indicators (for each Program Activity in the budget) • The operational processes, skills, and technology, and the human, capital, information, or other resources needed to meet goals • The means to be used to verify and validate measured values	As appropriate, create annual **training** performance goals to support the achievement of strategic goals. Use the performance measures when evaluating the value of training.
Develop program performance reports Submitted annually	Provide a description of: • The relationship to strategic plan and performance plan • The comparison of goals with achievements • An explanation where goals were not met and plans for meeting unmet goals	Report training performance goal accomplishments. Identify if training can help address any goals reported as unmet.

Tip: Your performance goals for training could be set in an evolutionary fashion. For example, the first-year goals could be to plan and design the training intervention, the next year to pilot test the intervention, and beyond the third year to implement and evaluate the intervention.

Tip: Analyzing Strategic and Performance Goals

The first activity is to analyze your agency's strategic and performance goals to determine where training could enhance goal achievement. The following flowchart contains a series of questions that you may want to ask when analyzing the agency's strategic and performance goals.



Tip: Identifying Enterprise-Wide Competencies

After you have targeted the goals that could be enhanced, next you need to identify the enterprise (organization)-wide competencies required to support goal achievement. A competency is defined as a behavior or set of behaviors that describes required performance in a particular work context (e.g., job, role or group of jobs, function, or whole organization). Competencies can help ensure that individual and team performance aligns with the organization's mission and strategic directions.

At this point in the analysis, competencies are identified at the "macro level." In a later step, you may need to repeat the process at the individual performer level. The following chart lists general competency areas you may want to assess:

Competency Areas	Questions To Consider
Leadership	• What new skills will leaders need in the near term and longer term?
Communication	• To achieve these goals, what types of communication competencies (interpersonal, written, oral) are required for working effectively within the organization and for meeting external stakeholder needs?
Administrative and Work Processes	• Will new work processes be required to meet the goals? If so, what competencies are required to support these processes?
Professional	• What specialized knowledge or skills (e.g., scientific, engineering, legal, medical, etc.) should performers possess?
Analytic Problem Solving	• What new problem-solving challenges are associated with the achievement of the goals? What competencies will be needed to address these challenges?
Decision Making	• Will regulatory changes require new approaches to decision making?
Technology	• What types of technological competencies are required to reach these goals?

Tip: Identifying Enterprise-Wide Competencies (Continued)

The most common methods to use in identifying the competency requirements for goal achievement at the "macro level" are as follows:

Activities	Description
Review Existing Competency Models	▪ You may use existing competency models to produce a "strawperson" model or models as a starting point. The use of existing models coupled with additional data gathering decreases cost and improves the quality of the models.
Conduct Focus Groups	▪ Next, focus groups or semi-structured interviews are conducted with selected groups of top performers and stakeholders to identify the competencies needed. **It is critical that the data collection efforts be focused on the future competency requirements rather than today's requirements.** For the purpose of linking training to strategic planning, it may be necessary to include both near-team and longer-term competency expectations in your models.
Validate Models	▪ Next, the competency models should be validated. Usually, validation is done through a survey and/or focus groups/ feedback sessions. To generate an initial approved version of models, the refined competency models are then presented to a stakeholder group for review and "sign off." It is important to maintain a link between the competency model and the organization's strategic and performance goals.

Tip: Identifying Competency Gaps

After you have identified the enterprise-wide competencies that are required for goal achievement, then you should assess to what degree the current and/or projected workforce possesses these competencies.

As stated earlier, at this stage in the analysis you are analyzing performance at the "macro level" rather than for each individual performer. Even at the macro level, you may find it useful to conduct this analysis by organizational units or occupational series.

The tools used to conduct a gap analysis include focus groups, surveys, and review of current performance data. In reviewing current performance data it is important to look at trends and project the data into the time span covered by the strategic and performance plans. Current performance data may not reveal future performance gaps.

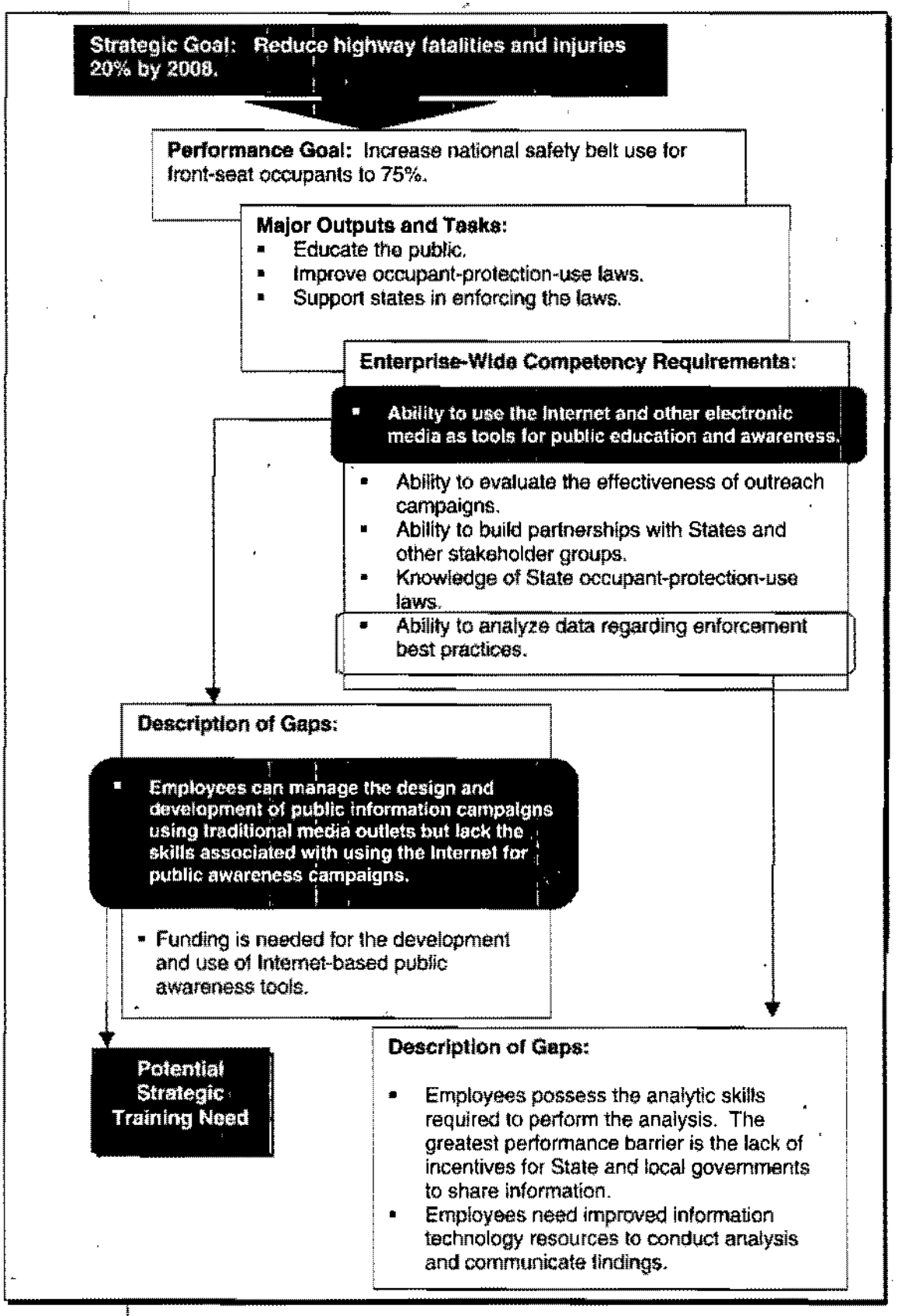
Tip: Determining Reasons for Competency Gaps

After determining that there are competency gaps, it is important to determine the reasons for the gaps. The table below lists some common causes of competency gaps:

Types of Causes	Questions To Ask
Environmental If you answer **no** . . . • The environmental factors impacting performance must be addressed. • Training alone is unlikely to address the performance gap.	• Will employees have adequate tools/technology, resources, or information to achieve the goals? • Are job standards and expectations communicated in a timely and explicit fashion? • Are job standards and expectations consistent with strategic and performance plans? • Are employees satisfied with the general working conditions? • Do work processes and rules (regulations) facilitate (rather than impede) goal attainment? • Do standard operating procedures/work processes support the goals?
Motivational If you answer **no** . . . • Address motivational factors by aligning incentives with your strategic plan and removing disincentives for change. • Training alone is unlikely to address the performance gap.	• Are there mechanisms in place to measure performance and provide feedback to performers? • Will individual employees receive recognition for achieving the organization's strategic and performance goals? • Will there be consequences for poor performance that jeopardizes goal attainment? • Is it **unlikely** that informal leaders will reinforce others for resisting change?
Knowledge/Skills If you answer **no** . . . • Lack of knowledge/skills can be solved through training.	• Have the employees successfully performed these competencies previously? • Have employees been trained in the work processes and tools/technologies that will be used to reach goal attainment? • Have managers and supervisors been trained to facilitate change management processes required to reach these goals?

