

Chapter 12 Seminar: The Costs and Benefits of Training



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History of Seminars

The word seminar is based off the Latin word for 'seed'. Seminars are meant to share and nurture the seeds of ideas in an interactive session between people of an equal-footing. (Beal, J. 2010) Seminars are used to share or teach ideas that are significant to all participants. The atmosphere of a seminar must be full of respect and comfort in order for ideas to flow and develop effectively. Seminar hosts are to have expert insight on the topic of discussion and must display their credentials as a means of fostering audience confidence.

Needs Analysis

Concern

Our seminar is concerned with the training needs of students in Employee Development and Coaching. It is our teams responsibility to ensure that the information from chapter 12 of our course textbook *Managing Performance through Training and Development (Fifth Edition)* By Alan M. Saks and Robert R Haccoun is taught to our classmates through an interesting and effective seminar.

Importance

Chapter 12: The Costs and Benefits of Training is important to Employee Development and Coaching Students as it is a course objective, but more importantly many of the students intend on pursuing careers in human resources. As future human resources practitioners we will be responsible for either developing or purchasing training for the organizations that we work for., and part of this process is determining which training programs offer the best benefit in terms of training quality and cost of the program.

Organizational Analysis

Considering all our seminar participants are university students we our assuming that they are all open to learning about the costs and benefits of training. As the students in the class are all in their 3rd or 4th year of studies at Kwantlen we are assuming that that there is a strong learning culture present, and that they are motivated to learn. However, based on our observations of previous seminars we need to anticipate the strong possibility that the students will not pre-read the chapter prior to our seminar, and well will have to design training accordingly.

During the first few classes many of the students identified that they were Kinaesthetic learners and that they learned through doing a task or practical exercise rather than by observing

lectures. In preparing the seminar we read the chapter repetitively and did not really understand the material until we had practiced a few questions and began developing our own. We will have to incorporate some level of lecture into our seminar while providing students with an opportunity for hands-on practice, so we will have to keep this in mind when designing a seminar based on the material to be taught.

Training Design

Training Objectives

After reading chapter 12 and completing our needs analysis we have identified the primary objectives for our training seminar to be:

1. Identify cost benefit vocabulary in class with the assistance of a facilitator
2. Create a costing worksheet in class without error with the assistance of a facilitator
3. Conduct Return on Investment calculations in class without error with the assistance of a facilitator
4. Conduct utility analysis calculations in class without error with the assistance of a facilitator
5. Conduct break-even calculations for effect size and standard deviation in class without error with the assistance of a facilitator
6. Conduct a comparison of 2 training program alternatives, including costing worksheet, ROI and utility in class without error with the assistance of a facilitator

By the end of this 2 hour seminar Employee Development and Coaching Student will understand the importance of evaluating training programs and the composition of a training cost analysis worksheet. At the end of this seminar participants are expected to produce a cost analysis worksheet, and calculate ROI, utility, and break-even without error

Class Pre-Training

Due to the complexity of our seminar students were required to pre-read chapter 12 prior to the seminar. We informed students of the requirement to prepare for our seminar both verbally in class following the conclusion of the proceeding week's seminar, and by email on the Monday prior to our seminar on the 2nd of December 2010. This provided students with the predatory information required to succeed in our seminar.

Preparatory E-mail

As a means of re-iterating the importance of our seminar we sent out e-mail invitations 3 days in advance. (See Figure 10 for e-mail). This email explained how the content would be useful to the participants (the topic of ROI was essential to the execution of their Industry Part 2 report)

and that they should prepare to absorb the most amount of information by reading the chapter in advance.

Additionally, to eliminate any potential distractions from the seminar content, it was requested that the participants leave personal materials such as backpacks, jackets, hand-held devices at the front of the class.

Training Method and Design

We have decided to use a combination of two games as our primary training methods. Games provide our seminar participants an opportunity to learn the seminar through games which reinforce training objectives through lectures, in the form of purchasing training, active participation, practice and error management.

Ice Breaker Game Design

We decided not to conduct an introductory game designed to learn the names and interesting facts about each participant. All previous seminars have included some form of ice breaker game meant to get to know one another, so we felt that this objective had already been achieved and is not necessary for our seminar.

Instead of an ice breaker game we decided to incorporate what we call the “Incoming vocabulary” game (see appendix figure 1 for instructions) into our seminar. We designed this game as an exercise to assess and reinforce the cost benefit knowledge that the students had prior to commencing the seminar as well as to get everyone warmed up and participating in preparation for the cost benefit game. As students question each other on the vocabulary definition, they review and reinforce what they have read in the textbook. We also integrated vocabularies from other chapters into the exercise, so previous knowledge is also being reviewed and reinforced. If they answer a question correctly, they can leave the interrogation area as a reward. If they answer incorrectly the facilitator will utilize error management to inform them of the correct answer ensuring everyone has the correct definition.

Many of the questions will be duplicated in order to encourage participants to pay close attention to the questions and answers in case they are asked a question that has already been asked. This is meant to facilitate knowledge retention through repetition.

