Outcome based Pedagogic Principles for Effective Teaching Dr. Tamali Bhattacharyya Center for Educational Technology Indian Institute of Technology Kharagpur Lecture 06 Instructional Design for Active Learning

Good afternoon.

(Refer Slide Time: 0:25)

## Instructional Design for Active Learning

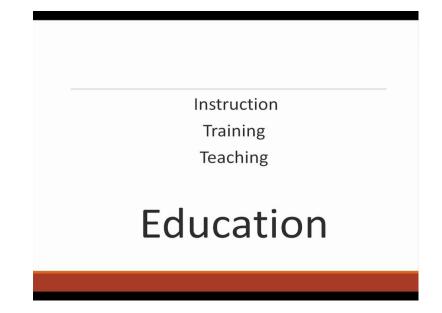
What do we DO?

Understand the meaning of instructional design

Obtain an overview of the ADDIE model



Today I will, tell you the instructional design for active learning. So, what do we do we mainly explain the meaning of the instructional design and we will give an overview of ADDIE model.



(Refer Slide Time: 0:47)

Now, instruction, training, teaching and education. First I will tell what is instruction. Instruction is the intentional facilitation of learning toward identified learning goals. So, (())(1:03) in the year of 1994 defines instruction from the similar perspective it is that the deliberate arrangement of learning conditions to promote the attainment of some intended goal.

So, it is nothing but a purposeful activity, instruction purposeful activity intended to course guide to support learning. To support the learning what is the purposeful activity that is called the instruction.

Now, what is training? Training is the instructional experiences a focused upon individual acquiring very very specific skills, very specific skills that they will normally apply almost immediately. So, that is the call we training but what is teaching.

Teaching is the learning experiences that are facilitated by a human being not you know just a videotape or the textbook or a computer program but a live teacher so that is the teaching. So, there is a difference between the training and the teaching. What is the difference?

The first is that, training used to a most specific focus that the teaching which ask, to an a deeper knowledge over a longer period of time. So, it is the training is more specific, teaching is little broad and training in on the other hand, it sticks to help, people master a specific scale or skill set until they are able to execute is efficiently. So, after training, they will do some work efficiently. So, it is a to develop a specific skill and skill sets.

Training is usually a one time or a very short term event as the job training, we will give for the job lots of training. So, it is very you know one time or a short term training we are giving. So, that is training. Teaching is usually a broader in focus than training and it generally is theoretical while training is the practical application of the knowledge.

Teaching we are giving lecture, so teaching you are giving you know theoretical knowledge but the training; they are doing some practical use of the teaching, they are applying in the training is nothing but the application of knowledge.

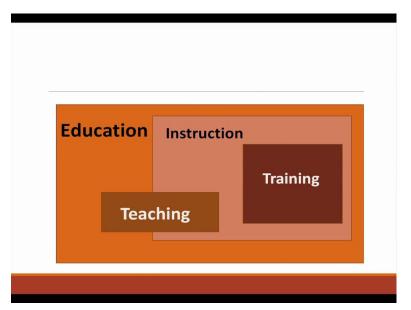
So, teaching sticks to impart new knowledge while training equips the already knowledgeable with tools and techniques to develop a specific skill sets. Another point we can say the difference is that teaching is you know training and teaching, teaching is usually within the context of the academic world while training is generally, you know associate with the commercial (())(4:29). So, that is the difference, the commercial purpose we mainly give the training.

Teaching, it usually deals with a subject or the topic while training deals with a duty or the functions. Teacher generally gives students feedback where in the training the trainers receive feedback from the trainees, right. Teaching is also a never ending process whole life you know is a teaching it is a never ending process.

Teaching can be both formal and informal. In the formal when it occurs inside the classroom and informal when you learn you know very things outside the classroom, from the parents you know we can learn, right. So, teaching from the grandparents you know that is also, one kind of teaching, it is not in the only in the class .

So, when we talked about instruction, it is not as complex as teaching. So, instruction is giving a direction.

