

# **REPORT**

## **Technology in Distance Learning**

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Date:	05 January 2007 03:49 PM
Currency:	US Dollar

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## Report

### Course Analysis

General	
Course Title	Technology in Distance Learning
Reference Code	ABC001
Expected Life of Course [years]	3
Course Start Date	01/01/2003
Course Start-up Costs [Year]	Course Start-up Date
Training Division	Test Training Division
Course Manager	Bahlis Jay
Risk Analysis	ADVISOR 3.5
Criterion for Combining Data	Lowest Common Denominator
Estimate Number of Trainees in	Years

### Trainees Per Year

Trainees Per Year	
Year	Number Of Trainees
2003	150
2004	150
2005	150

### Instructional Goals

100 Recall 20 methods for the delivery of training

Goal	
Instructional Goal	Recall 20 methods for the delivery of training
Length [hours]	11
Learning Objective/Outcome	Knowledge / Comprehension Skills
Module	2
Sequence	100

200 List advantages and disadvantages of delivery methods

Goal	
Instructional Goal	List advantages and disadvantages of delivery methods
Length [hours]	3
Learning Objective/Outcome	Knowledge / Comprehension Skills
Module	2
Sequence	200

**300 Conduct preliminary media selection analysis**

Goal	
Instructional Goal	Conduct preliminary media selection analysis
Length [hours]	2
Learning Objective/Outcome	Knowledge / Comprehension Skills
Module	2
Sequence	300

**400 Manage the development of a CBT/WBT project**

Goal	
Instructional Goal	Manage the development of a CBT/WBT project
Length [hours]	2
Learning Objective/Outcome	Knowledge / Comprehension Skills
Module	2
Sequence	500

**500 Evaluate the effectiveness of CBT and WBT courseware**

Goal	
Instructional Goal	Evaluate the effectiveness of CBT and WBT courseware
Length [hours]	3
Learning Objective/Outcome	Knowledge / Comprehension Skills
Module	2
Sequence	600

**History**

09/09/2005 Bahlis Jay

History	
Description of Changes	Imported from Advisor 3.5

09/21/2005 Bahlis Jay

History	
Description of Changes	Modified throughput

09/22/2005 Bahlis Jay

History	
Description of Changes	Modified Instructor costs

04/12/2006 Bahlis Jay

History	
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Description of Changes	Modified Hardware Costs
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### Instructional Design Factors

Content	
Course Objective	Initial training
Training Level	
Reasons for Course	Necessary for job
Consistency in Delivery	Critical
Course Relevance	Prerequisite

Audience	
Trainees Resistance to Change	
Trainees Motivation	
Trainees Skill/Proficiency	
Trainees Receptive to Computers	
Trainees Reading Ability	
Trainees Ability to Travel	
Value of Trainees Time	
Trainees Location	

Evaluation	
Trainees Work in Team	Sometimes
Trainee Evaluation	Not required

Limitations	
Development/Revision Time	Adequate
Delivery Time	Flexible
Budget	Flexible
Scheduling	Waiting period > 6 months

Hardware	
Access to Computers	
Access to Multimedia PC	
Access to Internet/Intranet	
Access to Video Conferencing	
Connection Speed	

Application	
Consequences of Errors	Low
Safety of Individuals	Not applicable
Damage to Equipment	Not applicable
Business Loss	Medium
Tarnish Image	Low
Apply Knowledge	Complex (decision making)

**Cost Factors**

Trainees		
Trainee Annual Salary	I	\$ 80,000
Fringe Benefits Factor [%]		30 %
Annual Productive Days		230
Trainees Working Hours per Day		8
Lost Opportunity Costs [per day]	I	\$ 0
Present Recurring Costs for Year		2003

Hardware		
# of Internet Connections [per site]		10
Internet Connecting Charges [per line/mth.]	D	\$ 40
# of Audio (Phone) Lines [per site]		1
# of Video (Phone) Lines [per site]		4
Phone Line Connecting Charges [per line/mth.]	D	\$ 40
Audio Transmission Costs [per line per hr.]	D	\$ 9
Video Transmission Costs [per line per hr.]	D	\$ 9

