Training and Development
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Module – 06: Training Evaluation

Lecture - 30
Training Evaluation Design

Welcome to lecture number 30, this is the last lecture of this particular model. In a previous lecture we discussed about different tools and techniques which are available to evaluate the training program, meaning that to collect the necessary data and information on the various aspects of the training program conducted.

So, that we will be able to conclude on the effectiveness of a training program. And today lecture we are going to discuss about a Training Evaluation Design which is very important as we are talking about evaluation plays very critical role in seeing whether my training program results in creating an impact or it's creating an outcome or a result which we are expecting out of a training program.

So, now it is very critical, how you are going to design the how the I mean designing of the training evaluation itself which is very important as important as the training design evaluation ok.

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Now, in this lecture we are going to discuss specifically on the evaluation design, how are we going to design the training evaluations. The you know this is very important because it determines the confidence on how a company can be sure that yes, my training is resulting or making the particular impact or is it failing to you know create the particular impact or the outcome which we are expected through a training program.

So, that is why it is very important it will improve the confidence through the evaluation method ok. So, I have a very good evaluation method through which I will be able to evaluate whether my training program actually creates an outcome or not. Just imagine a situation where my company is not sure or not happy with the kind of an evaluation technique, they used that is going to tell you about training effective.

Just imagine a situation where you are spending 5 lakh rupees on a training program ok, 5 lakhs on a 2 days training program, just imagine a situation. Now, my organization says, I am going to evaluate you are spending you know investing this is an investment you are making.

Now, you are now you are saying that no I am going evaluate the outcome. So, when the moment we invest we always expect what we expect a return right, so we expect a return. So, company's making an investment of 5 lakh rupees definitely with the intention of a return.

So, that we will see in the end of this lecture, but now look at the return. So, now, I am saying my company which is saying ok, the return can be seen through the outcome which my training program creates. So, the outcome should be measured right, it should be measured the outcome should be measured.

How it will be measured through evaluation through evaluation. Now, the company should be assured that yes, the evaluation method which is so effective that will definitely will measure the outcome which will be related to the return of the investment which I am making. So, the that is why training design evaluation is very important component because the training evaluation design that fits the goals and objectives of the training evaluations will be helpful to identify and choose between what type of a method I can go.

Can I go for a quantitative method or a qualitative method, we have discussed about a lot of qualitative and quantitative method. Now, quantitative if you remember questionnaires, surveys all the techniques or performance records vis a vis the qualitative we are talking about, interviews focus group observations or many other methods we discussed. So, that will help you to determine what type of a method you can go for, whether a quantitative or a qualitative one to go for an evaluating with training program ok.

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What does an evaluation design is actually mean? So, evaluation design is concerned with a detailed planning of the evaluation, which is about how are you planning your evaluation itself. It's not about the planning of a training program, but it is about planning of an evaluation. Now, its builds on the evaluation context to specifically identify what are the practices, processor, timing, responsibility for completing the training program.

When you are talking about planning you will be talking about several questions will come ok, how are you going to evaluate? Who will evaluate? What you are going to evaluate, right? So, then comes you know analysis ok; how will you analyze? Then how will you communicate the result? How are you going to use it input to the subsequent programs right.

So, this is why the it is a planning involves addressing all these questions, you know addressing all this is about a training evaluation. How will we conduct? Who will conduct the evaluations? What will you collect part of the evaluation method? How will you analyse the information? What; so how will you report the result? How are you going to use the result for your training for an organization successfulness? Ok.

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Now, coming back to the evaluations, now what are the criteria for evaluation design. So, a criterion which could be relevant when considering the design of an evaluation which are relevance to the evaluation purpose ok. So, when you are designing an

evaluation, how relevant to the purpose we are talking about which is about a specific training program, whether the evaluation is will be a cost effective.

We have discussed about several method ok, you can choose the one of the best alternate methods which can be cost effective, at the same time it collects the sufficient information that is why we are always referring to, cost effectiveness is referred to how do you reduce the expenses. But at the same time ensuring the necessary data or information are collected in sufficient level, that is what we have to you know look at it.

And how the information is valid? Whether the information is valid if you recollect, in one of the lectures we discussed about you know contamination right. So, this is what the relevance right this we talked about deficiency. So, this part you know you collect all these information which are not relevant at all.