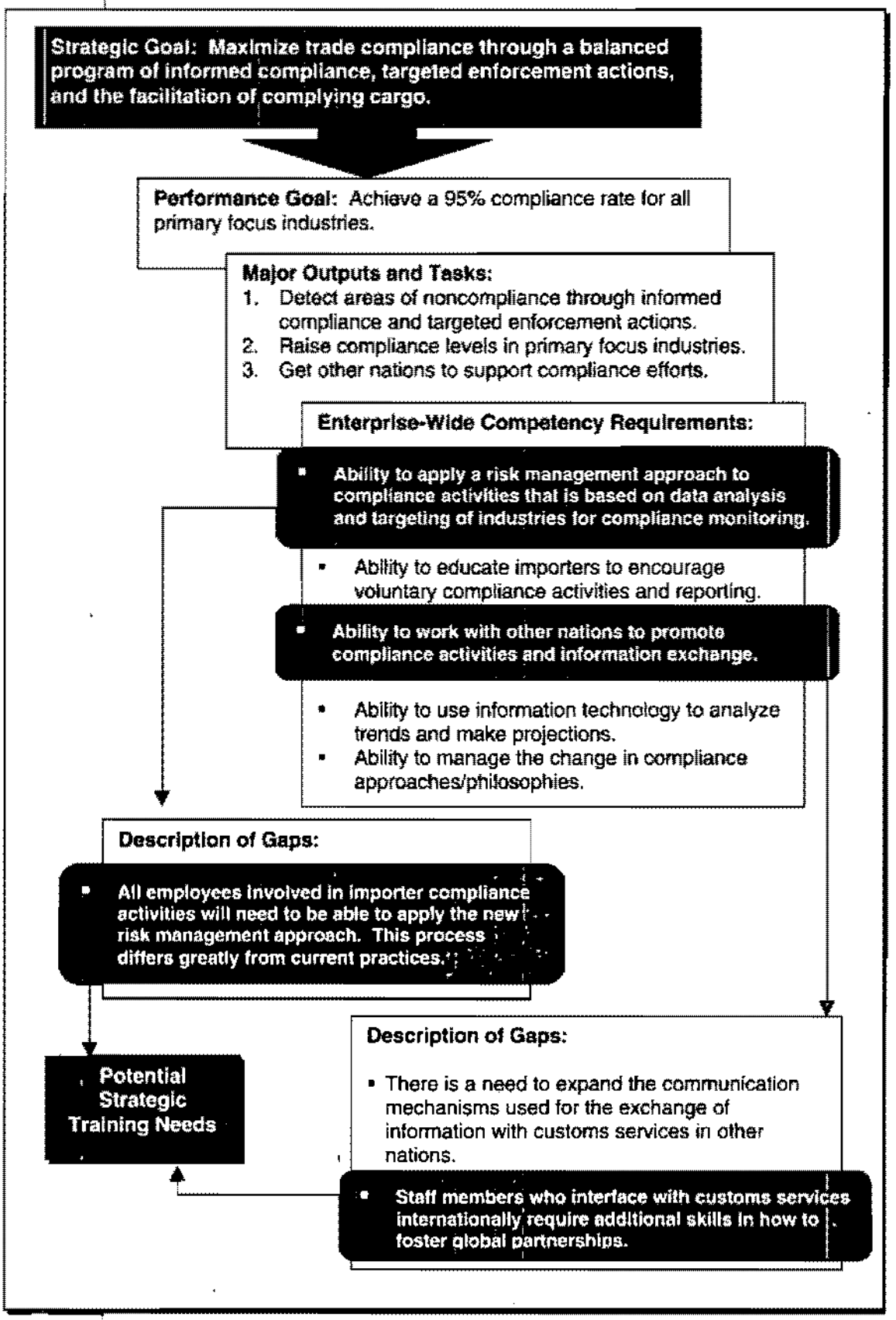
Example 1

The following example illustrates the process of identifying strategic training requirements:



Example 2

The additional example again illustrates the process of identifying strategic training requirements:



Suggested Resources

The resources listed below provide additional information relating to the process of identifying strategic training requirements:

Publications

Dubois, D.D. *Competency-Based Performance Improvement: A Strategy for Organizational Change.* Amherst, MA: HRD Press, 1993.

Gilbert, T. *Human Competence: Engineering Worthy Performance.* New York: McGraw-Hill, 1978.

Harless, J.H. *An Ounce of Analysis.* Falls Church, VA: Harless Educational Technology, 1970.

Jonassen, D.H., Tessmer, M., & Hannum, W.H. *Task Analysis Methods for Instructional Design.* Mahwah, NJ: Lawrence Erlbaum Associates, 1999.

Mager, R.P. & Piper, P. *Analyzing Performance Problems.* Belmont, CA: Fearon, 1970.

Spencer, L.M. & Spencer, S.M. *Competence at Work: Models for Superior Performance.* New York: John Wiley & Sons, Inc., 1993.

U.S. Office of Personnel Management. *Training Needs Assessment Handbook: A Guide for Conducting a Multi-Level Needs Assessment (HRDG-024),* January 1994.

Web Resources

http://www.epa.gov/epahrist/workforce/wap.pdf

Workforce Assessment Project (Executive Summary and Tasks 1-4 Final Reports), May 1999. This report documents EPA's efforts to identify the critical skills needed today and into the next millennium to prepare the EPA workforce to meet the mission challenges.

http://www.opm.gov/hrd/lead/FALLFEST/OPMBRI~1.HTM

Cook, D. & Longanbach, P. ***A Competency-based Learning and Development Program,*** Federal Aviation Administration, The Center for Management Development, The Office of Training.

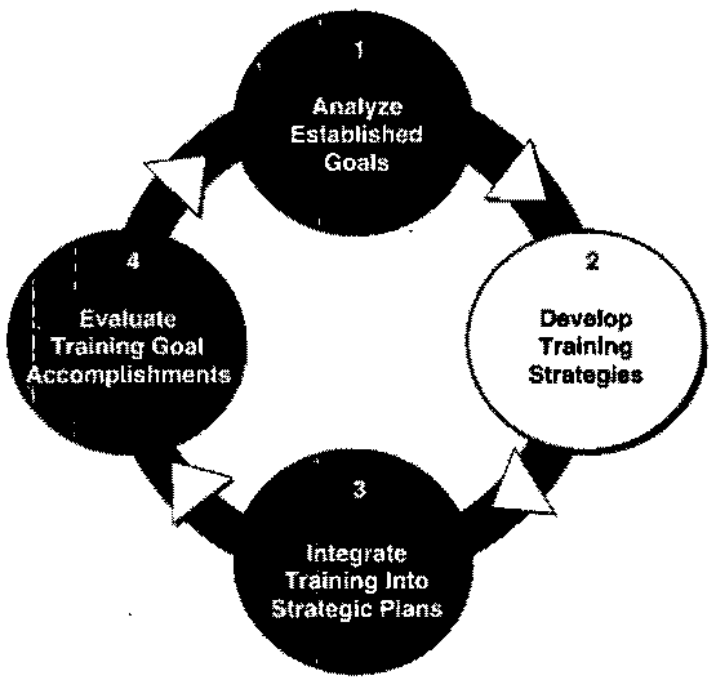
This guide provides some definitions commonly used in a competency-based program. It lists validated competencies that are required for successfully accomplishing your organizational mission, and it shows examples of the inventory instruments that are part of the program's model. The guide describes processes for answering the following three important questions:

1. What general and technical competencies does it take to effectively perform our jobs?
2. What specific critical and important competencies must our employees develop in order to achieve our business mission and goals?
3. How can we optimally provide learning and development competence for employees to close performance gaps?

Senior managers must include in their strategic plan investing in workforce education through expanded company training and development programs in order to improve performance and productivity.

Corporate University Review
(August 1999)

Step 2: Develop Training Strategies To Achieve Goals

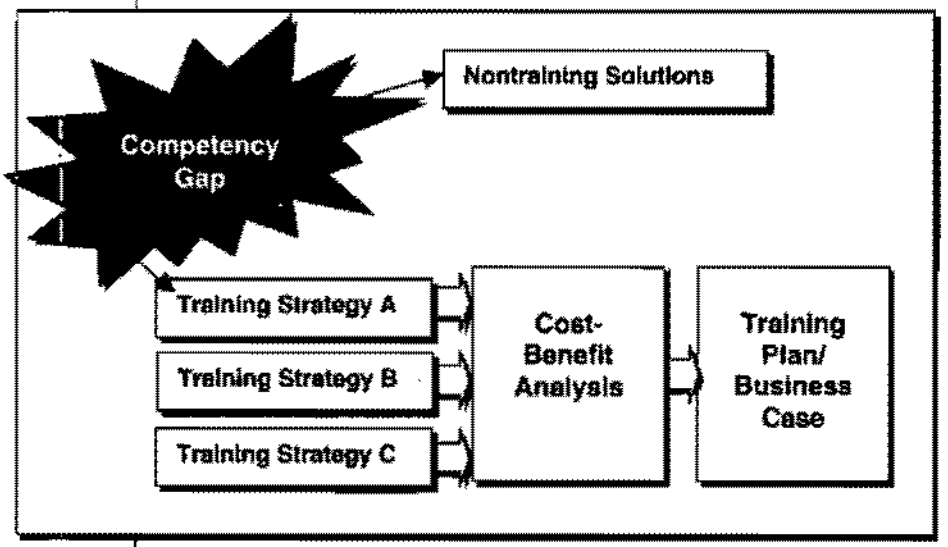


Step 2: Develop Training Strategies To Achieve Goals

Introduction

After identifying strategic training requirements, the next step is to explore alternative training strategies and to build a business case.

As illustrated below, competency gaps are addressed using both training and nontraining solutions. If training solutions are to be pursued, then you first should weigh the costs and benefits of various training strategies and then build a business case to support the selected training strategy.



