

## 2003 Excellence in Practice Citation

Career Development



**Bank of America**

Charlotte, North Carolina

### *Instructional Design Foundations Course*

#### **SUMMARY**

The Instructional Design Foundations course is an on going, blended learning solution made up of five web-based training modules that provide foundational knowledge and skills in the use of the ADDIE process, Performance Needs Assessment, Training Needs Analysis, Writing Performance Based Objective, and Evaluation and Assessment of training.

This course requires approximately 17 hours to complete. The participants have the ability to chunk their learning as time and schedules allow and those with extensive knowledge and experience may pass a pre-test for each module which can greatly reduce the amount of time required to complete the course. It is delivered as a self-paced web-based training, including interactive components such as Discussion Thread activities, and skill application via case study scenarios and post work deliverables designed to enhance the transfer of training to “real life” application of the learning.

The course evaluation strategy includes the use of Donald Kirkpatrick’s four levels of evaluation and Jack Phillips ROI Process. A Level 1 questionnaire was used to collect Reaction/Satisfaction data and expected impact/results. The use of pre and post testing Level 2 to determine the extent of learning was built into each of the five modules. Electronic questionnaires were used for both pre and post training assessments from both the associate and the associate’s Manager to collect Level 3 and 4 data providing application/behavior change and business impact data. In addition, both a Level 1 ROI Forecast and an ROI Impact study were completed.

#### **BACKGROUND**

The goals of the Instructional Design Foundations course were to deliver a blended learning solution that provided the knowledge and skills necessary to design and develop curriculum throughout the organization using industry standard best practices. The associates that develop learning solutions need to be able to differentiate between training-appropriate and other performance needs, create observable and measurable performance objectives, create valid, performance-based learning assessments and demonstrate the ability to apply what they learned through a sample of their actual work.

The results of this course are closer alignment of learning solutions to business needs. All learning solutions created within the organization would have performance based objectives clearly defining what an associate will know or do differently as a result of the training and clearly state how success is to be measured. In addition the use of a standard set of tools, templates and examples will facilitate a reduction in process variation and an increase in the quality of learning solutions produced.

The course was developed using the Analysis, Design, Development, Implementation and Evaluation (ADDIE) model of Instructional Design. The course rolled out on 10 March 2003 and has over 300 associates enrolled. On going evaluation using Donald Kirkpatrick's Levels 1-4 and Jack Phillips Level 5 ROI are being used to make changes, improvements and determine the return on investment for the course. The course uses web enabled pre training assessments by both the associate and the associate's Manager and post training assessments for comparison, behavior change and business impact. The course has five web-based modules with pre and posttests to assess learning at the knowledge, comprehension and application levels. It also has an end of course questionnaire used to capture reaction and participant estimates of impact. The course has an estimated shelf life of 2-4 years and has high visibility within the organization.

The course was implemented across all business units on the organization's intranet and is accessible by associates at home through authorized remote access and is an essential part of the development path for any of the 900 plus associates involved with Analysis, Design, Development, Implementation, or Evaluation of learning solutions in the organization. The course exceeded its first year target enrollment of 300 participants in just five months.

A review of the resources committed to roll this course out to the organization can be broken down into phases of the ADDIE process. There was an average of two Full Time Employees (FTE) assigned to complete the Needs Analysis. The time spent and costs involved were \$3,470.00 based on salary and benefits costs. The Design and Development of the course to include pilot costs were \$141,690.00. This included two full time employees and three contractors for varying amounts of time throughout the project. The Implementation costs were based on a target of 300 associates taking the course in the first year and any maintenance or facilitation costs. Since it was a blended e-learning solution, facilitation costs were minimal and restricted to monitoring the course threaded discussions and maintenance of the websites by one FTE. Finally, the total Evaluation costs were \$8,096.00 performed by one FTE. All costs were fully loaded against the first year of the program. No costs were prorated over the expected 2-4 year life of the course. The fully loaded program cost for the Instructional Design course was \$312,478.50.

The course was designed to exemplify best practices of instructional design and adult learning theory. It recognizes the working adults need to learn when and where it is the most convenient and advantageous for them. It uses organization relevant examples and case studies to maximize the what's in it for me "WIIFM" nature of adult learners.