Only this part is relevant. So, you should see what are the valid information are you collecting, are you collecting a valid information which are what you are intended to collect ok. Then about any ethical issues around how information is to be used, is there any non disclosure information which has to be to be you know confidential or any specific party or participants will feel it that not be used. So, those also to be looked at when you are looking at the evaluation design ok.

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Then comes know what are the tasks in the evaluation design there are five tasks which are part of the evaluation design. One is about defining the evaluations, you have to define what is evaluation, how are you going to evaluate what you are trying to evaluate part of this evaluation design.

Now, you want to define the assessment criteria. How you are going to assess? Let us say you are conducting a training program. Now, I am saying I am going to assess the training program by my participants quiz results or a test result, then you will have to see ok. So, what is the assessment criteria you will have to conduct a test or a quiz at the end of a training program.

This I am just giving you one random example. Now comes your collecting data. So, how let us take the same example, you have collected conducting quiz. So, now, after the quiz we evaluation the scores, you have to collect this score this is a method of collecting it this is one important task in an evaluation design.

Now, comes involving stakeholders: so, you have to involve stakeholders in the evaluation process. When you are talking about a stakeholder there are multiple stakeholders, you talk about management and the trainer, participants, right and you know any other people who have a stake on this particular training program has to be a part of the evaluation designing process.

So, that is what we are referring to, you know designing process should be involved. For example, you are talking you wanted to conduct a you know a part of the evaluation is a project, you want your trainee is to conduct do a project. Now, you should always involve a participant to understand how likely are how what is the you know scope for participants to conduct the project or carry out a project ok.

So, that is why very important that you involve all stakeholders in when we are designing the evaluation then preparing the use of evaluation results. So, how will you use the evaluation results, what aspect you are going to use, are you going to use to improve the training program or are you going to give input on the ability of the participants in learning new things. How you are going to use the results of the evaluation that is important these are the five important tasks of the evaluation.
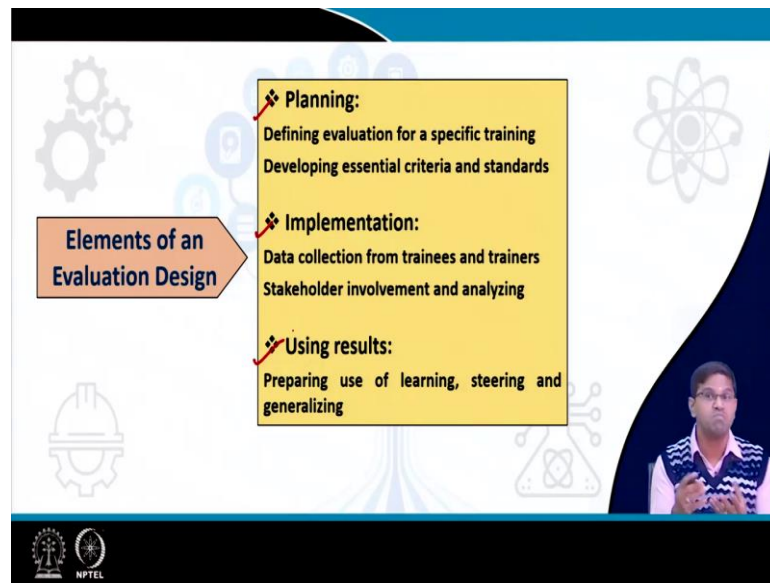
Then what are the elements of an evaluation design? First is a planning: so, defining an evaluation for a specific training you should actually you know develop an essential criteria and standards, you know as I was saying in earlier slides you need to plan the evaluations ok. How? What? Who? All the questions which has to be conducted, these are the important element of a training evaluation design, like something implementation.

Now, comes yes, I have planned everything, meaning that who will collect? How will I collect? What information I collect now I need to implement it, meaning that I need to collect data, have a tool with me implement it this a responsible person to collect the information, involve the share holders you know analyze the information, this is an implementation.

Analyze and get the result. So, now, using the result: so now, prepare the use of learning steering and generalization. So, now, you need to see how you are going to use the result of an evaluation which is you are going to talk about the effectiveness of the training program, shortcomings of the training program, best practices of the training program.

It is not always about, evaluation does not mean that identifying the negative aspect, it is also about appreciating the best practices ok. There are best practices you found this method was so effective that now my participants are able to take the learning to their

job site or work station. So, that is a best practice. So, through this evaluation you will also able to identify the best practices also ok.