Capability	
Capability of CBT/WBT Authoring Tools	High
Capability of EPSS Authoring Tools	High
Capability of Simulation Authoring Tools	Medium
Capability of Synchronous Authoring Tools	Medium
Availability of Productivity Tools	High
Authoring Tool Support to Multimedia	Medium
Delivery Hardware Capabilities	High
Team Members Time Dedicated to Project	Medium

Expectations	
Client Expectations	Medium

**Knowledge / Comprehension****Feasibility Analysis****Requirements**

<b>Content</b>	
Urgency of Changes	Flexible
Referred To	Regularly
Large Memorization Component	
Electronic Information Search	
Course Classification	Public domain
Course Status	Existing
Self Pacing	Not at all
Course Scope	General
Course Content	None of the above

<b>Display</b>	
Drawings/Diagrams	
Still Images	Required
Audio	Not required
Full Motion Video	Not required


<b>Activity</b>	
Hands On Exercises	Not applicable
Guided Discussions	Required
Role Play	Required
Teaming Exercises	Not required
Share Experiences	Desired

<b>Safety</b>	
Personal Safety	Not Applicable
Safety of Others	Not Applicable
Environmental Safety	Not Applicable
Equipment/Data Integrity	Not Applicable

<b>Evaluation</b>	
Amount of Data Collected	Small
Evaluation Mode	
Testing Requirement	Not required
Type of Data Collected	Comments

Limitations	
Trainers Resistance to Change	High
Deployable Training	
Instructors/SME Availability	Short
Reference Material Availability	Limited
Delivery Option	Subject Matter Expert

Supplements	
Reference Material/Handouts	No
Audio Tapes	No
Video Tapes	No
Streaming Audio/Video	No
Computer Based/On-Line Testing	No
Intelligent Tutorial	Yes
Hypertext	Yes
On-Line Reference Material	No
Hypermedia	Yes
EPSS/Job Aids	Yes
On-Line Support (i.e. Virtual Classroom, Chat)	No
Communication Plan	Yes

 Rating

## Feasibility Rating

Delivery Methods	Rating	Supplement	Total
Level 4 ICW - Real Time Participation	94	1	95
Video Conferencing	90	5	95
Level 3 ICW - Complex Participation	93	1	94
Computer Conferencing	88	5	93
Video Tele-Conferencing	88	5	93
Internet Virtual Classroom	89	4	93
Instructor with Computers	90	2	92
Level 2 ICW - Limited Participation	91	1	92
Level 1 ICW - Passive	90	1	91
Instructor-led (Classroom)	88	2	90
Instructor-led (On-location)	86	3	89
Audio Conferencing	83	5	88
<b>Minimum Recommended Score</b>			72
Level 2 - Part Task Trainer	0	0	0

**Internet Virtual Classroom rating reduced because:**  
**Trainees Work in Team=Sometimes**  
**Scheduling=Waiting period > 6 months**  
**Role Play=Required**  
**Reasons for Course=Necessary for job**  
**Instructors/SME Availability=Short**  
**Guided Discussions=Required**  
**Course Relevance=Prerequisite**

### Rating Result

Level 4 ICW - Real Time Participation	94	1	95
Video Conferencing	90	5	95
Level 3 ICW - Complex Participation	93	1	94
Computer Conferencing	88	5	93
Internet Virtual Classroom	89	4	93
Video Tele-Conferencing	88	5	93
Instructor with Computers	90	2	92
Level 2 ICW - Limited Participation	91	1	92
Level 1 ICW - Passive	90	1	91
Instructor-led (Classroom)	88	2	90
Instructor-led (On-location)	86	3	89
Audio Conferencing	83	5	88
Instructor with Equipment	0	0	0
Intelligent Tutor	0	0	0
Level 3 - Deployable Task Trainer	0	0	0
Level 2 - Part Task Trainer	0	0	0
Level 1 - Desktop Trainer	0	0	0

Level 4 - Full Task Trainer	0	0	0
Embedded Training (Appended)	0	0	0
EPSS	0	0	0
Hypermedia	0	0	0
Hypertext	0	0	0
Fully Embedded Training	0	0	0
Virtual Reality Level 3 - Fully Immersive	0	0	0
Virtual Reality Level 2 - Partially Immersive	0	0	0
Virtual Reality Level 1 - Augmented	0	0	0
Print	0	0	0
Print with Computer	0	0	0
Print with Equipment	0	0	0
Audio Tapes	0	0	0
Video Tapes	0	0	0
Video Tapes with Computer	0	0	0
Video Tapes with Equipment	0	0	0