The Process

Suggested activities for completing this step include:

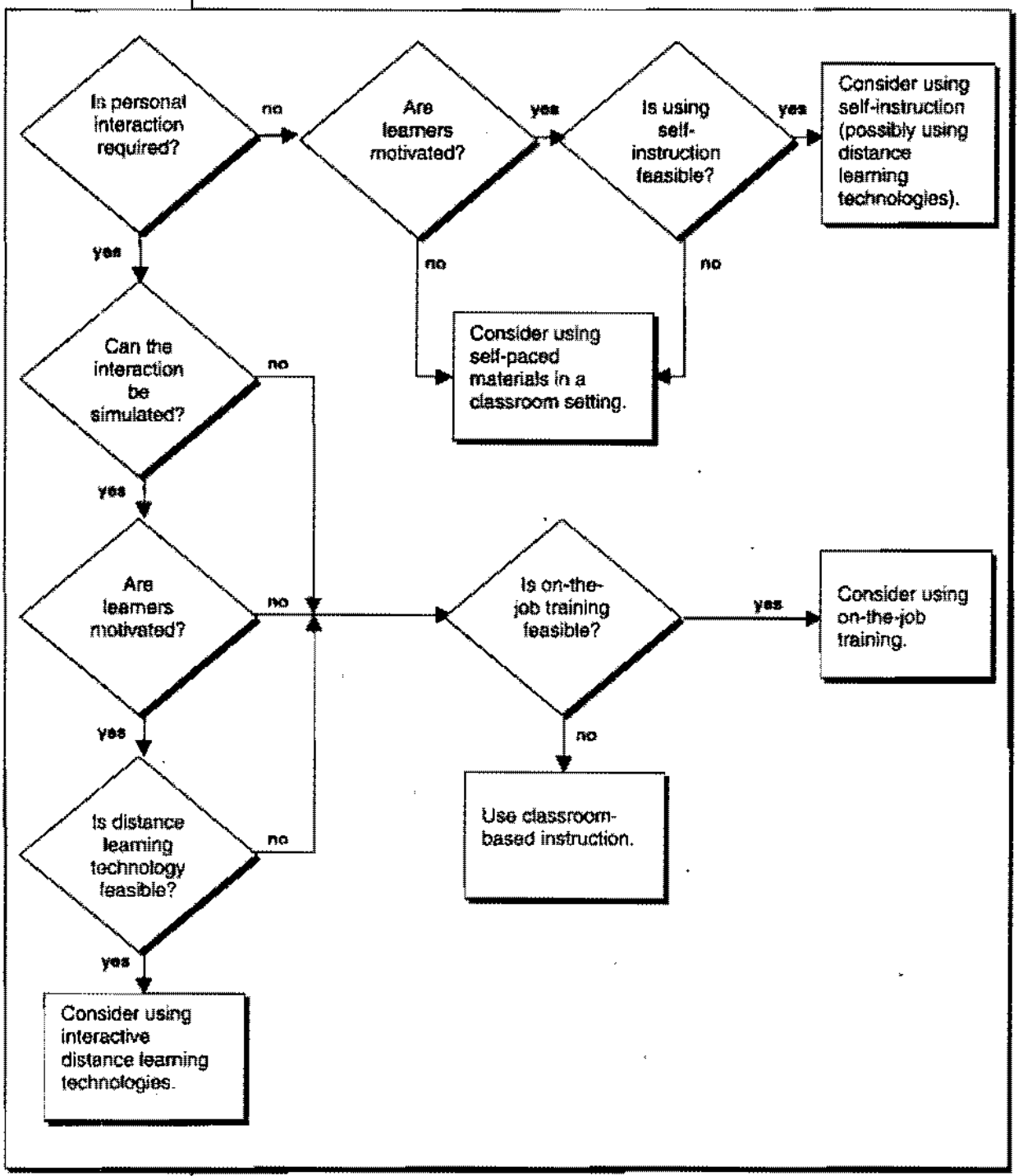
1. Generate alternative training strategies for addressing competency gaps.
2. Assess the costs and benefits.
3. Build the business case for the selected approach.

Step 2: Develop Training Strategies To Achieve Goals

Tip: Generating Alternative Training Strategies

There are many ways to provide training. The first decision to make is whether training will occur in a classroom, through distance learning, or in the workplace.

The flowchart below lists the questions to ask when deciding if classroom training is appropriate.



Tip: Weighing Costs and Benefits

Prior to making a commitment to providing training, it is important that you fully understand the potential costs and benefits. The table below lists the types of training costs that must be considered.

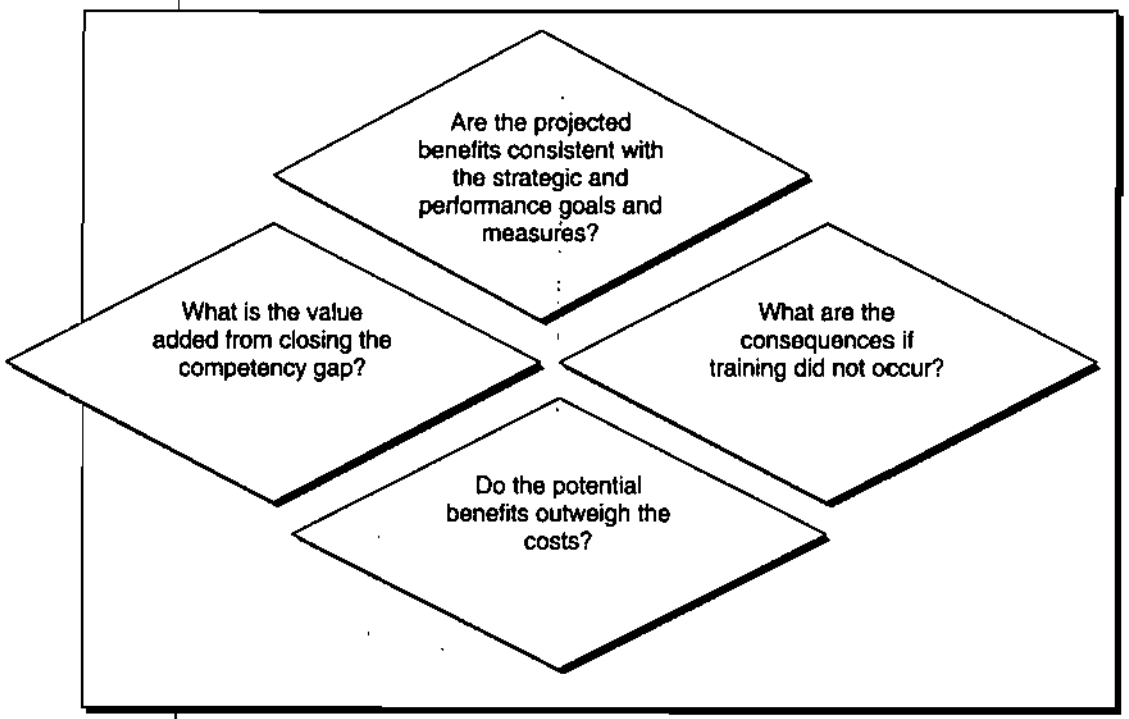
Training Costs
• Development costs (e.g., salaries and benefits of personnel, equipment) • Direct implementation costs (e.g., training materials, technology costs, facilities, travel, equipment, instructor salary and benefits) • Indirect implementation costs (e.g., overhead, General & Administrative) • Compensation for participants • Lost productivity or costs of "backfilling" positions during training For additional guidance on calculating training costs, see U.S. Office of Personnel Management's *Making the "Business Case" for HRD Investments (HRDG-025)*, January 1994.

As shown below, training benefits include increased outputs, resource savings, improved quality, and error reduction.

Training Benefits	
Potential Benefits	**Indicators**
Increased Outputs	• Number of products produced or services provided • Number of work processes completed • Amount of backlogged work
Time/Resource Savings	• Ratio of productive/non-productive time • Amount of overtime required • Amount of "break-in" time for new employees • Amount of equipment "down time"
Improved Quality	• Ratio of positive/negative customer feedback • Ratio of positive/negative findings from internal audits/studies • Amount of "rework" required • Percentage of products/services meeting standards • Number of innovative solutions/products developed • Changes in employee morale • Number of grievances and other personnel issues
Error Reduction	• Number of errors • Number of safety-related complaints • Number of accidents • Number of rule/procedure violations • Number of products/services rejected

Tip: Building the Business Case

After selecting the projected type of benefit and indicator, you should answer the following questions:



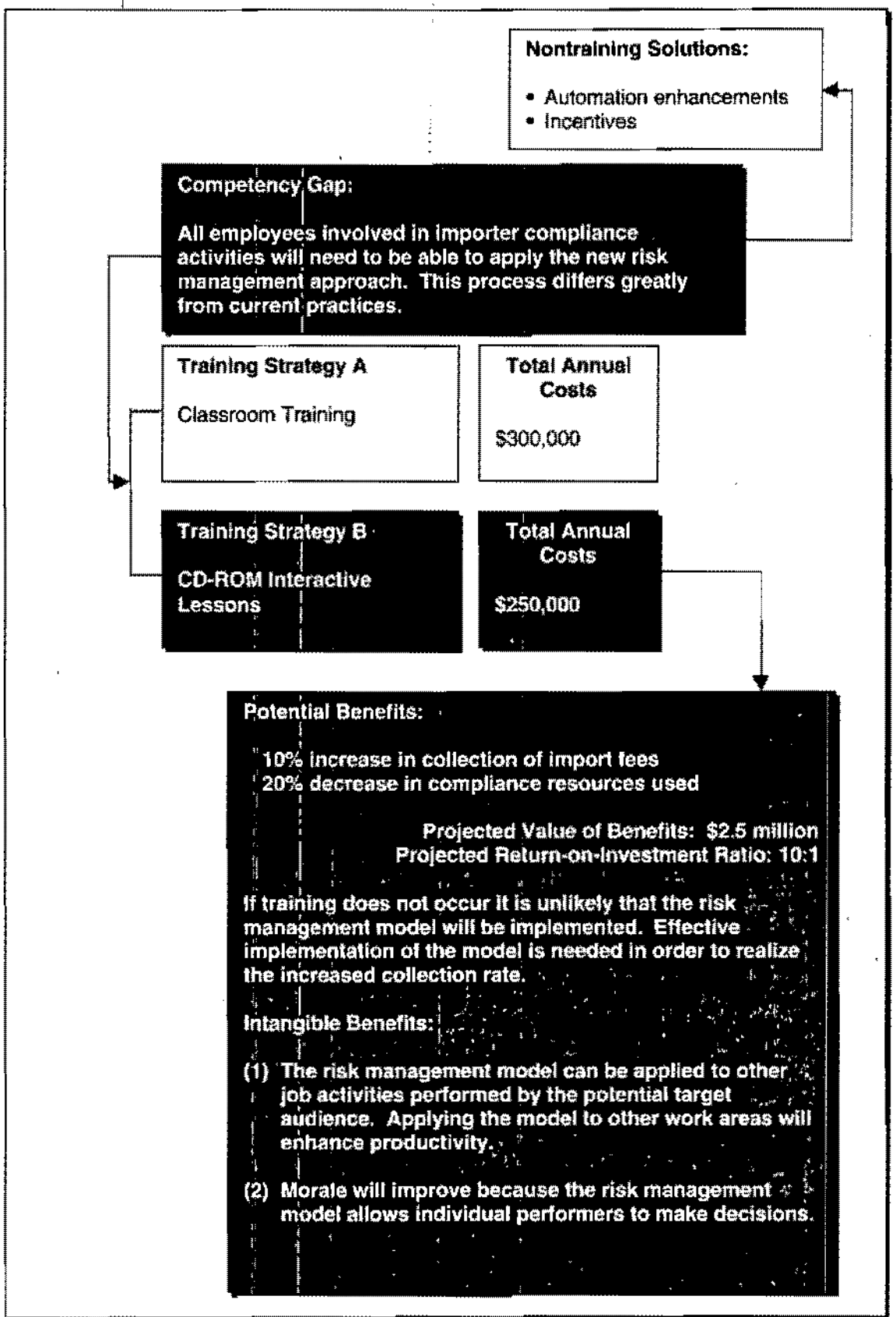
You may want to include the following information in your business case:

Business Case Elements

- Strategic and performance goals that would be advanced by this training
- The competency gaps to be addressed
- The potential benefits to be realized if the competency gap is closed (tangible and intangible benefits)
- The training strategies considered
- The training strategy selected and reasoning
- The total life-cycle costs of developing and implementing the training
- The comparison of costs and benefits
- The consequences to the strategic and performance goals if training is not conducted

Example

The following example illustrates the process of developing a business case for training:



Suggested Resources

The resources listed below provide additional information relating to the process of developing a strategic business case for training.