The incoming vocabulary game is also meant to build up knowledge prior to beginning the Cost Benefit Game, as many of the vocabulary questions will assist in completing the first question Cost Benefit game. The first question consists of more than dozen cost labels and headings, which they have to categorize into correct groups. The majority of the vocabulary presented in the Incoming vocabulary game are cost and benefit labels from the textbook which we hope the student are be able to transfer and use during the first game question.

The vocabulary game is also meant to divide the class into the four groups need to play the cost benefit game. As each participant is eliminated from the Incoming Vocabulary game they are sent to gather their required materials and join a group. This is meant to ensure that groups are formed in a random method, and is intended to disperse stronger students among all the groups as well as having people work with people they may not be familiar with.

Cost Benefit Game Design

Instead of conducting the Cost Benefit Analysis seminar as a lecture format with practice questions to engage participants we opted to make a game which would allow active practice of the objectives. The cost benefit game was designed to have participants practice developing costing worksheets, and perform ROI, utility and break-even calculations in a fun, high participation and competitive environment. For game rules see Appendix: Figure 3.

In developing the questions it was determined to have one question covering each of the seminars primary objectives (see Appendix for Questions), and a final question which would require participants to use their knowledge from all previous questions to complete in order to confirm knowledge transfer. 5 questions were developed (see Appendix for Questions), and each team would be given the questions at the same time. The first team to achieve the correct answer would be awarded a greater sum of money with each successive team with a correct answer earning a further reduced sum of money. This was done to motivate teams to get training if they did not immediately know how to calculate the answer as well as to represent the potential of increasing revenue through training.

The intent is for group participants to cooperate, and use their own knowledge from pre-reading the chapter to achieve the correct answer; however, in anticipation of most students not reading the chapter the facilitators will provide the opportunity for each group to purchase training from one of the facilitators for \$100. This is meant to keep the game interesting by providing an opportunity to learn how to solve the questions while conducting a cost benefit analysis on purchasing training. Each group would have to identify a need for training, and then complete a cost benefit analysis on buying training.

In order to engage the participants of groups who have completed a question they will have an opportunity to sell training to groups that have not yet completed the question. They will be allowed to set or negotiate their own price for their training services to other groups. This will provide them the opportunity to earn additional capital while engaging them as they wait for other teams to complete the question. This also forces groups to conduct cost benefit analysis on the various training opportunities offered by facilitators and other groups. Groups wishing to purchase training will now have to determine if they want to purchase training from the facilitators, who are the subject matter experts for cost benefit analysis, for a set price of \$100

or for a lower, or higher, amount from another group who may not be as familiar with the material as the seminar facilitators.

As there would be four groups and only 3 facilitators we decided to have one group with a textbook as their primary resource. Originally we intend for them to have no access to capital or training through the facilitators or other groups; however, as the game design evolved we realized we wanted them to have an opportunity to participate in the real time cost benefit analysis of purchasing training. We decide that providing them with no working capital and a textbook would put them at a disadvantage from the beginning of the game as other groups would be able to take immediate advantage of facilitator knowledge through the purchase of training, while the group with the textbook would have to search through the textbook for the knowledge need to solve the question. This would allow the no textbook group to acquire capital to purchase training at a slower rate and would not have the capital to purchase training from facilitators, but may be able to purchase training from other groups

In order to speed up the seminar we will incorporate error management training (EMT) into the game questions. In the event that a group requests verification of their answer and the overall answer is wrong the facilitators will inform them what steps they have completed correctly. This will allow them to learn from their errors instead starting over each time without any knowledge of what they did correctly or incorrectly.