Reasons for reducing the effectiveness of the following methods:	
Level 4 ICW - Real Time Participation	
Trainees Work in Team	Sometimes
Role Play	Required
Guided Discussions	Required
% of Content That Changes	10
Video Conferencing	
Scheduling	Waiting period > 6 months
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Course Relevance	Prerequisite
Level 3 ICW - Complex Participation	
Trainees Work in Team	Sometimes
Share Experiences	Desired
Role Play	Required
Length of Module [hours]	21
Guided Discussions	Required

Computer Conferencing	
Trainees Work in Team	Sometimes
Scheduling	Waiting period > 6 months
Role Play	Required
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Guided Discussions	Required
Course Relevance	Prerequisite
Internet Virtual Classroom	
Trainees Work in Team	Sometimes
Scheduling	Waiting period > 6 months
Role Play	Required
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Guided Discussions	Required
Course Relevance	Prerequisite
Video Tele-Conferencing	
Scheduling	Waiting period > 6 months
Role Play	Required
Reasons for Course	Necessary for job
Length of Module [hours]	21
Instructors/SME Availability	Short
Guided Discussions	Required
Course Relevance	Prerequisite
Instructor with Computers	
Scheduling	Waiting period > 6 months
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Course Relevance	Prerequisite
Level 2 ICW - Limited Participation	
Trainees Work in Team	Sometimes
Share Experiences	Desired
Role Play	Required
Length of Module [hours]	21
Guided Discussions	Required
Level 1 ICW - Passive	
Trainees Work in Team	Sometimes
Share Experiences	Desired
Role Play	Required
Length of Module [hours]	21
Guided Discussions	Required

Instructor-led (Classroom)	
Scheduling	Waiting period > 6 months
Reference Material Availability	Limited
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Course Relevance	Prerequisite
Instructor-led (On-location)	
Scheduling	Waiting period > 6 months
Reference Material Availability	Limited
Reasons for Course	Necessary for job
Instructors/SME Availability	Short
Course Relevance	Prerequisite
Audio Conferencing	
Trainees Work in Team	Sometimes
Still Images	Required
Scheduling	Waiting period > 6 months
Role Play	Required
Reasons for Course	Necessary for job
Length of Module [hours]	21
Instructors/SME Availability	Short
Guided Discussions	Required
Course Relevance	Prerequisite
Instructor with Equipment	
Real Equipment	Not required
Intelligent Tutor	
Learning Objective/Outcome	Knowledge Skills Group
Level 3 - Deployable Task Trainer	
Real Equipment	Not required
Level 2 - Part Task Trainer	
Real Equipment	Not required
Level 1 - Desktop Trainer	
Real Equipment	Not required
Level 4 - Full Task Trainer	
Real Equipment	Not required

Embedded Training (Appended)	
Course Objective	Initial training
Learning Objective/Outcome	Knowledge Skills Group
Real Equipment	Not required
EPSS	
Course Objective	Initial training
Hypermedia	
Audio	Not required
Course Objective	Initial training
Full Motion Video	Not required
Hypertext	
Course Objective	Initial training
Fully Embedded Training	
Course Objective	Initial training
Learning Objective/Outcome	Knowledge Skills Group
Real Equipment	Not required
Virtual Reality Level 3 - Fully Immersive	
Virtual Reality Level 2 - Partially Immersive	
Virtual Reality Level 1 - Augmented	
Print	
Print with Computer	
Print with Equipment	
Real Equipment	Not required
Audio Tapes	
Video Tapes	
Video Tapes with Computer	
Video Tapes with Equipment	
Real Equipment	Not required

**Development Time Analysis****Requirements**

<b>Content</b>	
Learning Objectives	Low
Complexity of Material	Low
Instructional Strategies	Medium
Desired Creativity	Medium
Frequency of Interactivity	Low
Complexity/Frequency of Graphics	Low
Complexity/Frequency of Animation	Low
Voice/Audio Integration	Low
Video Integration	Medium
Flexibility in Navigation	Low
Testing Requirements	Low
Complexity of Questions	Low
Complexity of Response Analysis	Low
Nature and Depth of Feedback	Low
Computer Managed Instruction	Low
Nature/Quality of Existing Material	High
Quality of Developed Module	Low