Publications

Fisher, S.G. *The Manager's Pocket Guide to Performance Management*, Amherst, MA: HRD Press, 1997.

Van Adelsberg, D. & Trolley, E.A. *Running Training Like a Business: Delivering Unmistakable Value.* San Francisco: Berrett-Koehler Publishers, Inc., 1999.

U.S. Office of Personnel Management. *Making the "Business Case" for HRD Investments: A Tool for Making Training and Development Decisions (HRDG-025)*, January 1994.

Web Resources

http://www.acq.osd.mil/dau/files/implplan.pdf

The **Defense Acquisition University's Technology-Based Training Implementation Plan** provides an excellent example of building a business case for the use of technology-based distributed learning courses.

http://www.opm.gov/hrd/lead/events/atasofle.htm#top

A Taste of Learning: Tips, Tools, and Techniques for Developing the Workforce was held on September 29, 1999. Designed for the Federal community, A Taste of Learning is part of a continuing series of leadership education seminars sponsored by the Office of Personnel Management's (OPM's) Office of Human Resource Development. This link provides access to keynote addresses by Janice Lachance, OPM Director, and Dr. Henry Kelly, then Assistant Director for Technology, White House Office of Science and Technology Policy. Also available are handout materials from workshops offered on a variety of topics including diversity as a business strategy, competency modeling, distributed learning, and private-sector approaches to organizational measurement and evaluation.

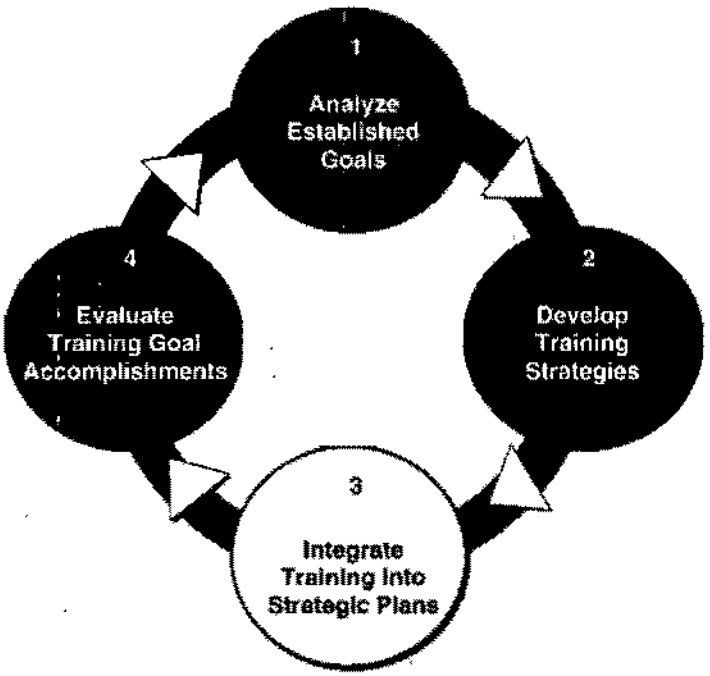
http://www.opm.gov/hrd/lead/leadindx.htm

The U.S. Office of Personnel Management HRD Leadership Site provides online publications, policy guidance, training information, an events calendar, other resources, and links.

The American Society for Training and Development (ASTD) surveyed 540 U.S. corporations. The survey results, although not conclusive, indicated that there was a solid relationship between a company's performance and its workplace learning and development practices. Companies that used innovative training practices were more likely to have improved performance over time.

American Society for Training and Development (1998)

Step 3: Integrate Training Into Strategic Plans

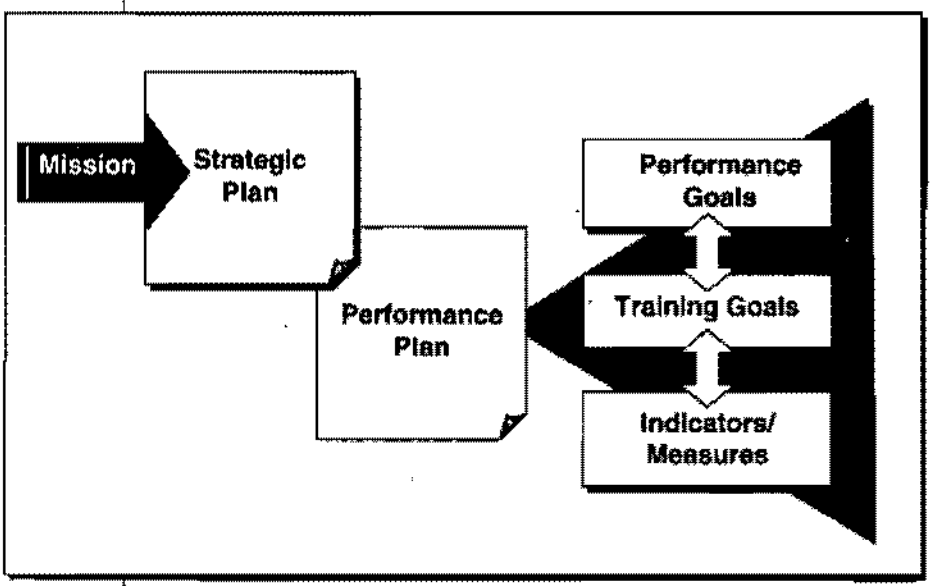


Step 3: Integrate Training Into Strategic Plans

Introduction

The purpose of this step is to incorporate the training strategy from the business case into the organization's strategic plan. When training is integrated into the organization's strategic plan, it is more likely to receive the required support and resources.

As illustrated below, the strategic plan translates the organization's mission into a 5-year plan. The strategic plan is the basis for the performance plan, which is a more detailed implementation blueprint. It is most likely that training goals will be added to the performance plan to support performance goals. In some cases, if the organization's mission includes a training and education focus, then training goals may be included directly in the strategic plan. Whether the training goals are incorporated into the strategic or performance plans, they should include measures.



The Process

Suggested activities for completing this step include:

1. Write training goals.
2. Identify performance measures (indicators).
3. Develop an action plan.

Tip: Writing Training Goals

To be consistent with the Government Performance and Results Act (GPRA) guidance, your training goals should include target levels and performance indicators.

Listed below are definitions and examples of the components that should be included in your training goals. (Source: This information was adapted from OMB's *Primer on Performance Measurement* February 28, 1995.)

Component	Definition	Example
Performance Goal **(Target Level)**	GPRA defines a **performance goal** as a **target level** of performance expressed as a tangible, measurable objective, against which actual performance can be compared, including a goal expressed as a quantitative standard, value, or rate.	Improve maternal and child health on tribal reservations to meet 95 percent of the national standards for healthy mothers and children by 2001. (Note that this goal would rely on performance indicators (see below) to be measured effectively.)
Performance Indicator	GPRA defines a **performance indicator** as a particular value or characteristic used to measure output or outcome. Performance goals that incorporate performance measures into the target goal statements do not require separate indicators.	Indicators for the maternal and child health goal above might include morbidity and mortality rates for this population, median infant birth weights, percentages of tribal children receiving full immunization shot series, frequency of pediatric checkups, etc.

Tip: Identifying Performance Measures (Indicators)

Different types of performance indicators can be used to measure goal attainment. The tables on the following pages describe the different types of indicators and provide examples of each.

(Source: This information was adapted from OMB's *Primer on Performance Measurement* February 28, 1995.)

Indicator Type	Description
Outcome	An outcome goal is an assessment of the results of a program compared to its intended purpose. **Characteristics:** • Outcome goal attainment cannot be measured until a program (of fixed duration) is completed, or until a program (which is continuing indefinitely) has reached a point of maturity or steady state operations. • While the preferred measure, outcomes are difficult to measure on an annual basis. (For example, an outcome goal setting a target of by 2005, collecting 94 percent of all income taxes annually owed"cannot be measured, as an outcome, until that year.) The measurement of incremental progress toward a specific outcome goal is sometimes referred to as an intermediate outcome. (Using the example above, a target of collecting 88 percent of taxes owed in 2002 might be characterized as an intermediate outcome.) **Example:** 40 percent of welfare recipients receiving job training are employed 3 months after receiving job training.

Indicator Type	Description
Output	An output goal sets a target level for the goods and services produced by a program or organization and provided to the public or to other programs or organizations. In GPRA, both outcome and output measures are set out as performance goals or performance indicators. **Characteristics:** • Output indicators include process measures (e.g., paperflow, consultation), attribute measures (e.g., timeliness, accuracy, customer satisfaction), and measures of efficiency or effectiveness. • Output may be measured either as the total quantity of a good or service produced, or may be limited to those goods or services with certain attributes (e.g., number of timely and accurate benefit payments). • All outputs can be measured annually or more frequently. The number of output measures will generally exceed the number of outcome measures. **Example:** Annually provide job training and job search assistance to 1 million welfare recipients within 2 months of their initial receipt of welfare assistance.