'Start-Up Company' - Assignment of Textbook

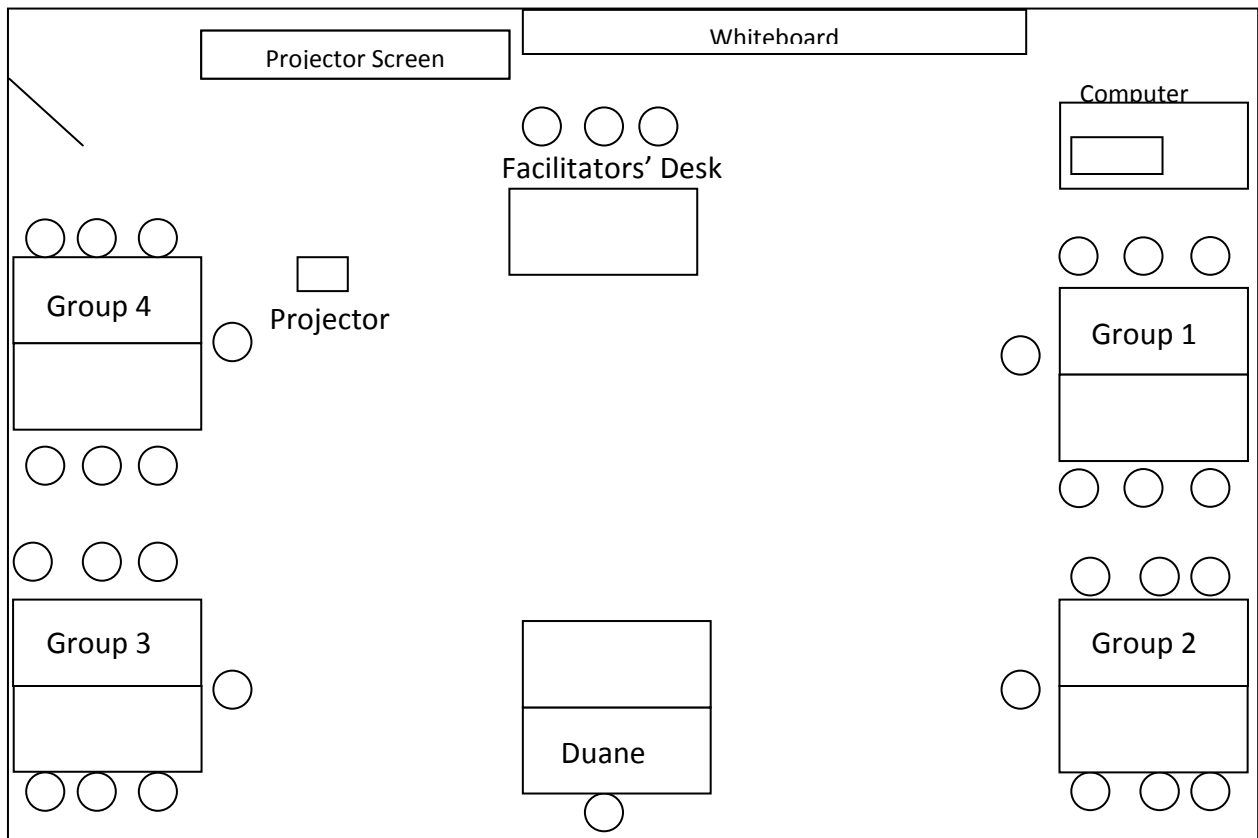
This seminar consisted of four groups, three of which had no textbook, and one of which was provided a textbook. The three groups that were without a textbook were given money as capital, and the remaining group was considered a 'start-up company'. Despite the seminar question regarding the structure of a costing worksheet being practically taken straight from the book, the 'start-up company' initially still had a difficult time formulating the answer. This 'start-up company' did eventually end up winning this portion of the game.

Reflecting back on this strategic use of the textbook in one of the groups, it could be determined that we should not have provided them one at all. The textbook did play a large role in the 'start-up company' winning the game, and with a sizeable dominance over the other groups. Another approach could have included the 'start-up company' utilizing the textbook for the initial four questions, and having them rely on their previous solutions to work through the final/cumulative question.

Training Delivery

Classroom Layout

The classroom will be laid out with the desks pushed together in four groups to facilitate team work and a high level of participation from all participants. The open space at the centre of the room will be used by all participants to form a circle for the vocabulary game. This layout will also allow the facilitators to move from group to group and provide assistance or supervision during the cost benefit game.



Lesson Plan

The lesson plan for this seminar outlines the resources and materials required, as well as a time breakdown for each activity.

Lesson Plan: Chapter 12: The Costs and Benefits of training

Organization:	Kwantlen Polytechnic University
Program:	BBA in Human Resources Management
Course Title:	HRMT 3265 Employee Development and Coaching
Facilitators:	Gina Kastanis Matt Williams Felix Wu
Participants:	Employee Development and Coaching Class
Number of Participants:	27
Course Length:	2 Hours
Course Dates:	2-Dec-10
Timings:	16:00 to 18:00
Training Location:	Kwantlen Polytechnic University Surrey Campus Classroom # D1362

Training Objectives:

1. Identify cost benefit vocabulary in class with the assistance of a facilitator
2. Create a costing worksheet in class without error with the assistance of a facilitator
3. Conduct Return on Investment calculations in class without error with the assistance of a facilitator
4. Conduct utility analysis calculations in class without error with the assistance of a facilitator
5. Conduct break-even calculations for effect size and standard deviation in class without error with the assistance of a facilitator
6. Conduct a comparison of 2 training program alternatives, including costing worksheet, ROI and utility in class without error with the assistance of a facilitator

Training Classroom Requirements:

32 chairs set up around rectangular tables in 4 groups in accordance with the seminar classroom layout description and plan.

Material & Equipment Requirements:

1. Computer station
2. Projector connected to the computer
3. Projector Screen
4. Whiteboard
5. PowerPoint Presentation
6. Vocabulary Handouts
7. Question and Answer Handouts
8. Facilitator Resource Packages

Stationary Requirements: To be supplied by individuals not facilitators

1. Pens, pencils and erasers for participants and facilitators
2. Notebooks
3. Textbooks
4. Calculators

Participant Handout Requirements:

1. Question Cards
2. Vocabulary Handouts
3. Question 1 Handouts
4. Question 2 Handouts
5. Question 3 Handouts
6. Question 5 Handouts

Lesson Plan: Detailed Schedule

Detailed Schedule:

16:00 - 16:05	Introduce facilitators and seminar objectives
16:05 - 16:10	Introduce vocabulary game
16:10 - 16:40	Play vocabulary game
16:40 - 16:45	Introduce Cost Benefit Game
16:45 - 17:50	Play Cost Benefit Game
17:50 - 18:00	Review material and Conclude seminar

Training Materials

Our training seminar requires a significant number of materials. These materials include both student and facilitator resources as well as student question and answer handouts.