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Now, what are the consideration you should do in when while you are doing the evaluation design? Stakeholder participation as I was saying yes you need to have all the stakeholders; you know will be participating during the evaluation design which is very important so that everybody contributes and suggests what are the ways in which they can be evaluated.

Somebody will say you conduct a quiz; somebody will say no not required you we can observe how well they are performing a post the training program. So, that is very important to involve all the stakeholders. And sometime management will say no we cannot know have more resources on observing things, let us conduct a quiz.

So, it is very important you involve all these stakeholders. Then evaluation should be comparable you should see you know you are collecting data which are you know realistic in nature and then it can be comparable also against the each of the participants we collect. And whether we are going to do quantitative or qualitative for a comparative analysis, how are we going to do.

Maybe as I said pre state test and post tests comparing the scores using results for learning, planning and strategic decisions. So, use the results for address the

shortcomings, planning the next training program and seeing the you know ability to use that information for your strategic decisions.

Then and it also should detect the specifics and aims for the specific training program and should train for, you know aim for the training potentials what are the other potential trainings which can be come out of the evaluation of the training design ok.

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Now, what are the you know aspects of an evaluation design that treats to validity part. There are factors that will lead to evaluator to question either the believability of the study result which refers to internal validity, because we are always referring to how valid the evaluation is. How do you trust the information collected is valid enough which is representing the actual learning of the trainer, where if you can recollect the same two Venn diagram, I was showing which you need to consent the yes.

My evaluation method or the information I collect through an evaluation is valid enough though. So, to see how you know the expert will have to believe that ok, can I believe the result or can I trust the result through which they collect all the information and then also external validity you know can we also extend to which you know when I can I generalize these results with the other group of a trainees and the situations can we establish an external validity of the particular evaluation method.

Can I generalize the similar evaluation method to the other groups or other situations of the training evaluations, will it have an internal validity and an external validity the concurrent validity we talk about. So, whether my training evaluation is valid enough, internally also external validity has to be established ok.

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Now, what are the different type of training evaluation design? So, timing evaluation design has there are multiple method types which one is about pretest. So, we were discussed this in an earlier lecture also.

So, how do you measure before the training program post test, after the you know we either you will only collect information about the develop knowledge before the training program or probably you will do only the post training program you will collect or you might also go for pre post and compare the groups, before the training program, after that ending program, we will compare.

Or you will do a time series analysis, you know a time series analysis you are talking about ok, so you will collect a regular interval which we meaning that we say t 1, t is refer to time t 1, t 2, t 3 at t n at different intervals you will collect the you know information about their ability to perform.

Then you will see what is the you know improvement they are showing on a particular work place, then times series with comparison group you will have a you know a control

group and an actual you know training group, you know let us say you will have a training group who participate in a training and a versus you know non training group who not participate in a training program.

You collect the training program result similarly at t a n; t 1 to t e n at, but for two different groups one participate in a training program, who does not participate in a training program you are trying to establish that yes, the changes which we are observing in a training group is attributed to the training program which will be offered.

Then Solomon four group, where you will be comparing the control group versus the training group in four different groups pre post groups are compared. We are going to see in detail in subsequent slides ok.

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So, pre test is essentially to collect you know outcome measures before training is being started as I was saying. The post training is nothing but we collect information after the completion of the training program to see the level of understanding on the subject or on the tool or whatever the specific objectives of a training program. So, you will have to collect information post the training program.

Now, pre post a you know test to the comparison group we said yes pre you will collect some score, X 1 to X n and post you will collect the score let us say Y 1 to Y n and then you will compare the scores of these two groups. And then see is there a significant difference between this pre score and then post score.

Then time series: time series is a refer to an evaluation in which training outcomes are collected at periodic intervals both before and after training program you will be collecting at a periodic interval, as I was saying you know t 1 time 1 to time n, it can be in both ways before training and after training you are trying to see is there a you know improvement, is there a change.

You will be able to draw a time series graph to you know understand is there a change over a period of time, let us say performance and against the time. So, over a time you will be able to see let us say I mark this ok, this is a training this is where the training program has been conducted in this period ok. Now I collected a data, now I am seeing after this I am seeing that there is an improvement in their performance.

Somewhere I fall there is a below performance, somewhere I see there is a peak performance. So, that is how the time series will help you to understand whether the you know the observing their performance of the employees ok.