Indicator Type	Description
Impact	Impact indicators measure the direct or indirect effects or consequences resulting from achieving program goals. An example of an impact is the comparison of actual program outcomes with estimates of the outcomes that would have occurred in the absence of the program. **Characteristics:** • Measuring program impact often is done by comparing program outcomes with estimates of the outcomes that would have occurred in the absence of the program. • One example of measuring direct impact is to compare the outcome for a randomly assigned group receiving a service with the outcome for a randomly assigned group not receiving the service. • If the impacts are central to the purpose of a program, these effects may be stated or included in the outcome measure itself. • Impacts can be indirect, and some impacts are often factored into cost-benefit analyses. An outcome goal might be to complete construction of a large dam; the impact of the completed dam might be reduced incidence of damaging floods, additional acreage converted to agricultural use, increased storage of clean water supplies, etc. • The measurement of impact is generally done through special comparison-type studies, and not simply by using data regularly collected through program information systems. **Example:** Job training increases the employment rate of welfare recipients from 30 percent (the employment level of comparable welfare recipients who did not receive job training) to 40 percent (the employment rate of those welfare recipients who did receive job training).

Indicator Type	Description
Input	Input indicators are measures of what an agency or manager has available to implement the program or activity. Inputs can include: employees (FTE), funding, equipment or facilities, supplies on hand, goods or services received, work processes or rules. When calculating efficiency, input is defined as the resources used. **Characteristics:** • Inputs used to produce particular outputs may be identified through cost accounting. In a less detailed correlation, significant input costs can be associated with outputs by charging them to the appropriate program budget account. • Often, a physical or human resource base (e.g., land acreage, square footage of owned buildings, number of enrollees) at the start of the measurement period is characterized as an input. **Example:** Reduce by 10% the required annual appropriation.

Tip: Following Best Practices

The Government Accounting Office (GAO) reviewed agencies'GPRA performance measures and identified the following best practices. (Source: *Executive Guide: Effectively Implementing the Government Performance and Results Act*(06/01/96, GAO/GGD-96-118)).

Best Practice	Description
Demonstrate Results	**Performance measures should tell each organizational level how well it is achieving its goals.** As simple as this principle may appear, it poses an especially difficult challenge for Federal managers, for whom the link between Federal efforts and desired outcomes is often difficult to establish and may not, in fact, be apparent for years. Research programs provide one example. So do many health and welfare programs that are delivered jointly with State and local governments and third-party service deliverers. **Implications for Training Goals:** Whenever possible, training goals should measure the organizational results (outcomes) being achieved by the course graduates rather than be limited to measuring the training outputs. Given the challenges associated with demonstrating results, it is essential for training goals to build on the existing efforts being implemented for measuring performance. In addition, training goals may need to include input/output measures (e.g., numbers of people trained, resources used/saved, amount of skill transfer resulting, etc.) to augment the outcome or result indicators.

Best Practice	Description
Limited to the Vital Few	**The number of measures for each goal at a given organizational level should be limited to the vital few.** Those vital few measures should cover the key performance dimensions that will enable an organization to assess accomplishments, make decisions, realign processes, and assign accountability. Organizations that seek to manage an excessive number of performance measures may risk creating a confusing excess of data that will obscure rather than clarify performance issues. Limiting the number of performance measures to the vital few at each organizational level will help ensure that the costs involved in collecting and analyzing the data do not become prohibitive. **Implications for Training Goals:** An alternative to setting separate training goals is to add one or two training indicators to each performance goal.

Tip: Following Best Practices

Best Practice	Description
Link to Responsible Programs	**Performance measures should be linked directly to the offices that have responsibility for making programs work.** A clear connection between performance measures and program offices helps to both reinforce accountability and ensure that, in their day-to-day activities, managers keep in mind the outcomes their organization is striving to achieve. This connection at the program office helps to lay the groundwork for accountability as measures advance through the agency. By helping to lay the groundwork for accountability, a connection between performance measures and program offices also provides a basis for determining the appropriate degree of operational authority for various organizational levels. Managers must have the authority and flexibility for achieving the results for which they are to be held accountable. **Implications for Training Goals:** Training programs that are designed to address the organization's strategic goals do not succeed without cooperation and shared accountability with the program offices. Collaboration is an essential ingredient for success.

Example

The following example illustrates the process of linking strategic goals to training indicators:

Strategic Goal: Maximize trade compliance through a balanced program of informed compliance, targeted enforcement actions, and the facilitation of complying cargo.

Performance Goal: Achieve a 95% compliance rate for all primary focus industries.

Training Outcome Indicator

- 10% increase in collection of import fees.

Training Output Indicator

- All personnel will receive training by the end of the fiscal year.

Training Impact Indicator

- Risk management training will increase compliance levels by 95% (the comparable collection level without risk management is 85%). The value of this increase is estimated at more than $2.5 million.

Training Input Indicator

- 20% decrease in compliance resources used.

Tip: Developing an Action Plan

After training goals and performance measures are identified, you should develop an action plan for implementing and evaluating the training strategy or intervention that has been selected. You can use the Instructional Systems Design (ISD) model to help identify the tasks to be completed.

An action plan is a detailed description of the steps used to implement the selected training strategy. The action plan describes who performs each step and when the step is scheduled for completion. The resources necessary to carry out each task should also be specified in the plan.

Your action plan should include the following elements:

Task	Responsibility	Resources	Schedule
1. Conduct Front-End Analysis	Lead Instructional Design	10 staff days $15,000 contract expense	Begin: 06-15-00 End: 07-15-00

After the plan is implemented, you should establish a tracking system to monitor its the plan execution and impact. For each scheduled milestone, compare the actual performance with the proposed performance level, and report the results.

For all variances in scheduled performance, ask the following questions:

Analyzing Action Plan Performance Variances

- How does the reported performance compare with previous performance?
- Is the performance/schedule variance likely to prevent goal achievement?
- Are external factors affecting performance? If so, what are these factors?
- Is the performance/schedule variance due to unrealistic initial projections/planning? If so, what adjustments should be made?
- What modifications should be made to the action plan?
- When will performance information be collected again?

Suggested Resources

The resources listed below provide additional information relating to the process of incorporating training into the strategic plan.

Publications

Van Adelsberg, D. & Trolley, E.A. *Running Training Like a Business: Delivering Unmistakable Value.* San Francisco: Berrett-Koehler Publishers, Inc., 1999.

Publications available on the Government Performance and Results Act Multimedia Orientation and Toolkit *http://www.opm.gov/gpra*

U.S. Government Accounting Office. *Executive Guide: Effectively Implementing the Government Performance and Results Act* (06/01/96, GAO/GGD-96-118).

U.S. Office of Management and Budget. *Primer on Performance Measurement*, February 28, 1995.

Web Resources

http://www.npr.gov

This web site describes the **National Partnership for Reinventing Government**, and provides an extensive selection of GPRA documents, including primary reports, the final initiative, Presidential directives (the text of Executive Orders), Presidential memoranda, congressional action, and Government Accounting Office and Office of Management and Budget guidance.

http://www.opm.gov/perform/articles/095.htm

U.S. Office of Personnel Management, Workforce Performance Newsletter, ***Using a Balanced Scorecard Approach to Measure Performance.***

Traditionally, many Federal agencies have measured their organizational performance by focusing on internal or process performance, looking at factors such as the number of full-time equivalents allotted, the number of programs controlled by the agency, or the size of the budget. In contrast, private-sector businesses usually focus on the financial measures of their bottom line. Alone, neither of these approaches provides the full perspective of an organization's performance. This article explains that by balancing internal and process measures with results and financial measures, managers get a more complete picture of their organization's performance.

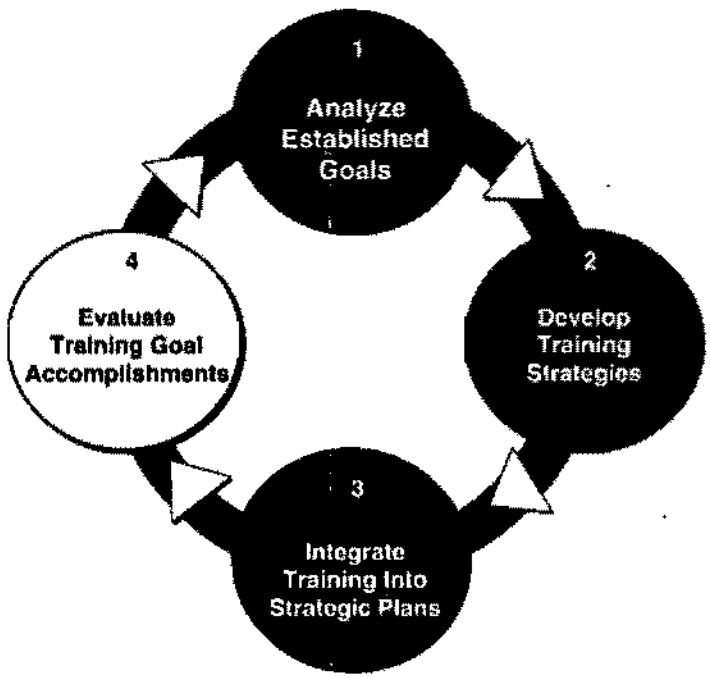
http://www.opm.gov/perform/articles/1999/pdf10.htm

U.S. Office of Personnel Management, Performance Management Practitioner Series, ***A Handbook for Measuring Employee Performance: Aligning Employee Performance Plans with Organizational Goals***

This handbook describes a method for developing employee performance plans that are aligned with and support organizational goals using an eight-step process.