Student Question and Answer Handouts

Though we originally intended to incorporate all the questions on the PowerPoint presentation our questions became too large to effectively post in PowerPoint, so it was decided to provide each group with handouts for all questions with the exception of question 4 which is an extension to question 3. These handouts would allow participants to organize the information provided. The following are the handout requirements for both facilitators and participants:

Facilitator Resources

Each facilitator will be provided with a Facilitator Resource Package which will include:

1. Instructions for the Incoming vocabulary game (appendix Figure 2) and the Cost Benefit game (appendix Figure 3)
2. Facilitator Training Resource (appendix Figure 9) to aid in training during the Cost benefits game.
3. Cost benefit game Question answer sheets for answer validation (see appendix, Figures 4, 5, 6, 7, and 8).

Student Handouts

Students will be provided with:

1. Incoming vocabulary game question cards
2. Incoming vocabulary game questions handout (see appendix, Figure 2).
3. Question handouts and Answer forms (see appendix, Figures 4, 5, 6, 7, and 8)

Transfer of Training

During our seminar the first few questions took a significant amount of time as teams refused to pay for training despite having difficulty with the questions. Question 1 took the teams 30 minutes to complete. Eventually students began purchasing training from facilitators and other teams causing the game began to unfold as expected.

On one occasion team 2 purchased training from a facilitator, than once they had a correct answer sold training to team 3, and were able to effectively pass on the information they learned from the facilitator. This proved that some participants were retaining information presented through the seminar.

During the final question, which required participants to use everything they had learnt throughout the seminar, we were surprised at how quickly the teams were able to achieve the correct answer. Based on the time it took to complete the first 4 questions we anticipated the final question taking longer; however, based on the participant's success on the final question we can assume that they successfully retained knowledge from the previous questions in order to complete the final question.

During Duane's debriefing students were able to answer his questions, so we felt our seminar effectively met the objectives. In order to be sure that our seminar effectively transferred the knowledge we intended it to we would ideally perform an evaluation of the participants ability to answer related questions the following week; however, this is not possible.

Seminar Evaluation

Vocabulary Game Reflections

We expected that participants might have difficulties answering the vocabulary questions, so we made 2 sets of each question and distributed them among the participants. We were hoping that through repetition there would be a greater rate of knowledge transfer and retention; however, this was not the case as some students struggled to answer a question immediately after the correct answer was given for the same question. This behaviour was not anticipated during our planning. The repetition did not bring tangible and prominent benefit to this game. After the seminar we reflected on why this was not successful, and we realized that repetition can only bring added value when the participants possess the proper motivation and attitude towards learning. We concluded that they did not realize the importance of the Incoming vocabulary game on the remainder of the seminar. The vocabulary questions were essentially a preparatory review that was meant to aid them in the first competitive question for the cost benefit game

This lack of commitment happens all the time in school and in the real world. When student fail to see the relevance of a particular topic or know that it is not going to be tested, they will not pay further attention to it. In order to overcome such an effect, we attempted to stress the importance of reading the chapter prior to class in an in class announcement and a pre-seminar email; however, this made little difference. We could have told them that this ice vocabulary game was actually a game that will provide them an advantage in the cost benefit game that would be taking place afterwards, and in doing so, we would have altered their perception of importance on the game, and hopefully they would have paid more attention and tried harder to retain the knowledge.

Seminar Handout Errors & their Impact

Although the majority of the seminar ran smoothly there were 2 errors that slipped past our group prior to handing out the question resource packages.

Error #1 – On the costing worksheet \$200 was printed, rather than \$2000 for a particular amount.

Error #2 – On the costing worksheet there was a non-essential title left idle.

These print errors caused confusion and some frustration amongst seminar participants as it made for slight hesitations in successfully acquiring the answers. The errors may have caused a 1-2 minutes delay but luckily a few quick seminar participants caught on and notified us. The errors were in no way the demise of our seminar game.

In future it will be essential that all seminar material is edited thoroughly by each seminar host to ensure flawless resource material. In a professional setting this could have been much worse.

Cost Benefit Game Reflections

To Train or Not to Train

Our seminar was designed to integrate cost and benefit analysis not only into the question itself, but also into the interaction between groups and facilitators. Each group except for one was given \$200 cash capital to start the game. They might use this capital to purchase training from facilitators to earn rewards. Right after the start of the first question, every group was having difficulty in progressing towards the correct answer. When they realize that they were having tremendous difficulty in producing the correct answers, they should have considered purchasing training from the facilitators, but they did not. When we asked them why they would not purchase training from professionals, they answered that it cost too much money, which reduces their cash pool and lessens their chance of winning.