The course also uses a blended learning approach to leverage technology, accessibility and time to address the learning needs of working professionals. It allows those with extensive experience in instructional design to pass through certain modules by passing a pretest given before each module. The participants are required to participate in threaded discussions housed in a separate web board, which encourages even more interactivity by answering content related and questions focusing on how do use the information and tools on the job. This activity also has the benefit of creating a community of practice within the organization where associates can network with colleagues and build relationships that can assist in there own career development or advancement. The additional use of post course deliverables further enhances the learners transfer of learning to the jobs by making them apply there learning to real life projects that they are doing on the job.

After completion of the course the associate can utilize the course and it's resources links, as a form of performance support in the future as needed basis. The total learning experience using web-based modules, threaded discussions and post work deliverables as well as the recognition achieved by completing the course are significant achievements in the career of a learning professional within the organization. This achievement is recognized through e-mails to managers and senior leaders throughout the organization.

## **DOCUMENTATION**

### **Needs Identification**

1. *Describe the problem or need for which this practice is designed and implemented. How was this problem identified, and how was it determined that this practice is an appropriate response?*

The associates impacted by this course are located with in separate learning groups supporting various lines of business within the organization. Associates operate with different tools, processes, and role definitions. There are different levels of knowledge, skills and abilities found with in the organization. Most training professional in the organization have little or no formal training in instructional design. This has created a lack of consistency resulting in low associate satisfaction scores around individual and organizational performance.

Due to the variation in processes and the variation in knowledge and skill levels within the organization, ineffective solutions have been developed which negatively impact business results. The use of focus groups, process improvements teams and surveys drove a needs analysis to uncover ways to improve processes, reduce variation and investigation ways to make learning solution development more responsive, efficient and effective. The use of a modified version of the Robinson and Robinson, Performance Relationship Map was used to identify knowledge and skill gaps around instructional design, performance needs assessment, training needs analysis,

developing performance based objectives and determining the appropriate level of evaluation and learning assessment based on the business need.

The initial solution decision driving the course was based on a large target audience of over 900 associates, geographically separated around the world, and a business needs to accelerate implementation of e-learning within the organization. The solution decision and the in-house expertise to design, develop and implement a blended learning solution gained support from key learning leaders within the organization.

## Design Values

- 2. Please describe how this practice takes into account the best interests of both the organization and the employees targeted.*

The course was designed to exemplify best practices of instructional design and adult learning theory. It recognizes that working adults need to learn when and where it is the most convenient and advantageous for them. The course uses organization relevant examples and case studies to maximize what's in it for me "WIIFM" nature of adult learners. It also uses a blended learning approach to leverage technology, accessibility, learning styles, and any time access through the World Wide Web to address the learning needs of busy professionals. It allows those with extensive experience in instructional design to pass through certain modules by passing a pretest given before each module. The course has five web-based modules with pre and posttests to assess learning at the knowledge, comprehension and application levels. The participants are required to participate in a threaded discussions located on a separate web board. These threaded discussions encourage interactivity by answering content related questions and questions focusing on how they plan to use the new information and tools on the job. This activity also has the benefit of creating a community of practice within the organization where associates can network with colleagues and build relationships to enhance their career development. The additional use of post course deliverables further enhances the learner's transfer of learning to the job by making them apply their learning to real life projects they are doing back on the job. After completion of the course the associate can utilize the course and its resource links, as a form of performance support.

## Alignment

- 3. How is this practice in alignment with the performance identified, as described in your answer to question 1?*

The course focused on the knowledge and skill gaps identified during a needs analysis: instructional design, performance needs assessment, training needs analysis, developing performance based objectives and determining the appropriate level of evaluation and learning assessment based on the business need. The goal was not only to be a learning solution but also a best practice for emulation. The development of learning and performance objectives for each of five modules during design phase enabled a strong correlation to the assessment items for each of the modules and the

post work deliverables designed to facilitate the applications of the knowledge and skills learned. The learning assessments were built using a table of specification to track the assessment item to the objective, the number of items per objective and the level of learning each item measured. The modules and assessment items used organization related examples and case studies to make the information more relevant and easier to assimilate and transfer to the job for the associates.

The use of the Threaded Discussion web board built upon the concept of a community of practice and encouraged a knowledge sharing and networking for training professionals within the organization and addressing the need to reduce variation and use more standard processes and procedures. Instructions and templates for completing the post work deliverables were found by using the web board. In an effort to tie the threaded discussion to the web-based modules, the access codes for the module posttests and/or the next module pretest were embedded within threaded discussion questions. Evaluation results were very favorable. A training score card was developed reflecting Level 0 through Level 5 results to report on activity, reactions, learning, application/behavior change, business impact and Return on investment.