> The key competitive difference [for agencies] in the 21st century will be people. All agencies need to take stock of their employees and assess future workforce needs.
>
> David Walker, Comptroller General
> National Academy of Public Administrators Conference
> As reported in *Federal Times* (September 1999)

Step 4: Evaluate Training Goal Accomplishments

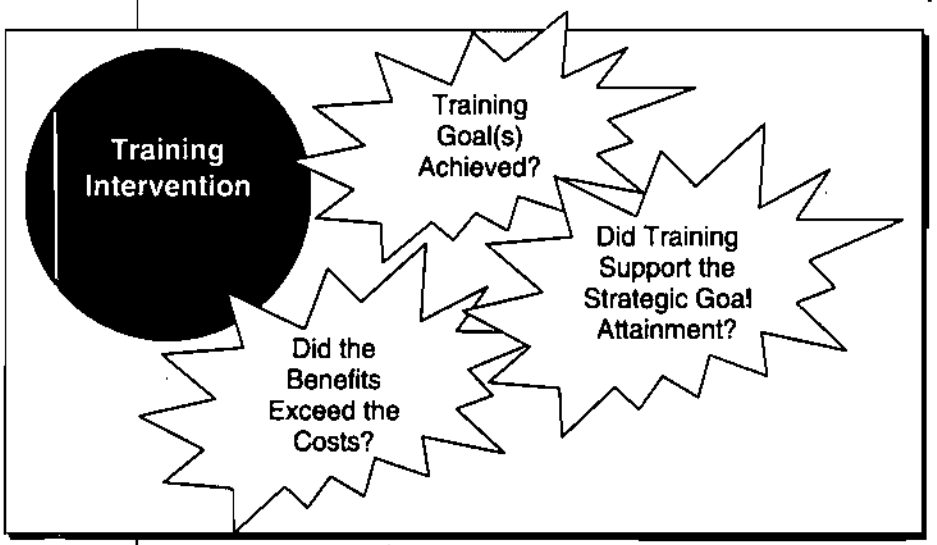


Step 4: Evaluate Training Goal Accomplishments

Introduction

When training is successful it supports the organization's attainment of its strategic goals. Training begins as a response to a need or opportunity in an organization. Evaluating training results brings training full circle to ensure that it is addressing the needs, problems, or opportunities it was originally intended to serve.

In specific, evaluating training goal accomplishments involves determining what outcomes or results have been gained by the organization and whether, considering the costs of training, that gain was worth the expense.



Evaluating training helps decision makers manage scarce resources. When decision makers know the training's contribution to the organization, they can:

- Identify those training programs that should receive funding.
- Justify increased expenditures on training.

When decision makers are unsure how training contributes to the agency's mission, they may find it difficult to justify training expenditures and may have to allocate limited training resources based on a "best guess" approach.

The Process

Suggested activities for completing this step include:

1. Assess training goal achievement.
2. Determine the cost of training.
3. Establish the worth of training.
4. Compare the benefits to the costs.
5. Assess results.

Step 4: Evaluate Training Goal Accomplishments

Tip: Assessing Training Goal Achievement

The starting point for your evaluation is to assess if the training goals were attained. If your training goals included performance indicators (see Step 3), then the process involves collecting data. The following table summarizes the different types of data collection methods.

Method	Advantages	Disadvantages
Interview	• Provides for more subtle and indepth information than other data collection methods. • Permits flexibility to probe ambiguous questions and responses. • Can verify other sources of information.	• Requires complex interviewing skills. • Involves the time of both the interviewer and the interviewee to complete. • Involves considerable cost. • Results frequently in hard-to-quantify information.
Survey	• Is easy to administer. • Enables results to be processed quickly and at relatively low cost. • Permits easy quantification and generalization of results due to standardized instrument. • Gives respondents more time to think about answers. • Assures anonymity of responses.	• Results frequently in individual differences in interpretation of items and scales. • Can result in information of questionable validity. • Is inflexible because the respondent must answer the questions asked. • Nonresponders may bias the end results.
Analyze Work Samples/ Performance Sampling	• Provides direct data on the performers' actual work outputs. • Is unobtrusive; analysis occurs without interrupting the work setting or routine.	• Can be costly and time consuming. • Requires analyst to understand the work area well enough to judge the samples.
Review Existing Monitoring and Reporting Data	• Provides direct data on outputs and inputs. • Is an extremely cost-effective means of collecting detailed information.	• Existing data may not be measuring the same types of indicators included in the training goals. • Validity and reliability of the data reporting systems may be insufficient.

Tip: Determining the Cost of Training

There has been a growing demand for accountability of training costs within the Federal Government in recent years. Decision makers realize how large the investment— both monetary and nonmonetary— in training and development has become, and they need to be assured of the value of training. They want to know which training programs work, and at what cost.

To determine the cost of training requires that you identify all of the expenses associated with designing, developing, implementing, and evaluating the training program. After you determine the types of expenses that apply to your program, you can then calculate costs.

The most common types of training costs are listed below. Note that this list is not exhaustive, and you may have unique costs not mentioned below.

Training Costs	Description
Training Attendance Costs	Attendance costs are the expenditures associated with: • Participant's time spent in training • Travel and per diem costs • Lost productivity or cost of replacing the individual while in training
Instructor Costs	Instructor costs are the expenditures associated with: • Instructor's time spent in training • Travel and per diem costs • Lost productivity or cost of replacing the individual while in training
Instructional Development Personnel Costs	Instructional development personnel costs are the personnel expenditures during the design and development of the training materials.
Additional Instructional Development Costs	Additional instructional development costs are the nonpersonnel resources used during the design and development of the training materials.
Facility, Material, & Equipment Costs	Facility, material, and equipment costs include direct costs associated with the delivery of the training.

Detailed worksheets for calculating training costs can be found in the OPM publication titled *Establishing the Value of Training Resource Guide (HRDG-023)*, March 1994.

Step 4: Evaluate Training Goal Accomplishments

Tip: Establishing the Worth of Training

You can establish the worth of the training by converting the change in the performance indicator into a dollar value representing its worth. Next, you should convert the change in benefits into a dollar amount. If this step is not completed, you may find it impossible to compare costs and benefits. By not converting the benefit to a dollar value, you would be comparing "apples to oranges." Therefore, if you cannot establish an "objective" cost figure for the benefits, you should use a "subjective value."

Some benefits are easy to convert into dollar amounts. For example, if there was a reduction in inputs, you can simply subtract the amount of overtime spent before training from the amount of overtime spent after training.

However, some benefits are more difficult to convert to dollar amounts. The following method establishes a "subjective" measure of the worth resulting from improved quality. This method assumes that the agency does not get full value unless personnel are performing at a high quality level. In addition, the assessment of "quality" is based on a subjective , 1-to-10 rating. You should only use this method when you cannot determine a more objective measure of improved quality.

Subjective Method for Establishing the Worth of Improved Performance Quality

Step	Calculation	Example
1. Determine the employee's annual compensation (salary plus benefits).		$ 50,000
2. Determine percentage of job being trained.		20%
3. Multiply annual compensation by percentage of job being trained.	annual compensation (line 1) times % of job being trained (line 2)	$ 10,000
4. On a 1-to-10 scale, rate performance quality level BEFORE training.	1 = Low Quality 5 = Moderate Quality 10 = High Quality	3
5. Multiply the BEFORE rating by 10 to determine the quality percentage.	quality rating (line 4) times 10	30%
6. Multiply the dollars spent on that portion of the job by the quality.	Dollars spent on portion of job (line 3) times quality percentage (line 5)	$ 3,000
7. On a 1-to-10 scale, rate quality level AFTER training.	1 = Low Quality 5 = Moderate Quality 10 = High Quality	8
8. Multiply the AFTER quality rating by 10 to determine the new quality percentage.	quality rating (line 7) times 10	80%
9. Multiply the dollars spent on that portion of the job by the quality percentage.	dollars spent on portion of job (line 3) times quality percentage (line 8)	$ 8,000
10. Determine the difference between BEFORE and AFTER worth.	value of AFTER (line 9) minus value of BEFORE (line 6)	$ 5,000

Tip: Comparing Costs and Benefits

You can use the following calculation to compare training costs and benefits:

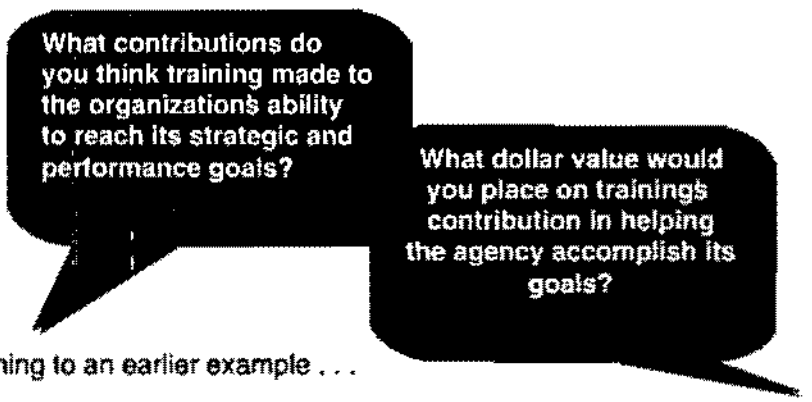
• Benefits per person	=	$ 7,000
• Cost of training per person	−	$ 3,000
• Return per person	=	$ 4,000
• Times number of people trained	×	100
• **Total Return on Investment**	=	**$400,000**

Depending on how you established the worth of your benefits, your return-on-investment amounts or ratios may only show the savings accrued during the first year. You may want to project the continued benefits to be derived from the training over time before calculating your return-on-investment ratio.

Tip: Assessing Results

It is admirable to get a return-on-investment from a training effort. However, not all training will result in a return-on-investment. And, even if the training saved $100,000, it is important to link how those savings enhanced the organization's ability to achieve its mission.

Therefore, you should ask key stakeholders:



Returning to an earlier example . . .

If import compliance is increased to 95% and $2.5 million additional fees are collected . . .

Then what was trainings contribution in helping realize this increase in performance?