Then comes you know time series with the comparison group as I was saying yes, you will have two groups one is about training there is a two time series graph I will come up with ok. One is about a non training group, another is a training group you will see over the period ok, you I am seeing there is this is how a training group goes.

Whereas, a non training group I am seeing this is how the graph are very flexible, but I am seeing that this is a training period I see there is a you know improvement in their performance. Whereas, in this I m just trying to compare through two time series maybe even the same graph also you will be able to see ok.

One is a training group; another is a non training group. So, training N, N T is a non training. So, you will be able to see it's a time and performance ok, x axis is on time, y axis is a performance ok. So, previous method also I will be able to see is there a you know difference between the two groups and Solomon group where you will design you know pre post test comparison with you know and the post tests only control group design.

You will have a training group and control group measured only after the training group you will be actually four different groups and try to compare the evaluation of the training scores ok.

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Now, what are the factors which influence the what type of you know design you go for. So, one is about factors which influence is about change in potential importance what are those, we are talking about or a scale of scale we will have a you know influence the type of evaluation you go for and purpose of the training program, organization culture, organization itself, cost of the evaluation, timeframe available.

All this will have a lot of impact on what type of a design you will go for based on the money available, time available, resource available, how my management allows me, supportive my organization culture, climate, purpose of the training program. All that will have a lot of impact on what type of an evaluation you go for.

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Whether this will influence, whether it is quantitative versus qualitative or probably both, even in this quantitative you will also decide whether a survey or a questionnaire all this will be determined these factors will have a lot of influence in determining what type of training evaluation we go for ok.

So, when we are talking about you know what are how do we determine the return on investment. So, as I when I begin this particular lecture, we start begin with you know investment against the return. So, every time when we always see any investment company makes, they always look at the return on investment what is the return I can take from the investment which you are making.

So, it is also important to see how we can actually see is there a written on investment through a training outcome. So, it is always calculated through a cost benefit analysis, which is an actually a process of determining the economic benefit of a training program, you know the using some accounting methods based on a cost benefit analysis.

You will evaluate the cost benefit method and then training to see is there a return on investment because my company is investing money through a training program and through cost benefit you know accounting methods you will be able to find out does my training program which I invested some x amount I have been invested what is the you know return out of it.

Is it you know it's going in negative or a positive, what is the you know return which I am going to get out of it. So, we are going to see how what are the possible methods in which you will be able to see the return on investment to be calculated for the training programs.

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So, what are the steps involved? First to you know to see the return on investment calculations you have to follow these steps. First identify the outcomes and you need to place value to the particular outcome. So, you have to assign certain monetary value for the particular outcome ok. I will give an example later once we finish these steps ok. So, determine the change in performance after eliminating other potential influences on training results.

So, you have to eliminate you know determine the changes in the performance seeing that ok, what is the change which are happening because attribute towards the training program and also obtain an annual amount of benefit from training by comparing the results after training results to the before training which is very simple.

Let us say give an example number of ok, let us say number of products rejected in quality check ok. So, when we say a number of products rejected which has a financial you know impact, meaning that it will incur incurred cost right it is incurring cost. Now, I have conducted a training program on the process or how do you produce the particular

product. Now I am comparing post the training program, number of similarly number of products rejected.

Now, I will say let us say before the training program the cost incurred because of the rejection is let us say amount 10 lakhs ok. Now, after the training program I have found that this is the window period of a training, now I found it has become 4 lakh rupees. Now, what is the benefit of this? Is 6 lakh rupees ok.

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Now, I say I will have to calculate the training cost you know. So, we will see how do you calculate the training cost, I will take the same example in doing it now. So, you need to determine the training cost ok, the training cost is involving all direct cost, indirect cost, development cost, overhead cost and compensation for trainees all that has been involved.

Let us say when I say training cost in simple way if you take a venue cost material plus trainer plus let us say the time spent by the participants. Let us say 30 employees, then 30 employees in to 1 day let us say 8 hours ok. So, this many numbers of man hours are being spent, all that will come into some figure right some X rupees, rupees X will be coming that is how you will calculate the cost.