- 4. Please describe how this practice integrates other training, learning, and performance improvement practices, and aligns itself with organizational goals to achieve the desired outcomes.*

The organization is using Six Sigma tools and processes to become one of the world's most admired organizations. The integration of Six-Sigma change process using the Define Measure, Analyze, Improve, Control (DMAIC) and the ADDIE model of instructional Design are key enablers to reduce variation in learning solution design and development. The course is also being used as part of the education and communication tool around the use of Six Sigma implementation and standardization of process within the organization. To determine if a training solution was needed the course designers used performance needs assessment techniques and the Robinson and Robinson's Performance Relationship Map as tools to define the problem and uncover knowledge and skill gaps.

- 5. What evidence is there of partnerships within and outside the organization (e.g. with senior management, frontline supervisors, unions, external training suppliers, consortia)?*

The Instructional Design Foundation course designers partnered with internal learning leaders, selected subject matter experts and volunteers during the needs analysis and pilot test phases of the course. This partnership resulted in revisions and improvements to the course prior to its full rollout on 10 March 2003. The improvements included the addition of a Note Taker that parallels the course modules but does not repeat it. This enables the learner to take notes instead of printing web pages from the course. It also encourages more active learning and addresses the different learning styles of the participants.

## Evaluation Strategy

6. *How is this practice evaluated? What factors are included in your calculations (e.g. time, costs, staff count, lost phone calls, customer satisfaction)? Are the financial costs of this practice calculated? If so, how? How often is this practice evaluated?*

Evaluation using Donald Kirkpatrick's Levels 1-4 and Jack Phillips Level 5 ROI are being used to make changes, improvements and determine the return on investment for the course. The course uses web enabled pre training assessments by both the associate and the associates Manager and post training assessments for comparison, behavior change and business impact. It has five web-based modules with pre and posttests to assess learning at the knowledge, comprehension and application levels. It also has an end of course questionnaire used to capture reaction and participant estimates of impact. The course has an estimated shelf life of 2-4 years and has high visibility with in the organization.

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## Results

7. *What specific participant behaviors are observed as a result of this practice, and how do these behaviors contribute to the goals of the practice? Are the impacts of these behaviors short-term or long-term? How do these behaviors differ from the results of previous practices?*

First, to provide an overview of the results obtained from the Instructional Design Foundations course, a training scorecard approach was used based on inputs or Level 0 - Activity, Donald Kirkpatrick's Levels 1-4 and Jack Phillips Level 5 ROI.

### **Level 0 Results – Activity**

- Target population 900 associates - 2003 Target: 300 +
- 17 hr blended learning solution: 5 WBT modules, TDs questions, and Post-work
- Course rolled out 3/10/03 - on-going (expected shelf-life 2-4 years)
- Enrollment as of 8/22/03, 318; Completions: 52

### **Level 1 Results – Participants Reaction/Satisfaction/Expected Results**

1-5 Likert Scale & Business Impact Estimates %. Key indicators:

- Content will be useful in my job: 4.5
- The course contained valuable information: 4.0
- This blended solution enhanced my learning experience: 4.0
- I would recommend this course to others: 4.2
- Is the course a good investment for the Bank: 57% of Managers & 77% of Associates

Associates  
said "Yes"

### **Level 2 Results – Learning**

Module Pre and Post Test Scores:

- Average Module Pre Test: 65%
- Average Module Post Test: 92%
- Percentage Gain from Course: 27%
- Percentage Improvement in Pretest scores: 30%+

### **Level 3 Results - Application/Behavior Change**

Associate and Manager Pre-training & Post-Training Questionnaires:

- Both Manager's and the Associates reported increases in the participant's level of knowledge and skill on ten key learning objectives from the course.
- Knowledge & skills (K/S) learned in the course; used on the job: 90% expected to use  
Over 90% did use K/S's on the Job within week
- Coach Other Associates: Over 76% of participants expected to coach other associates within a week, over 70% actually reported coaching associates within a week.
- Providing more effective solutions for partners: 76% expected to within a week,  
Over 70% reported actually doing it within a week
- Greatest barriers to applying new skills: **Before training:** Lack of Knowledge & Skill and Time **After training:** Time & Mgmt Support
- Both Associates and Manager reported an increase in their ability to apply the Knowledge and Skills learned from the course after Training.