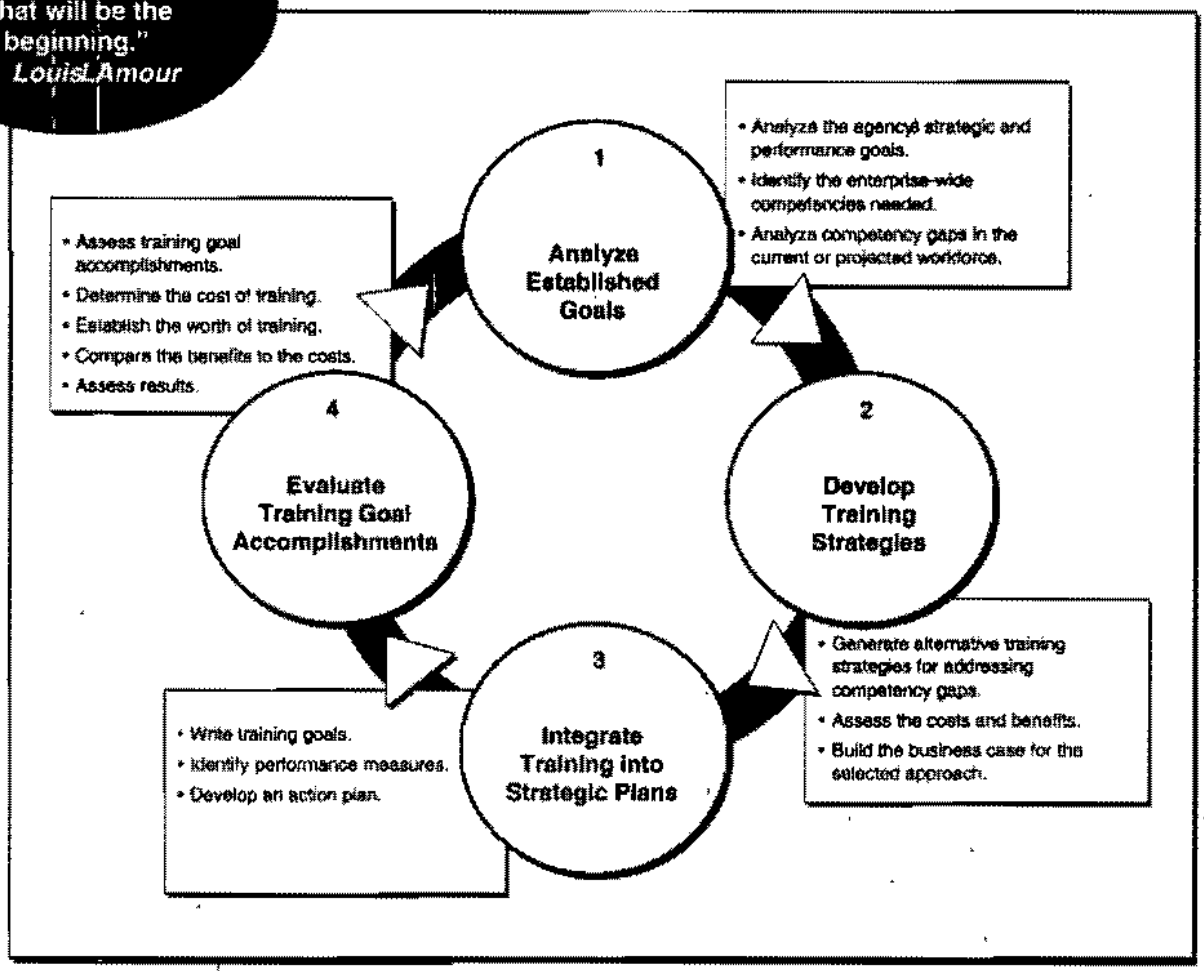
Step 4: Evaluate Training Goal Accomplishments

Tip: Coming Full Circle

Your evaluation findings are not just historical records of what was accomplished. The information you collect during the evaluation process is used to help revise and update your agency's strategic and performance plans.

As illustrated in the model shown below, planning training strategically is a cyclical process.

"There will come a time when you think everything is finished. That will be the beginning."
— *Louis L'Amour*



Suggested Resources

The resources listed below provide additional information relating to training evaluation process. Following is a small sample of the numerous resources available.

Publications

Kirkpatrick, D.L. *Evaluating Training Programs: The Four Levels*(2nd Edition), Englewood, CO: Berrett-Koehler Publishers, 1998.

Wholey J.S., Hatry H.P., & Newcomer K.E., eds. *Handbook of Practical Program Evaluation.* San Francisco: Jossey-Bass Publishers, 1994.

U.S. Office of Personnel Management, *Establishing the Value of Training Resource Guide (HRDG-023),* March 1994.

Web Resources

http://www.ehr.nsf.gov/EHR/REC/pubs/NSF97-153/start.htm

This link provides access to a National Science Foundation (NSF) publication titled ***User-Friendly Handbook for Mixed Method Evaluations.*** The assumption guiding this handbook is that a strong case can be made for using an approach that combines quantitative and qualitative elements in program evaluations. Although the focus of this handbook is on evaluating NSF projects for funded projects, the information directly applies to designing and conducting training outcome evaluations.

http://www.gao.gov

The **U.S. General Accounting Office** (GAO) web site lists select GAO Policy and Guidance Materials, including such guides as:

- *Designing Evaluations. PEMD-10.1.4.* May 1991.
- *Content Analysis: A Methodology for Structuring and Analyzing Written Material. PEMD-10.3.1.* September 1, 1996.
- *Prospective Evaluation Methods: The Prospective Evaluation Synthesis. PEMD-10.1.10.* November 1990.
- *Quantitative Data Analysis: An Introduction. PEMD-10.1.11* June 1992.
- *Using Structured Interviewing Techniques.* PEMD-10.1.5. July 1991.

http://www.ed.uiuc.edu/sped/tri/evalwkshp.htm

An online transcript of a workshop titled ***Planning and Constructing Performance-Based Evaluations*** conducted by Joseph S. Wholey and John A. McLaughlin. This workshop directly links performance-based evaluations to GPRA requirements.

http://www.astd.org/CMS/templates/template_1.html?articleid=11016

This link contains an article titled *Was It the Training?* by Jack J. Phillips.

Glossary

Abilities

Attitudes, characteristics, or attributes that a person needs to possess to perform a job task.

Benchmark

Comparative standard for evaluating accomplishments against known exemplars of excellence. A benchmark is a targeted goal that is beyond current capabilities, but for which the organization is striving.

Business Case

A method for projecting and documenting the benefits to be gained as a result of investing resources in a training intervention.

Chief Financial Officers (CFO) Act of 1990

The CFO Act was designed to remedy decades of serious neglect in Federal financial management operations and reporting. It provided for chief financial officers in the 24 largest Federal departments and agencies, which together account for about 98 percent of the Government's gross budget authority. In 1994, Congress followed up on the CFO Act with the Government Management Reform Act of 1994. The latter extended to all 24 CFO Act agencies the requirement, beginning with fiscal year 1996, to prepare and have audited financial statements for their entire operations.

Competency

A behavior or set of behaviors that describes excellent performance in a particular work context (e.g., job, role or group of jobs, function, or whole organization). Competencies can help ensure that individual and team performance aligns with the organization's mission and strategic directions.

Effectiveness

Effectiveness refers to the level of achievement of program goals and the results intended (as defined in strategic plans and in legislation). (Examples: "percentage of trainees employed 1 year after completing job training"; "percentage of compliance in filing tax returns"; "percentage of reduction in recreational boating accidents.")

Efficiency

Efficiency is the ratio of inputs to outputs; traditionally expressed as the amount of input (total costs) per unit of output, sometimes referred to as unit costs. (Example: "cost per transaction")

Focus Group

A facilitator-led group of 6 to 12 participants convened in order to gather information about training needs and/or the impact of training.

Government Performance and Results Act (GPRA) of 1993

The Government Performance and Results Act (GPRA) is the primary legislative framework through which agencies will be required to set strategic goals, measure performance, and report on the degree to which goals were met.

Impact Measure (Indicator)

A measure of the direct or indirect effects or consequences resulting from achieving program goals. An example of an impact is the comparison of actual program outcomes with estimates of the outcomes that would have occurred in the absence of the program. Measuring program impact often is done by comparing program outcomes with estimates of the outcomes that would have occurred in the absence of the program. If the impacts are central to the purpose of a program, these effects may be stated or included in the outcome measures themselves. The measurement of impact is generally done through special comparison-type studies, and not simply by using data regularly collected through program information systems.

Indicator

See Performance Indicator.

Inputs

The resources used in producing an output or outcome. They are usually expressed as amount of dollars or amount of employee time (such as hours or FTE). The amount of inputs is not the amount of incoming workload that all programs have in one form or another. For example, the number of cases that come into a program is not an input as the term is defined. The amount of inputs, together with the amount of outputs, is used to calculate productivity and efficiency.

Input Measure (Indicator)

Measures of what an agency or manager has available to carry out the program or activity; i.e., achieve an outcome or output. These measures can include employees (FTE), funding, equipment or facilities, supplies on hand, goods or services received, work processes or rules. When calculating efficiency, input is defined as the resources used. Inputs used to produce particular outputs may be identified through cost accounting. In a less detailed correlation, significant input costs can be associated with outputs by charging them to the appropriate program budget account.

Instructional Systems Design (ISD)

A systems approach to analyzing, designing, developing, implementing, and evaluating training. Each phase of the ISD process provides information that feeds directly into the next phase.

Instructor Costs

Instructor costs are the expenditures associated with instructor's time spent in training, travel to the training site, and lost productivity or cost of replacing the individual while in training.

Kirkpatrick's Evaluation Model

A four-level model of training evaluation that allows the measurement of different training outcomes including participant reactions, learning, on-the-job behaviors, and organizational results.

Knowledge

The facts, concepts, and principles needed to perform a job task.

Needs Analysis

A methodological process of collecting and analyzing information to determine specific gaps in performance or the lack of information necessary to do a job. (Also referred to as needs assessment or front-end analysis.)

Outcomes

The results of a program activity compared to its intended purpose. Quality, customer satisfaction and effectiveness indicators may all be used to measure outcomes. It may sometimes be useful to distinguish "intermediate outcomes" from "end outcomes," especially when end outcomes cannot be determined for 2 or more years into the future. Programs may have indicators for each of these categories.

Outcomes – End

End outcomes are the desired and (ultimate) results that are hoped to be achieved by the program activities. These results are directly related to the agency's mission. (Examples: illnesses prevented; clients whose status improved; reduced crime; clean air or clean water.)