This is similar to the perception of training in the real world. Corporations often see training as a cost rather than an investment that will potentially yield great amount of reward. And in the case of our seminar, the groups should have performed a cost benefit analysis regarding the purchasing of training knowing that one group had a textbook as an aid. Though this group was at a theoretical disadvantage as they could not purchase training immediately, they were at an advantage that they could eventually find the answer, given time. If other groups had performed the cost benefit analysis, they would have realized this and purchased training immediately.

The teams with capital could have spent \$100 on purchasing professional training from one of us and winning \$200 as the reward, or they could work the problem out themselves and

possibly ending up as last place, which receives only \$50 as reward. If they took the former option, they would still earn a \$100 profit and they could potentially sell their solutions to another group to earn further income

One way of altering people's perception on purchasing training is to conduct ROI analysis. Numbers and mathematical evidence are solid proofs that can deeply alter our perspective on many things. As corporations place a heavy emphasis on monetary terms, the ROI analysis would be a perfect tool to alter people's perspective on training. Hopefully with a large ROI ratio, corporations would see their spending on training as a form of valuable investment rather than a cost.

Reflecting on our design of the cost benefit of the game we could also have created a greater benefit to purchasing training by making the increments in reward larger. For a team purchasing training and achieving first place the ROI is only 1, which is still a return, but not a significant return. Increasing the reward increments to \$500 for a 1st place finish, and \$300 for 2nd, \$150 for 3rd and \$100 for 4th we could have made the benefit to a 1st place answer more substantial. These increases in reward payouts might provide the incentive to purchase training as the differences in return are significant enough to motivate teams to train.

Price Reflects Quality

Although there are exceptions, you get what you pay for, and we certainly saw this in our seminar. Teams were willing to pay a very small sum of money to buy training from other teams despite their inexperience with the material. In purchasing training, the teams should have made an assessment of the quality of training and its effectiveness. In our seminar we anticipated that some groups would mistakenly purchase training from teams who were not as familiar with the material as the facilitators, and this would result in training failures, thus wasting the time and money of the team purchasing the training. This scenario was demonstrated by one group spending \$5 to purchase training from another group. The price was very cheap and competitive; in fact, it was the lowest the price allowed. However, the price was also a reflection of the training quality. The trainer could not explain the concept clearly and the trainees were very confused about the methods as well. As time went by, the trainer was still unable to get the right concept across and the trainee group was unable to produce the correct answer. Instead of purchasing a \$5 program from a unprofessional trainer, this group should have spent \$100 to purchase training from one of the facilitators, who guaranteed delivering quality training. This highlighted the importance of analysing more than the price of training but also the quality.

Through our cost benefit game we were hoping to help participants realize the importance of identifying their need to train and selecting the right training program as well as learning the chapter material concept. While this concept seems to be common sense, people sometimes

can still act only based on price without taking into the consideration of everything else. Hopefully this event could provide some valuable learning experience for the participants in their future careers.

Conclusion

Overall we feel our seminar was successful in both providing an opportunity for us to thoroughly learn cost and benefit analysis material, as well as ensuring our seminar objectives were achieved. When we first began designing our seminar we were completely unsure of how to go about training the class in an interesting way that would also effectively transfer the required knowledge, without resorting to a straight out lecture. The idea of the game came about and slowly evolved over the semester, and in the end it provided us with an opportunity to teach the objectives without having to resort to a lecture. The design of the cost benefit game required us to become extremely familiar with the chapter material. Developing the questions and answers for the game was an effective way of forcing us to become subject matter experts in cost and benefit analysis, so we effectively learned through training design and teaching. Despite a few lessons learned in our game's design the game still effectively motivated learning, provided the class with an opportunity to conduct real-time cost benefit analyses, and demonstrating real life training issues, all while enjoying some friendly competition.

Bibliography

Saks, A. M., & Haccoun, R. R. (2010). *Managing Performance through Training and Development* (Fifth ed.). Nelson Education Ltd.

Beal, J. 2010 *Purpose of a Seminar*. Retrieved on December 8, 2010 from http://www.ehow.com/about_4701548_purpose-seminar.html

Appendix

Figure 1: Vocabulary Incoming Game Instructions

- Form a circle in centre of class
- Hand out cue cards
 - (13 X 2 questions from Chapter 12 & 4 questions from various other chapters)
- Pitcher throws ball to someone (hitter)
- Pitcher asks hitter a question
 - Hitter gets question right; they go form group #1
 - Hitter gets question wrong; they stay in circle
- Catcher is now the pitcher
 - Catcher is always the person to the left of the hitter
- Continue game until all groups are formulated or until the time allotted for the activity runs out
- Hand out vocabulary portion of resource package

Figure 2: Incoming Vocabulary Game Questions Handout

Chapter 12 Vocabulary Handout

Costing – The process of identifying all the expenditures used in training

Direct Costs – Costs that are directly linked to a particular training program

Indirect Costs – Costs that support training activities and are not directly linked to a particular training programs

Developmental Costs – Costs that are incurred in the development of a training program