**Summary Result**

<b>Method Group Name</b>	<b>Development Hours</b>
Instructor	32
Print	45
Audio Tapes	43
Video Tapes	98
CBT/WBT	130
EPSS	146
Conferencing	67
Training Device	519
Internet Virtual Classroom	95
Virtual Reality	419

## Cost Analysis

### Course Variables

Basic	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Working Hours per Day	8	8	8	8	8
Module Length [hours]	21	21	21	21	21
Instructor Preparation Time [hours per hour]	0	0	0	0	0
Number of Trainees [per class]	15	15	15	15	15
Number of Instructors [per class]	1	1	1	1	1
Attrition Rate [%]	0 %	0 %	0 %	0 %	0 %
Number of Trainees [over life]	450	450	450	450	450
Frequency of Course	30	30	30	30	30
Time Required by Trainee [% of classroom]	100 %	70 %	100 %	100 %	70 %
Time Required by Instructor [% of classroom]	100 %	0 %	100 %	100 %	70 %
First Year Maintenance Costs	Include	Include	Include	Include	Include

### Development

Develop	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Delivery Option	Instructor with Computers 92%	Level 4 ICW - Real Time Participation 95%	Video Conferencing 95%	Internet Virtual Classroom 93%	Level 2 - Part Task Trainer *
Development Hours [per hour]	26	130	50	86	615
Adjusted Module Length [hours]	21	15	21	21	15
Total Development Time [days]	68	239	131	226	1130
Avg. Daily Cost for Developer	I \$ 500	D \$ 500	I \$ 500	I \$ 500	D \$ 500
Total Personnel Cost	\$ 34,125	\$ 119,438	\$ 65,625	\$ 112,875	\$ 565,031
Unit Cost of Off-The-Shelf Course	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Number of Copies Required					
Total Cost of Off-The-Shelf Course	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracting Costs	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Master Copy Production	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Evaluation Costs	I \$ 0	I \$ 0	I \$ 0	I \$ 0	I \$ 0
Miscellaneous Costs	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Total Development Cost	\$ 34,125	\$ 119,438	\$ 65,625	\$ 112,875	\$ 565,031

### Hardware

Hardware	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Number of Units	1	10	10	100	1
Cost per Unit	D \$ 10,000	D \$ 3,000	D \$ 15,000	D \$ 200	D \$ 300,000
Sub-Total Hardware Cost	\$ 10,000	\$ 30,000	\$ 150,000	\$ 20,000	\$ 300,000
Availability [hours per year]					
Internal Set-up and Miscellaneous Cost	I \$ 0	I \$ 0	I \$ 0	I \$ 0	I \$ 0
External Set-up and Miscellaneous Cost	D \$ 0	D \$ 5,000	D \$ 10,000	D \$ 4,000	D \$ 10,000
Total Hardware Cost	\$ 10,000	\$ 35,000	\$ 160,000	\$ 24,000	\$ 310,000
Module Allocation [%]	20 %	50 %	10 %	25 %	50 %
Hardware Cost for Module	\$ 2,000	\$ 17,500	\$ 16,000	\$ 6,000	\$ 155,000

**Administrative**

<b>Admin</b>	Instructor-led		CBT/WBT		Conferencing		Internet		Training Device	
Annual Salary of Administrative Staff	I	\$ 25,000	I	\$ 25,000	I	\$ 25,000	I	\$ 25,000	I	\$ 25,000
Fringe Benefits Factor [%]		30 %		30 %		30 %		30 %		30 %
Annual Cost		\$ 32,500		\$ 32,500		\$ 32,500		\$ 32,500		\$ 32,500
Annual Productive Days		230		230		230		230		230
Daily Cost		\$ 141		\$ 141		\$ 141		\$ 141		\$ 141
Days on Project [per class]		2.2		2.2		2.2		2.2		2.2
Total Personnel Cost		\$ 9,326		\$ 9,326		\$ 9,326		\$ 9,326		\$ 9,326
Annual Miscellaneous Cost	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0
Total Administrative Cost [over life]		\$ 9,326		\$ 9,326		\$ 9,326		\$ 9,326		\$ 9,326