### **Level 4 Results – Business Impact** (*Based on Manager Estimates--Reduced by confidence factor ratings and the impact of other possible causes*)

- Increased associates effectiveness to manage, develop, or implement training solutions: 47%
- Increased Output 20%, Quality 20 %; Reduced Cost 20%, Response Time 12%,  
Reduced Rework 20%, Increased Efficiency: 20%
- Total Business Impact in dollars saved or generated as a result of the training.  
Reduced by the Manger's confidence rating and Isolation of other factors: **\$674,475.00**

**Level 5 Results – Return-on-Investment (ROI)** (*Based on Manager Estimates--  
Reduced by confidence factor ratings and the impact of other possible causes*)

- ROI Level 1 Forecast: 61% ROI
- Actual ROI 115% calculated on 8/21/03

**Intangible Benefits: Manager Estimates of Impact**

- Reduced Absenteeism: 5%, Increased Associate Satisfaction: 20%, Increased Customer Satisfaction: 5%, Reduced Associate Turnover: 20%
- Increased use of standards, processes and tools
- Development of informal networks by associates, greater use of a common language around instructional design and an increased focus on performance needs assessment.

Second, the use of pre and post assessments from the Associate and the Associates Manager assessed knowledge, skill and behaviors before training and after training. This helped identify key behaviors based on objectives from the course, which were determined during the needs analysis as critical to quality knowledge and skills desired as a result from the course.

**Pre-Training Data**

<b>Above Average = 5, Average = 4, Some = 3, Little = 2, None = 1</b>		
<b>Current Knowledge/Skills</b>	<b>Average Rating</b>	<b>Average Rating</b>
<i>Please rate current level of Knowledge/Skill on the following to:</i>	<b>Associate</b>	<b>Manager</b>
Explain how improvement processes like ADDIE contribute to achieving business needs	3.0	3.0
Determine an appropriate course of action using the Performance Improvement Process	2.9	3.0
Explain a training professional's role in addressing performance issues	3.3	4.0
Determine the appropriate use of a Training Needs Analysis	3.1	3.0
Determine the information required to complete a Training Needs Analysis	2.9	3.0
Determine the appropriate use of performance-based objectives	3.3	3.0
Indicate the risks of not using performance-based objectives when developing training	3.2	3.0
Determine the appropriate use of training evaluation and learning assessment	3.2	3.0
Describe the process of building assessments to evaluate learning outcomes	3.1	3.0
<b>Group Average</b>	<b>3.1</b>	<b>3.1</b>

**Immediately = 5, Within a week = 4, Within a month = 3, eventually = 2,**

Never = 1

**Expected Use of Knowledge and skills: Associate Manager**

Use the Knowledge/skills learned in the workplace:	4.5	4.0
Coach other associates	3.8	4.0
Providing more effective solutions for partners:	4.4	4.0

100% = 5, 75% = 4, 50% = 3, 25% = 2 0% = 1

**Expected use of Knowledge/Skills Associate Manager**

Percentage of time expect to work on tasks requiring the skills learned from the course	3.6	4.0
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Always Inhibits=5, Usually or Often Inhibits = 4, Occasionally Inhibits = 3, Rarely Inhibits = 2, Never Inhibits = 1

**Barriers To Use**

Lack of Management support	1.9	2.0
Lack Partner acceptance	2.4	3.0
Lack of Time	2.7	3.0
Lack of Resources	2.5	3.0
Lack of Knowledge and skills	2.7	3.0
Varying Job Responsibilities	2.8	3.0

**Post-Training Data**

Above Average = 5, Average = 4, Some = 3, Little = 2, None = 1

<b>Current Knowledge/Skills</b>	<b>Average Rating</b>	<b>Average Rating</b>
<i>Please rate current level of Knowledge/Skill on the following to:</i>	<b>Associate</b>	<b>Manager</b>
Apply the Analysis, Design, Development, Implementation and Evaluation (ADDIE) Process to build learning solutions	4.8	4.1
Explain how improvement processes like ADDIE contribute to achieving business needs	4.8	3.7
Determine an appropriate course of action using the Performance Improvement Process	4.7	3.9
Explain a training professional's role in addressing performance issues	4.5	3.9
Determine the appropriate use of a Training Needs Analysis	4.9	4.0
Determine the information required to complete a Training Needs Analysis	4.9	3.7

Determine the appropriate use of performance-based objectives	4.9	4.1
Indicate the risks of not using performance-based objectives when developing training	4.7	4.3
Determine the appropriate use of training evaluation and learning assessment	4.5	4.3
Describe the process of building assessments to evaluate learning outcomes	4.7	4.4
<b>Group Average</b>	<b>4.7</b>	<b>4.0</b>

**Immediately = 5, Within a week = 4, Within a month = 3, eventually = 2, Never = 1**

**Use of Knowledge and skills:**

Used the Knowledge/skills learned in the workplace: 85 % used immediately or within a week.