Now, calculate the total benefit subtracting the training cost from you know from the benefits. So, you have to see the benefit, then see the what is the total cost on the training
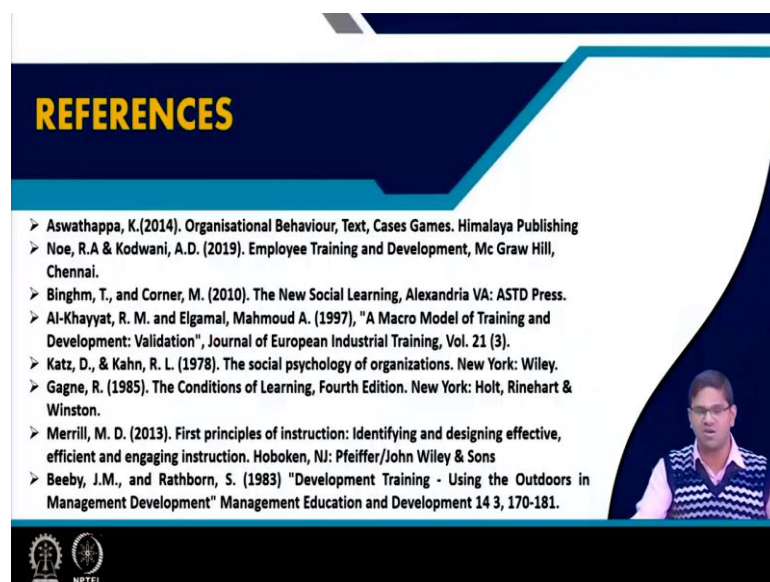
cost then you calculate. Then you calculate the return on investment by dividing the operational results by the cost.

Then you will be able to see what is the return on investment which I got from a conducting a training program. Let us talk about the same example 6 lakh rupees. Now, I say let us say my training cost was around 4 lakh rupees, now I will see I am just attributing 2 lakhs rupees is the saving it is not that you are gaining, but it is mean it's not the profit which you are coming up but it is a saving which you have.

I am referring to the example of rejection no rejection of products right, rejection of products. Now, let us say my training cost is 4 lakhs and this is the saving which I make before the training and after training I see this is a benefit which I say 6 lakh rupees I have saved owing to the you know there is less rejections.

And now 4 lakh is my training cost. So, now, the total benefit out of it is the 2 lakhs, though 6 lakh is a saving, but I am I am spending 4 lakhs on a training problem or 2 lakhs is that written on investment which I make for a through a training program.

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This is how you will calculate the written on investment for a training program.

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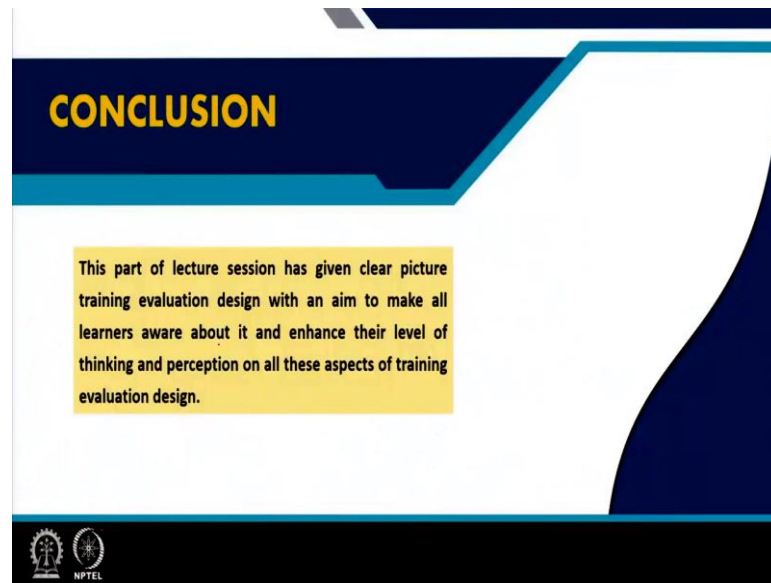
So, it is always important to see you know why we have to spend time on determining what type of a training evaluation design I go for and you know whether you go for a pre test, post test or pre and post comparison or a time series evaluation and what are the important information you know criteria you should consider, involving all the stakeholders when you are conducting a training planning for a training evaluation designs.

You know to plan how, what and what you will collect who will collect, how are you going to analyze the results, how are you going to use the results of the training evaluations. Then you should also see how are you going to calculate the return on investment which we are concerned about through a training program.

So, this is what very critical in doing the training evaluations. With this we are completing this a particular model and in the next model we are going to discuss about a training method as we already discussed about a training test assessment, program design and the transfer of training and we talked about a training evaluation. Now, in the next model we will be discussing about what are the different methods can be used in delivering a training program ok.

Thank you.