**Management**

<b>Management</b>	Instructor-led		CBT/WBT		Conferencing		Internet		Training Device	
Annual Salary of Management Staff	I	\$ 0	I	\$ 0	I	\$ 0	I	\$ 0	I	\$ 0
Fringe Benefits Factor [%]		0 %		0 %		0 %		0 %		0 %
Annual Cost		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Annual Productive Days		230		230		230		230		230
Daily Cost		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Days on Project [per class]		0		0		0		0		0
Total Personnel Cost		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Annual Miscellaneous Cost	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0
Total Management Cost [over life]		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0

**Delivery**

<b>Trainees</b>	Instructor-led		CBT/WBT		Conferencing		Internet		Training Device	
Trainee Annual Salary		\$ 80,000		\$ 80,000		\$ 80,000		\$ 80,000		\$ 80,000
Fringe Benefits Factor [%]		30 %		30 %		30 %		30 %		30 %
Annual Trainee Cost		\$ 104,000		\$ 104,000		\$ 104,000		\$ 104,000		\$ 104,000
Annual Productive Days		230		230		230		230		230
Trainee Daily Cost		\$ 452		\$ 452		\$ 452		\$ 452		\$ 452
Lost Opportunity Costs [per day]		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Trainee Per Diem Costs	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0
Trainee Travel Costs	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0
% of Trainees that Travel		0 %		0 %		0 %		0 %		0 %
Trainee Travel Days				0		0		0		0
Days Required by Trainees [per class]		2.6		1.8		2.6		2.6		1.8
Trainees Cost - Salary		\$ 534,130		\$ 373,891		\$ 534,130		\$ 534,130		\$ 373,891
Trainees Cost - Lost Opportunity		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Trainees Cost - Per Diem		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Trainees Cost - Travel		\$ 0		\$ 0		\$ 0		\$ 0		\$ 0
Annual Miscellaneous Cost	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0	D	\$ 0
Total Trainees Cost [over life]		\$ 534,130		\$ 373,891		\$ 534,130		\$ 534,130		\$ 373,891

<b>Instructors</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Instructor Annual Salary	I \$ 65,000	I \$ 65,000	I \$ 65,000	I \$ 65,000	I \$ 65,000
Fringe Benefits Factor [%]	30 %	30 %	30 %	30 %	30 %
Instructor Annual Cost	\$ 84,500	\$ 84,500	\$ 84,500	\$ 84,500	\$ 84,500
Annual Productive Days	230	230	230	230	230
Instructor Daily Cost	\$ 367	\$ 367	\$ 367	\$ 367	\$ 367
Lost Opportunity Costs [per day]	I \$ 200	I \$ 200	I \$ 200	I \$ 200	I \$ 200
Instructor Per Diem Costs	D \$ 200	D \$ 0	D \$ 0	D \$ 0	D \$ 200
Instructor Travel Costs	D \$ 500	D \$ 0	D \$ 0	D \$ 0	D \$ 500
Consulting Fees [per class]	D \$ 1,000	D \$ 1,000	D \$ 1,000	D \$ 1,000	D \$ 1,000
% of Instructors that Travel	50 %	0 %	0 %	0 %	50 %
Instructor Travel Days	2	0	0	0	2
Days Required by Instructor [per class]	3.6	0	2.6	2.6	2.8
Instructors Cost - Salary	\$ 69,954	\$ 30,000	\$ 58,932	\$ 58,932	\$ 61,274
Instructors Cost - Lost Opportunity	\$ 21,750	\$ 0	\$ 15,750	\$ 15,750	\$ 17,025
Instructors Cost - Per Diem	\$ 13,875	\$ 0	\$ 0	\$ 0	\$ 11,513
Instructors Cost - Travel	\$ 7,500	\$ 0	\$ 0	\$ 0	\$ 7,500
Annual Miscellaneous Cost	D \$ 5,000	D \$ 750	D \$ 5,000	D \$ 5,000	D \$ 3,500
Total Instructors Cost [over life]	\$ 128,079	\$ 32,250	\$ 89,682	\$ 89,682	\$ 107,812