<b><u>Associate</u></b>	<b><u>Manager</u></b>
4.9	4.3

**100% = 5, 75% = 4, 50% = 3, 25% = 2 0% = 1**

**Use of Knowledge/Skills**

Percentage of time working on tasks requiring the skills learned from the course: 70% or more of their time is spent on tasks requiring the knowledge and skills learned from the course.

<b><u>Associate</u></b>	<b><u>Manager</u></b>
4.5	4.0

**Always Inhibits=5, Usually or Often Inhibits = 4, Occasionally Inhibits = 3, Rarely Inhibits = 2, Never Inhibits = 1**

**Barriers to use of new knowledge/skills:**

	<b><u>Associate</u></b>	<b><u>Manager</u></b>
Lack of Management support	4.5	4.3
Lack Partner acceptance	3.0	3.1
Lack of Time	3.7	4.1
Lack of Resources	2.3	3.0
Lack of Knowledge and skills	2.1	2.7
Varying Job Responsibilities	3.2	3.6

<b>Knowledge and Skills</b>	<b>Associate</b>	<b>Manager</b>
Rate your/your associates ability to apply the Knowledge and skills, <b>BEFORE</b> training	3.7	3.0
Rate your/your associates ability to apply the knowledge and skills, <b>AFTER</b> training	4.5	4.0

The use of 90-day post training data collection revealed increases in both knowledge and skill reported by the associate and the associates Manager. The associates tended to self-report higher gains than the Associate’s Manager.

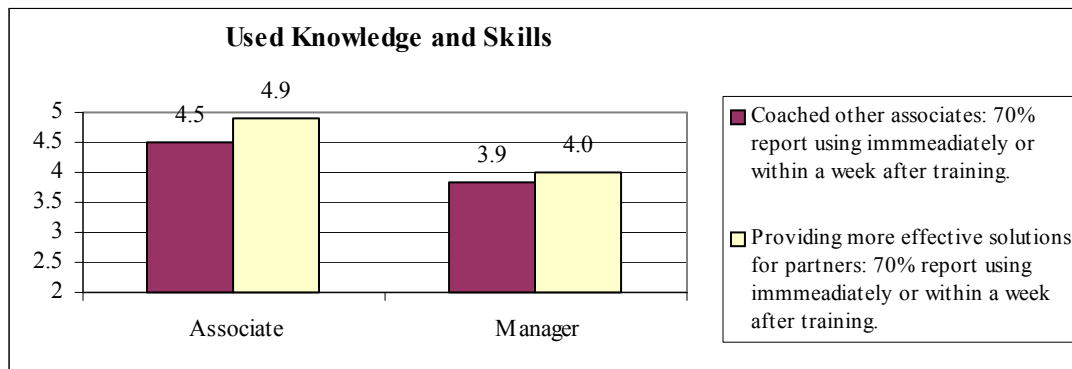
8. *What was the impact of the practice on your organization? Are the impacts of these behaviors short-term or long-term?*

The impact of this course and the resulting changes it is making in the organization can be summed up as impressive. First, evaluation of a training course has never been done beyond level 3. The organization has consistently used Level 1 evaluation of training but Level 2 and 3 have not been used very often. The use of a blended e-learning solution was again a first of its kind in the organization and has shown the possibilities surrounding using e-learning to accomplish professional development and continuing education for associates. Since the course was evaluated at Level 4, Business Impact the following data illustrates Associate and Manager responses to post training questionnaires, which were delivered electronically.