Outcomes – Intermediate

Intermediate outcomes are those results that are expected to lead to the ends desired, but are not themselves "ends." In many programs, a progression or sequence of outcomes usually occurs. For example, an environmental protection program aimed at returning inland lakes to clean condition will likely involve a sequence of measurable outcomes. These outcomes include, in order: passage of State and local laws or technical assistance to businesses ("number of State and local programs that passed such laws or that provided such technical assistance"); businesses then take advantage of the technical assistance ("number of businesses that requested and received technical assistance from the program"); those businesses changed their behavior ("number of assisted businesses that took steps to reduce their hazardous waste"); hazardous waste material flowing into lakes was reduced ("amount of hazardous waste released by the particular industry"); water quality improves ("pollutant counts"); the condition of living resources in the receiving waters, such as fish and mammals, improves; and finally, citizens are able to use the waters for recreation and business purposes ("number of days of restricted fishing"). Only the last two outcomes should be considered as end outcomes.

Outcome Measure (Indicator)

An assessment of the results, effects, or impact of a program activity compared to its intended purpose. Outcome measurement cannot be done until the results expected from a program or activity have been defined. As such, an outcome is a statement of basic expectations, often grounded in a statute, directive, or other document. Outcome measurement also cannot be done until a program (of fixed duration) is completed or until a program (which is continuing indefinitely) has reached a point of maturity or steady state operations. While the preferred measure, outcomes are often not susceptible to annual measurement. Also, managers are more likely to manage primarily against outputs rather than outcomes. The measurement of incremental progress toward a specific outcome goal is sometimes referred to as an intermediate outcome.

Outputs

The products and services produced by a program or process and delivered to customers. Outputs result from internal activity or effort. Contrary to normal usage, GPRA uses the term "output" to cover both process and output. The amount of outputs, together with the amount of inputs, is used to calculate productivity and efficiency. Quality is another output indicator.

Output Measure (Indicator)

A tabulation, calculation, or recording of activity or effort that can be expressed in a quantitative or qualitative manner. The GPRA definition of output measure is very broad, covering all performance measures except input, outcome, or impact measures. Thus it covers output, per se, as well as other measures. Strictly defined, output is the goods and services produced by a program or organization and provided to the public or to the other programs or organizations. Other measures include process measures (e.g., paperflow, consultation), attribute measures (e.g., timeliness, accuracy, customer satisfaction), and measures of efficiency or effectiveness. Output may be measured either as the total quantity of goods or services produced, or may be limited to those goods or services with certain attributes (e.g., number of timely and accurate benefit payments). Some output measures are developed and used independent of any outcome measure. All outputs can be measured annually or more frequently. The number of output measures will generally exceed the number of outcome measures.

Performance

The accomplishment of actions that transform inputs (through a process) to outputs and outcomes. Inputs, process, outputs, and outcomes can therefore be considered the "performance continuum," that is, the progression of performance actions.

Performance Goal

A target level of performance expressed as a tangible, measurable objective, against which actual achievements can be compared, indicating a goal expressed as a quantitative standard, value, or role. Thus, these are the targets set by the program for specific reporting periods. A performance goal is a statement composed of two components: an indicator and a target. For example: "to increase the immunization rates for 2-year olds by 40 percent by 2001," includes the indicator *immunization rates*and the target *to increase rates by 40 percent by 2001.* GPRA requires annual goals for each indicator, but goals can be set for shorter periods (e.g., quarterly) for internal management purposes.

Performance Indicator

A particular value or characteristic used to measure outputs or outcomes. Indicators are signs that point to success or failure in performance and answer the question: "How will we know when we have been successful?" They refer to what specifically is to be measured for each aspect of performance; i.e., the specific numerical measurements that are to be made, such as the "number of customer complaints." Performance indicators are usually expressed in numbers or percentage form. The denominator used to form the percentage (or ratio) usually includes such things as cost, time, total universe size, or a historical record (e.g., compared to last year).

Performance Measurement

Performance measurement refers to measuring the performance of a program, a function, or a process. The term "performance" covers the work an organization(s) performs in converting inputs to outputs to outcomes.

Performance Plans

GPRA requires agencies to develop and maintain performance plans. Performance plans are submitted annually. The performance plan describes: the relationship to the strategic plan; the performance goals and indicators (for each Program Activity in the budget); operational processes, skills, and technology; the people, capital, information, or other resources needed to meet goals; and the means to be used to verify and validate measured values.

Process

The activities and tasks that add value to inputs to create outputs and outcomes.

Productivity

Productivity is the ratio of outputs to inputs, traditionally expressed as the amount of outputs per number of employees or amount of employee time. When factors other than direct labor are included in the input, the inputs are expressed in cost terms and a more comprehensive productivity rating is achieved. Example: "number of transactions per FTE or number of transactions per total costs." Productivity is also the ratio of outcomes to inputs; e.g., number of persons employed after training per unit of input (either labor hours or expenditure of funds); amount of dollars collected per unit of input.

Program

Grouping of activities directly supporting a major function of an agency.

Program Activity

A specific activity or project as listed in the program and financing schedules of the annual budget of the United States Government.

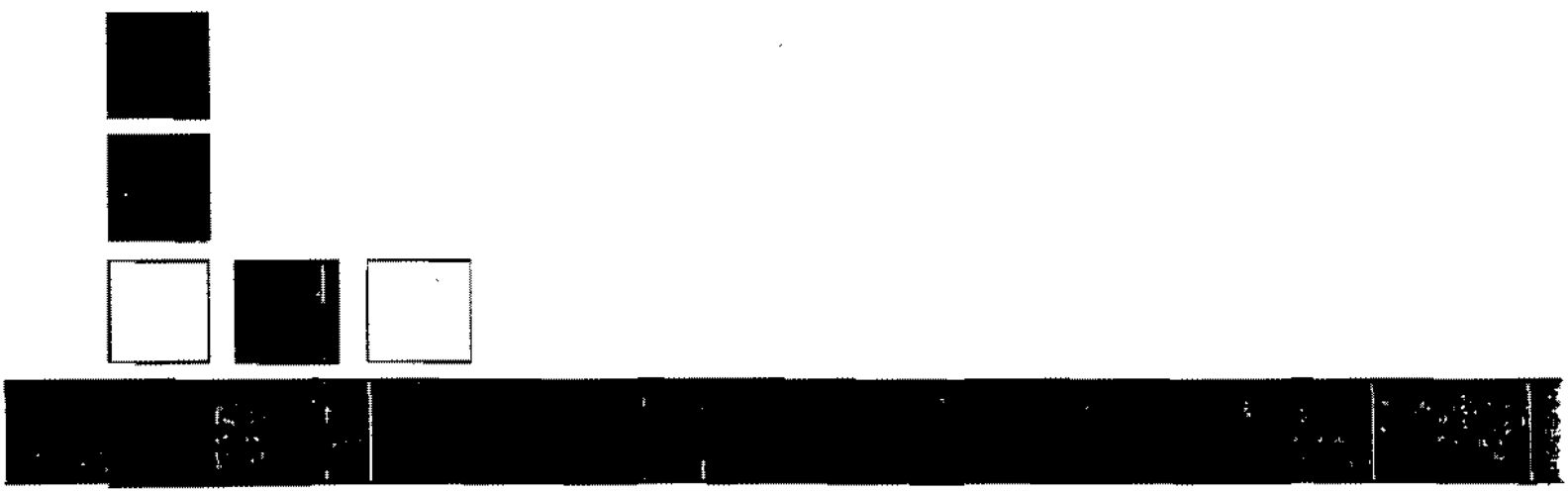
Program Evaluation	An assessment, through objective measurement and systematic analysis, of the results, impact, or effects of a program or policy— the manner and extent to which Federal programs achieve intended objectives. Program evaluations also are frequently used for measurement of "unintended" results, good or bad, which were not explicitly included in the original statement of objectives or foreseen in the implementation design. Evaluation can, therefore, serve to validate or find error in the basic purposes and premises that underlay a program or policy.
Program Performance Reports	GRPA requires agencies to submit an annual program performance report. This report presents a comparison of goals with agency's achievements, an explanation where goals were not met, and plans for meeting any unmet goals.
Quality	Quality refers to timeliness, accuracy, and conformance to requirements. Quality requirements may be used to measure several aspects of performance, such as outputs, process, intermediate outcomes, and in some cases, end outcomes. (Examples: "number or percentage of products delivered on time"; "cycle time of process"; "percentage of work corrected or cost of nonquality"; "number or percentage of products completed accurately"; "number or percentage of products conforming to requirements.")
Return-on-Investment	A comparison of the costs of training to the savings or other financial benefits derived as a result of training.
Stakeholders	Organizations, groups, or outside managers with a vested interest in the efficiency of the operations or the success of the organization in delivering effective outputs and maintaining the viability of a program.
Strategic Plan	GPRA requires agencies to develop and maintain strategic plans covering a 5-year period. The plan is updated every 3 years. The elements included in the strategic plan are: the agency's mission, general goals and objectives, the means and strategies to achieve goals and objectives (processes, skills, technologies, various resources), the relationship between performance goals in the performance plan and general goals and objectives in the strategic plan, the key factors that can affect achievement, and the program evaluations to be used and schedule of evaluations.
Target Population	The group of people for whom a training program is intended, usually defined in terms of age, background, and ability. (Also referred to as target audience.)
Task	A unit of work activity or operation that forms a significant part of a job function/duty (i.e., a major component of a job). A task constitutes a logical and necessary step in a performance, and usually has a logical beginning and end. A subset of a job.
Training Attendance Costs	Attendance costs are the expenditures associated with participant's time spent in training, travel to the training site, and lost productivity or cost of replacing the individual while in training.
Training Evaluation	The process used to measure the demonstrated ability of individuals and units to accomplish specific training objectives.

Training Methods

Any of the many instructional approaches or combinations of approaches to achieve learning such as classroom presentations, technology-based lessons, case-study exercises, etc.

Training Objective

A clearly communicated statement of the desired changes in the target population's skills, knowledge, or abilities. A training objective often includes a description of the "activity" to be demonstrated, the "conditions" under which the activity will be performed; and the "standards" for judging if the activity has been performed at the desired level.



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