<b>Facilities</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Annual Facilities Costs	I \$ 10,000	I \$ 0	I \$ 10,000	I \$ 10,000	I \$ 10,000
Availability [hours per year]					
Module Allocation [%]	20 %	100 %	20 %	20 %	100 %
Facilities Cost for Module	\$ 6,000	\$ 0	\$ 6,000	\$ 6,000	\$ 30,000
Rental Fees [per class]	D \$ 200	D \$ 0	D \$ 200	D \$ 200	D \$ 200
Total Rental Fees	\$ 6,000	\$ 0	\$ 6,000	\$ 6,000	\$ 6,000
Total Facilities Cost [over life]	\$ 12,000	\$ 0	\$ 12,000	\$ 12,000	\$ 36,000
Cost of Equipment Operation [per hour]	I \$ 0	I \$ 0	I \$ 0	I \$ 0	I \$ 0
Total Cost of Equipment Operation [over life]	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

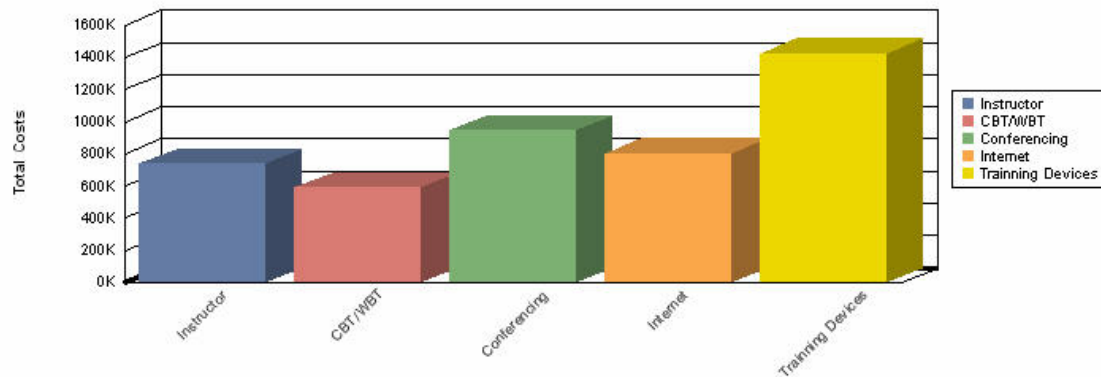
<b>Transmission</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Module Allocation [%]	0 %	0 %	10 %	25 %	0 %
# of Sites that Require Training			5	1	
# of Sites Connected at a Time			5		
Total Internet Connecting Charges	\$ 0	\$ 0	\$ 0	\$ 3,600	\$ 0
Total Audio/Video Connecting Charges	\$ 0	\$ 0	\$ 3,600	\$ 0	\$ 0
Audio Transmission Costs [per class]	\$ 0	\$ 0	\$ 945	\$ 0	\$ 0
Video Transmission Costs [per class]	\$ 0	\$ 0	\$ 3,780	\$ 0	\$ 0
Cost of Bridge [per class]	I \$ 0	I \$ 0	D \$ 1,755	I \$ 0	I \$ 0
Total Transmission Costs [per class]	\$ 0	\$ 0	\$ 6,480	\$ 0	\$ 0
Annual Miscellaneous Cost	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Total Transmission Costs [over life]	\$ 0	\$ 0	\$ 198,000	\$ 3,600	\$ 0

**Support**

<b>Maintenance</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Material Cost [per trainee]	D \$ 10	D \$ 5	D \$ 0	D \$ 0	D \$ 10
Total Material Cost	\$ 4,500	\$ 2,250	\$ 0	\$ 0	\$ 4,500
% of Content That Changes	10 %	10 %	10 %	10 %	10 %
Total Development Cost	\$ 34,125	\$ 119,438	\$ 65,625	\$ 112,875	\$ 565,031
Course Updating Cost [over life]	D \$ 10,238	D \$ 35,831	D \$ 19,688	D \$ 33,863	D \$ 169,509
Annual Hardware Maintenance Cost	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Annual Miscellaneous Cost	D \$ 0	D \$ 0	D \$ 0	D \$ 0	D \$ 0
Total Maintenance Cost [over life]	\$ 14,738	\$ 38,081	\$ 19,688	\$ 33,863	\$ 174,009