**Business Impact Measures Post Training**

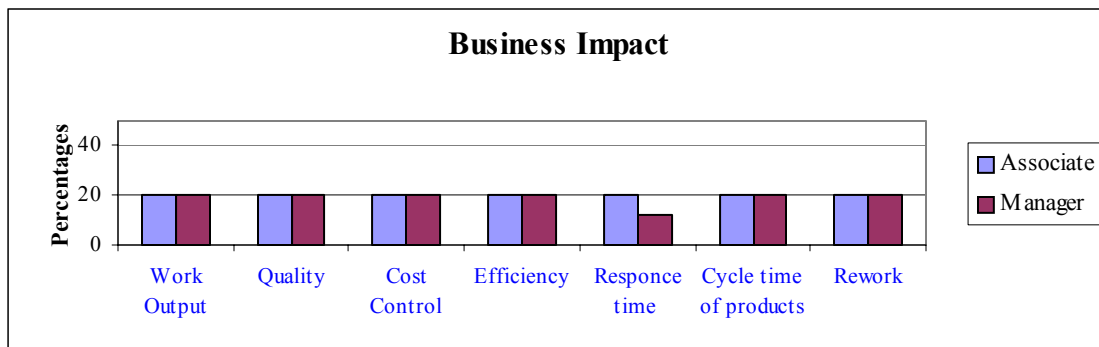
**Scale: Immediately = 5, Within a week = 4, Within a month = 3, eventually = 2, Never = 1**

<b>Use of Knowledge and skills:</b>	<b>Associate</b>	<b>Manager</b>
Coached other associates: 70% report using immediately or within a week after training.	4.5	3.9
Providing more effective solutions for partners: 70% report using immediately or within a week after training.	4.9	4.0



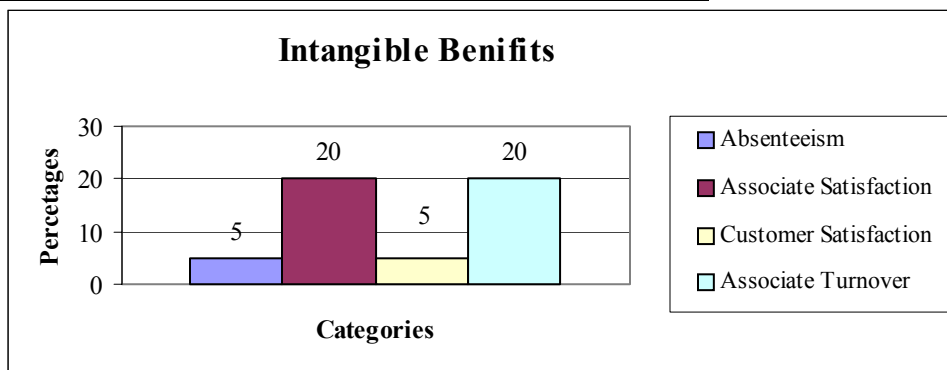
**Business Measures Impacted By The Training: *After Isolation and confidence factor reductions***

<b>Reported Business Impact %</b>	<b>Associate</b>	<b>Manager</b>
<i>Work Output</i>	20	20
<i>Quality</i>	20	20
<i>Cost Control</i>	20	20
<i>Efficiency</i>	20	20
<i>Response time</i>	20	12
<i>Cycle time of products</i>	20	20
<i>Rework</i>	20	20



**Intangible Benefits**

<b>Percentages</b>	<b>Percentage</b>
Decreased Absenteeism	5
Increased Associate Satisfaction	20
Increased Customer Satisfaction	5
Decreased Associate Turnover	20



## Shared Learning

9. *What have been some of the specific lessons learned from designing and implementing this practice for the purposes of continuous internal improvement? Please discuss whether and how this practice might be transferred and replicated both internally and external to your organization.*

The lessons learned from this project ranged from gaining senior level support for project initiation thorough to the development of a note taking guide and use of a web board for participants.

A pilot test was used to test the design and gain support from key stakeholders. The pilot test used representatives of key stakeholders with varying knowledge and skill levels. Lessons learned were gathered from post pilot focus groups and reaction questionnaires contributing to the success of the course. The use of a project management plan and a disciplined approach to the design of the course added to the structure and results obtained. The use of performance based objectives in the course design and development provided a direct link between the objectives of each module and it's corresponding assessment items. Scores from the module tests showed consistent improvement as a result and validated learning was taking place. Also the use of a pretest allowed those more experienced instructional designers to by-pass sections they were already proficient in.

The development of an electronic Note Taking guide available for download and printing by participants accompanied the web-based modules. This Note taking guide addressed the different learning styles and enhanced learning experience for the participants. Participants were able to take notes on keys topics without having to print the web pages when they felt they needed additional review of the course material. The use of a participant Web board to encourage people to interact with other participants enhanced the level of participation and interaction from the course. Another use for the web board was a place to store the directions and documents required for the post work deliverables. The post work required the participants apply their learning on the job by actually asking performance needs analysis questions, completing a training needs analysis, developing performance based objectives, and writing assessment questions based on the objectives they had produced.

## Contact

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