Overhead Cost – Costs incurred by the training department but not associated with any particular training program

Trainee Compensation – The cost of salaries and benefits paid to trainees while they are attending a training program

Cost-effectiveness Evaluation – A comparison of the monetary cost of training to the benefit of training in monetary terms

Cost-benefit Evaluation – A comparison of the cost of training in monetary terms to the benefits of training in non-monetary terms

Net benefit – The estimated value of the benefit minus the cost of the training program

Benefit-cost Ratio (BCR) – The benefit divided by the cost of the training program

Return on Investment (ROI) – A comparison of the cost of a training program relative to its benefits that involves dividing the net benefit by the cost of the training program

Utility Analysis – A method to forecast the financial benefits that result from human resource programs such as training and development

Break-even Analysis – Finding the value at which benefits equal costs and utility is equal to zero

Figure 3: Cost Benefit Game Rules

1. Everyone except the designated group must put away their textbooks
2. The 3 teams without textbooks are given \$200 in capital (1 X \$100, 4 X \$20, 2 X \$10)
Team 4 is a start up and does not have immediate capital available.
3. Felix will be the banker for all change needs
4. There are a total of 5 questions
5. All groups will receive the questions at the same time. Questions will be posted on the projector for all to see, or handed out on a sheet of paper turned upside down. No one will turn the paper over until directed to do so by seminar facilitators.
6. Teams are encouraged to attempt to solve the problem themselves first; however, if they choose, they may purchase training from a seminar facilitator for \$100, provided they have the capital (no loans).
7. Once a team has an answer the team representative must identify this to a seminar facilitator who will validate the answer. The first team to request validation and have the correct answer achieves 1st place for that question, and so on until the final team achieves the correct answer.

The 1st team to request validation of their answer will have the 1st chance at winning the round regardless if another team requests validation after the initial team and has a confirmation of a correct answer before the initial team.

8. Once a team has achieved the correct answer for a question they have the option of offering their training services to other teams who have not solved the question. They may charge any fee they choose and may charge a premium or undercut the Seminar facilitators' training fee of \$100; however, only the team representative is allowed to provide training to other groups. The team representative cannot provide other teams with the answer. Only formulas can be provided and basic guidance. Any team caught providing answers will be subject to a fine on their working capital determined by Duane.
9. The 1st team to finish each question will be awarded \$200, the 2nd \$150 the 3rd \$100, and the 4th \$50
10. At the end each team will subtract their \$200 starting capital, except the team which started with none, from their ending capital, which ever team has the most money remaining wins

Figure 4: Game Question 1 Resources

Question 1: Question Handout (3 copies provided to each group)

Headings

Direct Costs

Indirect Costs

Development Costs

Overhead Costs

Participant Compensation Costs

Total Participant Compensation Costs

Costs

Employee Back-fill Salaries	\$	16,000
Cost of Evaluating a Training Program	\$	750
Training Preparation & Planning	\$	700
Instructor Training Costs	\$	2,500
Pre-training Materials	\$	500
Trainer's salary & benefits	\$	1,000
Cost of Marketing Training program	\$	250
Cost of Maintaining Training Facilities	\$	800
Salaries of Training Facilities Support staff	\$	1,000
Course Material	\$	600
Equipment Rental	\$	500
Trainee Salaries	\$	18,000
Cost of Training Materials Development	\$	1,000
Cost of Travel	\$	1,000
Administrative Support	\$	550
Costs of a Needs-Analysis	\$	1,200

Question 1: Student Answer Worksheet (3 copies provided to each group)

Training Cost Analysis Worksheet	
Item	Cost
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	=====
_____	_____
_____	_____
_____	_____
_____	_____
_____	=====
_____	_____
_____	_____
_____	_____
_____	_____
_____	=====
_____	_____
_____	_____
_____	_____
_____	_____
_____	=====
_____	=====

Question 1: Answer Sheet (For Facilitators only)

Training Cost Analysis Worksheet	
Item	Cost
Direct Costs	
Trainer's salary & benefits	\$ 1,000
Equipment Rental	\$ 500
Course Material	\$ 600
Cost of Travel	\$ 1,000
Total Direct Costs	\$ 3,100
Indirect Costs	
Administrative Support	\$ 550
Training Preparation & Planning	\$ 700
Pre-training Materials	\$ 500
Cost of Marketing Training program	\$ 250
Total Indirect Costs	\$ 2,000
Development Costs	
Costs of a Needs-Analysis	\$ 1,200
Cost of Training Materials Development	\$ 1,000
Cost of Evaluating a Training Program	\$ 750
Instructor Training Costs	\$ 2,500
Total Development Costs	\$ 5,450
Overhead Costs	
Cost of Maintaining Training Facilities	\$ 800
Salaries of Training Facilities Support staff	\$ 1,000
Total Overhead Costs	\$ 1,800
Participant Compensation Costs	
Trainee Salaries	\$ 18,000
Employee Back-fill Salaries	\$ 16,000
Total Participant Compensation Costs	\$ 34,000
Total Training Costs	\$ 46,350

Figure 5: Game Question 2 Resources

Your company has realized that the client order tracking software is not being utilized to its full extent by your employees. Management wants employees to be thoroughly trained on its use. Current revenues have increased by \$25,000 per year as a result of the client order tracking software, and it is expected that revenues can be increased by an additional \$75,000 after employees are thoroughly trained. A training program will cost \$11,000 to create. The training sessions will last 5 days and involve 12 employees and 2 trainers. The employees each make \$300 per day and the trainers will each be paid \$2,000 for their services during the course. What is the ROI? Should this training plan be approved?