<b>Technical Support</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Annual Salary of Support Staff	I \$ 0	I \$ 0	I \$ 0	I \$ 0	I \$ 0
Fringe Benefits Factor [%]	0 %	0 %	0 %	0 %	0 %
Annual Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Annual Productive Days	230	230	230	230	230
Daily Cost	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Days on Project [per class]	0	0	0	0	0
Total Personnel Cost	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Annual Miscellaneous Cost	I \$ 0	I \$ 0	I \$ 0	I \$ 0	I \$ 0
Total Support Cost [over life]	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

### Delivery Options Costs



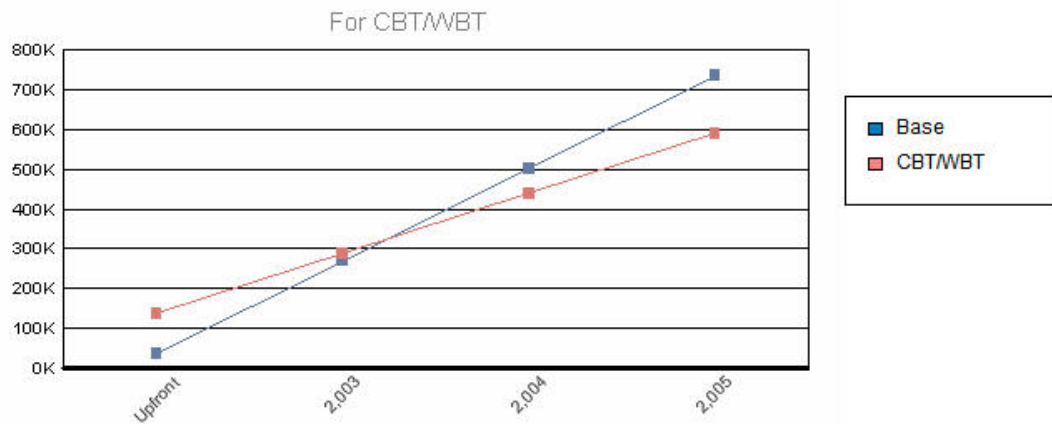
Delivery Option	Total Cost
Instructor	\$734,398
CBT/WBT	\$590,486
Conferencing	\$944,451
Internet	\$801,476
Training Devices	\$1,421,070

### Summary

Distribution	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Development Costs	\$ 34,125	\$ 119,438	\$ 65,625	\$ 112,875	\$ 565,031
Hardware Costs	\$ 2,000	\$ 17,500	\$ 16,000	\$ 6,000	\$ 155,000
Administrative Costs	\$ 9,326	\$ 9,326	\$ 9,326	\$ 9,326	\$ 9,326
Management Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Trainees Costs	\$ 534,130	\$ 373,891	\$ 534,130	\$ 534,130	\$ 373,891
Instructors Costs	\$ 128,079	\$ 32,250	\$ 89,682	\$ 89,682	\$ 107,812
Facilities & Operation Costs	\$ 12,000	\$ 0	\$ 12,000	\$ 12,000	\$ 36,000
Transmission Costs	\$ 0	\$ 0	\$ 198,000	\$ 3,600	\$ 0
Maintenance Costs	\$ 14,738	\$ 38,081	\$ 19,688	\$ 33,863	\$ 174,009
Support Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total Costs	\$ 734,398	\$ 590,486	\$ 944,451	\$ 801,476	\$ 1,421,070
Total Costs (PV)	\$ 734,398	\$ 590,486	\$ 944,451	\$ 801,476	\$ 1,421,070
Total Number of Trainees	450	450	450	450	450
Cost per Trainee	\$ 1,632	\$ 1,312	\$ 2,099	\$ 1,781	\$ 3,158
Cost per Trainee (PV)	\$ 1,632	\$ 1,312	\$ 2,099	\$ 1,781	\$ 3,158

Direct/Indirect	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Total Direct Costs	\$ 89,113	\$ 207,269	\$ 284,688	\$ 94,463	\$ 959,553
Total Indirect Costs	\$ 645,285	\$ 383,217	\$ 659,764	\$ 707,014	\$ 461,517
Total Costs	\$ 734,398	\$ 590,486	\$ 944,451	\$ 801,476	\$ 1,421,070
Total Number of Trainees	450	450	450	450	450
Cost per Trainee	\$ 1,632	\$ 1,312	\$ 2,099	\$ 1,781	\$ 3,158