Answer: (This section is on facilitators copy only)

Benefit

\$75,000 is the benefit of the new training program

Cost

Training Program costs = \$11,000

Employee wages = 12 employees * 5 days * \$300 per day = \$18,000

Trainer costs = 2 trainers * \$2,000 = \$4,000

Total cost of training = \$33,000

ROI = $\frac{\$75,000 - \$33,000}{\$33,000}$

ROI = 1.27

Figure 6: Game Question 3 Resources

Your company is investing in a safety-training program. This training must be refreshed every to 2 years in order to uphold company safety standards. 25 employees require this training. The effect size of the training program per employee has been pre-determined as a factor of 5. It is expected that the training of these 25 employees could save the company a total of \$10,000 in the form of WorkSafe BC premiums and revenues lost to work stoppage. The cost of training for each employee is \$450.

Please calculate the Utility of the training program.

Calculating for Utility: (This section is on facilitators copy only)

T = 2 years

N = 25 employees

D = 5

SD = \$10,000 total savings or \$400/employee

C = \$450/employee

$((2 * 25) * 5) * (10,000/25) - (25 * 450) = \underline{\$88,750}$ ← Utility of the training program

OR

$2 * 25 = 50$

$50 * 5 = 250$

$250 * (10,000/25) = 100,000$

$100,000 - (25 * 450) = \underline{\$88,750}$ ← Utility of the training program

Figure 7: Game Question 4 Resources

The break-even is an extension of the utility analysis. Using the information already provided, calculate a break-even for the effect size & the standard deviation (SD).

Calculating for Effect Size: (This section is on facilitators copy only)

$$\text{Break-even} = \text{Cost of training program} / ((N * T) * SD)$$

$$\text{Break-even} = (25 * \$450) / ((25 * 2) * \$400)$$

$$\text{Break-even} = 0.56$$

So, an effect Size of 0.56 will result in NO benefit and anything greater will result in increased benefits.

Calculating for SD:

$$\text{Break-even} = \text{Cost of training program} / ((N * T) * D)$$

$$\text{Break-even} = (25 * \$450) / ((25 * 2) * 5)$$

$$\text{Break-even} = \$45$$

So, a Standard Deviation of \$45 will result in NO benefit, and anything greater will result in increased benefits.

Figure 8: Game Question 5 Resources

Question 5: Handout (3 copies provided to each group)

Your company has decided to train your production department on a new piece of manufacturing equipment. Your Human Resources Department has identified two possible training programs to train the 12 employees in the production department. Option 1 is off site at a specialized training facility, and option 2 will bring in a trainer to conduct the training on site. The costs of each program are detailed below.

Option 1 Training Costs:

Trainer's salary & benefits = \$1000
Administrative Support= \$700
Course Material = \$600
Cost of Travel = \$12,000
Training Preparation & Planning = \$500
Costs of a Needs-Analysis = \$1000
Cost of Training Materials Development = \$800
Instructor Training Costs = \$200
Cost of Maintaining Training Facilities = \$800
Salaries of Training Facilities Support staff = \$1000

Effect size = 4.7
Standard Deviation = \$1,100
Number of years = 5 years

Option 2 Training Costs:

Trainer's salary & benefits = \$700
Administrative Support= \$400
Course Material = \$500
Cost of Travel = \$900
Training Preparation & Planning = \$700
Costs of a Needs-Analysis = \$1200
Cost of Training Materials Development = \$600
Instructor Training Costs = \$2,500

Effect size = 3.7
Standard Deviation = \$1,200
Number of years = 4 years

Option 2 is in house training therefore no costs are incurred for the use of a training facility.

Both Options:

For both training options the total salaries incurred for all 12 employees under going training is \$22,000; however the employees not attending training will have to work overtime to maintain the current production requirements. The overtime payments to employees not attending training will cost your company an additional \$35,000.

Create a training cost analysis comparison worksheet sheet, and conduct a utility analysis and calculate the ROI for each training option to determine which training program is most cost effective.

Question 5: Participant Answer Worksheet (3 copies provided to each group)

Item	Cost of Program 1	Cost of Program 2
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	=====	=====
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	=====	=====
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	=====	=====
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	=====	=====
_____	_____	_____
_____	_____	_____
_____	=====	=====

Question 5: Worksheet Answers (For Facilitators only)

Training Cost Analysis Comparison Worksheet		
Item	Cost of Program 1	Cost of Program 2
Direct Costs		
Trainer's salary & benefits	\$ 1,000	\$ 700
Course Material	\$ 600	\$ 500
Cost of Travel	\$ 12,000	\$ 900
Total Direct Costs	\$ 13,600	\$ 2,100
Indirect Costs		
Administrative Support	\$ 700	\$ 400
Training Preparation & Planning	\$ 500	\$ 700
Total Indirect Costs	\$ 1,200	\$ 1,100
Development Costs		
Costs of a Needs-Analysis	\$ 1,000	\$ 1,200
Cost of Training Materials Development	\$ 800	\$ 600
Instructor Training Costs	\$ 2,000	\$ 2,500
Total Development Costs	\$ 3,800	\$ 4,300
Overhead Costs		
Cost of Maintaining Training Facilities	\$ 800	\$ -
Salaries of Training Facilities Support staff	\$ 1,000	\$ -
	\$ -	\$ -
	\$ -	\$ -
Total Overhead Costs	\$ 1,800	\$ -
Participant Compensation Costs		
Trainee Salaries	\$ 22,000	\$ 22,000
Employee Back-fill Salaries	\$ 35,000	\$ 35,000
	\$ -	\$ -
	\$ -	\$ -
Total Participant Compensation Costs	\$ 57,000	\$ 57,000
Total Training Costs	\$ 77,400	\$ 64,500

Question 5: Answer Sheet (For Facilitators only)

See cost analysis worksheet for cost total answers

Utility analysis = (benefit – costs)

$$U = T*N*d*SD - N*C$$

Note (N*C) is not required as the worksheet provides total cost for all employees so students should use the cost calculated from table as the cost of the program.

Option 1

$$5(12)(4.7)(\$1,100) - \$77,400 =$$

$$\$310,200 - \$77,400 = \$232,800$$

$$\underline{\text{Utility} = \$232,800}$$

Option 2

$$4(12)(3.7)(\$1,200) - \$64,500 =$$

$$\$213,120 - \$64,500 = \$148,620$$

$$\underline{\text{Utility} = \$148,620}$$

ROI

$$\text{Return on Investment} = \frac{\text{Utility (benefits - costs)}}{\text{Cost of Program}}$$

Option 1

$$ROI = \frac{\$232,800}{\$77,400}$$

$$ROI = 3.01$$

Option 2

$$ROI = \frac{\$148,620}{\$64,500}$$

$$ROI = 2.30$$

Option 1 is the best option

Figure 9: Facilitator Training Resources (For Facilitators Only)

ROI

- Return on Investment = $\frac{\text{Benefits} - \text{cost of program}}{\text{Cost of the program}}$
- An answer of greater than 1 = the return is greater than the investment
- An answer of 1 means the return is equal to the investment
- An answer of less than 1 means the return is less than the investment

Utility Analysis

- Translates effectiveness of training programs into dollars for comparison
- There are 4 major factors in calculating utility
 1. Effect Size
 - Size effect is a measure of a training programs effectiveness
 - The difference in job performance between trained and untrained employees is known as the effect size
 - The larger the effect size the more effective the training and the greater the utility
 2. Standard Deviation of job performance
 - Standard deviation of job performance is the difference between trained and untrained employees expressed in \$.
 - When the Standard deviation of job performance is large training can result in large gains, but when the deviation is small less gains are realized through effective training
 3. Number of employees to be trained
 - As the number of employees trained increases so does the utility
 4. Expected time that the training will last
 - The longer the training effects or knowledge lasts the greater the utility
- Utility is calculated by multiplying these factors together and subtracting the cost of the training.
- Cost of training is equal to (number of people to be trained)*(the cost of training per employee)
- Utility equation is $U = T*N*d*SD - N*C$

U = Utility

T = expected Time that the training will last

N = Number of employees to be trained

d = effect size

SD = Standard Deviation of job performance

C = Cost of training per employee

Break-Even Analysis

- Used to calculate the point where training benefits are equal to training costs
- At the break-even point utility will be equal to zero
- Best used for analysis of the effect size or the Standard Deviation, but can be used on any factor from the utility calculation
- Break-even for the chosen factor is calculated using the utility equation $U = T*N*d*SD - N*C$ and removing the factor for which you want to calculate the Break-even point and the cost of the Program ($- N*C$) then dividing by the cost of the program.
 - For example if you want the break-even point for Standard Deviation the formula is $SD \text{ Break-even} = T*N*d / \text{Cost of Training}$, or
 - If you want the break-even point for effect Size the formula is $d \text{ Break-even} = T*N*SD / \text{Cost of Training}$

Figure 10: Preparatory E-mail

Hi everyone,

A friendly reminder: This Thursday we will be focusing on Chapter 12 - The Cost & Benefits of Training

This topic involves vocabulary & calculations so please come to class having read the chapter. (Your industry projects require that you to discuss ROI once your training program have been implemented, so this seminar will be reinforcing a topic you have already looked at).

Additional resources needed include your calculator, paper, & pen.

When you come to class please place your belongings at the front & have a seat wherever you would like.

We look forward to seeing you all then.

Sincerely,
Gina, Matt, & Felix