<b>CBT/WBT</b>	<b>-\$118,156</b>	<b>\$262,068</b>	<b>\$143,912</b>	<b>\$323,774</b>	<b>15</b>
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\* Indicate costs at the end of calendar year

<b>Savings</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Direct Savings	\$ 0	-\$ 118,156	-\$ 195,575	-\$ 5,350	-\$ 870,441
Indirect Savings	\$ 0	\$ 262,068	-\$ 14,478	-\$ 61,728	\$ 183,769
<b>Total Savings</b>	<b>\$ 0</b>	<b>\$ 143,912</b>	<b>-\$ 210,053</b>	<b>-\$ 67,078</b>	<b>-\$ 686,672</b>
Total Savings (PV)	\$ 0	\$ 143,912	-\$ 210,053	-\$ 67,078	-\$ 686,672
Break Even Point	\$ 0	\$ 323,774	\$ 0	\$ 0	\$ 0
Break Even Point (months)		15			

<b>Up-Front</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Development Costs	\$ 0	\$ 119,438	\$ 0	\$ 0	\$ 565,031
Hardware Costs	\$ 2,000	\$ 17,500	\$ 16,000	\$ 6,000	\$ 155,000
Start-up Costs	\$ 2,000	\$ 136,938	\$ 16,000	\$ 6,000	\$ 720,031

<b>Recurring</b>	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Administrative Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Management Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Trainees Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Instructors Costs	\$ 22,125	\$ 10,750	\$ 15,000	\$ 15,000	\$ 19,838
Facilities & Operation Costs	\$ 2,000	\$ 0	\$ 2,000	\$ 2,000	\$ 2,000
Transmission Costs	\$ 0	\$ 0	\$ 66,000	\$ 1,200	\$ 0
Maintenance Costs	\$ 4,913	\$ 12,694	\$ 6,563	\$ 11,288	\$ 58,003
Support Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Annual Recurring Costs	\$ 29,038	\$ 23,444	\$ 89,563	\$ 29,488	\$ 79,841

Resources	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Start-up Development Staff [person days]	68	0	131	226	0
Start-up Support Staff [person days]	0	0	0	0	0
Course [number of copies required]	0	0	0	0	0
Hardware [number of units required]	0	0	0	0	0

Personnel	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Instructors/Trainers [person days per year]	36	0	26	26	28
Administrative Staff [person days per year]	22	22	22	22	22
Management Staff [person days per year]	0	0	0	0	0
Support Staff [person days per year]	0	0	0	0	0
Development Staff [person days per year]	0	0	0	0	0
Facility [hours per year]	210	0	210	210	147
Equipment [hours per year]	0	0	0	0	0

### Module Summary

#### Contribution Factor

Contribution Factors	
Direct Cost Contribution Factor [%]	100 %
Indirect Cost Contribution Factor [%]	100 %

#### Adjusted Costs

Total Cost	Instructor-led	CBT/WBT	Conferencing	Internet	Training Device
Adjusted Direct Costs	\$ 89,113	\$ 207,269	\$ 284,688	\$ 94,463	\$ 959,553
Adjusted Indirect Costs	\$ 645,285	\$ 383,217	\$ 659,764	\$ 707,014	\$ 461,517
Adjusted Total Costs [over life]	\$ 734,398	\$ 590,486	\$ 944,452	\$ 801,477	\$ 1,421,070
Total Number of Trainees	450	450	450	450	450
Adjusted Cost per Trainee	\$ 1,631	\$ 1,312	\$ 2,098	\$ 1,781	\$ 3,157

#### Criterion

Rules	
Criterion	Most Cost Effective Option

#### Recommendations Result

	Adjusted Total Costs	Effectiveness	Up-front	Annual Costs	Savings (PV)	Trainers [days/year]	Developers [days]	Administrators [days]
Level 4 ICW - Real Time Participation	\$ 590,486	95	\$ 136,938	\$ 23,444	\$ 143,912	0	239	
Instructor with Computers	\$ 734,398	92	\$ 2,000	\$ 29,038	\$ 0	90	68	
Internet Virtual Classroom	\$ 801,476	93	\$ 6,000	\$ 29,488	-\$ 67,078	60	226	
Video Conferencing	\$ 944,451	95	\$ 16,000	\$ 89,563	-\$ 210,053	60	131	