(Refer Slide Time: 5:42)



So, just see the picture here. Here, in that instruction training and teaching both are in a in the instruction but teaching, it is a more you know the teaching is more so, teaching is not only the instruction. So, all these teaching, instruction, training all together it is the education.

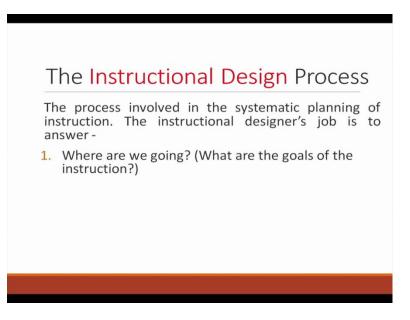
So, now in the instructional design we come to the design right. What is design? Design is a plan or drawing produce to show, the look and function of working of something. So, design implies, it is a systematic or intensive planning and ideation is a process prior to the development of something or the execution of some plan or in order to solve a problem. So, to doing something we just to design it.

Instructional design what is that? It is a systematic process. Now, instruction is clear, design is clear, so instructional design is a systematic process by which the instructional materials are designed, developed and delivered. So, that is the instructional design. So, it is the entire process of analysis of learning needs and goals and development of the delivery system to meet the needs that is the instructional design.

So, it includes the development of the instructional materials what are the instructional material development of that and activities and try out all instruction and learner activities. So, there are some key elements of the instructional design what is that?

Number one; there is a genuine need for learning. The learning events whatever the learning it should be well designed. Quality learning material are developed learning events are implemented using the appropriate strategies and approaches. Using appropriate strategies and approaches, the learning events are developed. Learning events after the development it should be evaluated to ensure learning has actually takes place.

(Refer Slide Time: 08:30)



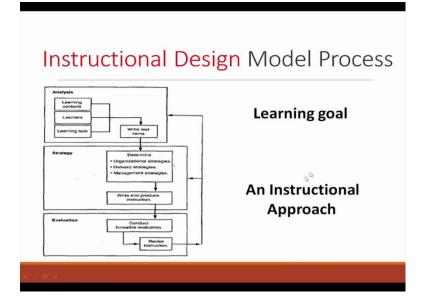
So, the instructional design process there are three parts; one the process involved in the systematic planning of instruction and there is (three) first the question it arises where are we going? What is the learning goals that is the first part? What are the goals of the instruction that is the first one? The second part is how will we get there, if the goal is there how we will get there that is the second part.

What is the instructional strategy and the instructional medium? So, that is the second part and the third one is how will we know when we arrived, so that is the what should our tests look like. How it is and how will we evaluate and revised the instructional material. So, the first part is the learning goal, second is the learning processes and the third one is the evaluation part.

So, the instructional design processes the major activities that an instructional design are completes during the design and development the first is the perform an instructional analysis to determine where we are going, and the second one (is) will be how we will get there right and the third one is how we will know when we were there? So, that is the main the instructional processes.

So, instructional processes designers insist on creating instruction , in which the goals, the instructional strategy and the evaluation but all should be matched right. So, that is by match, match is very important you have to match it that means we mean that the strategy that the instructional that method that is use the appropriate that the learning goals and the test that is the assessment or the evaluation, it should be match. So, instructional method, goals and assessment it should be properly match then it will be the proper instructional designed process.

(Refer Slide Time: 10:58)

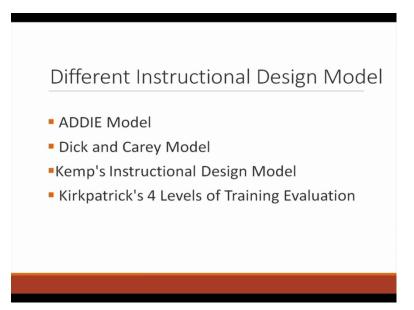


So, first here in this model, here in the analysis the learning conditions are there. The learners you have to the learning conditions we are analyzing, the learners we are analyzing, the learning task we are analyzing and we have to write the test items. And in the strategy what you are doing? We are determing the organizational strategies, the delivery strategies how we will deliver and the management strategies all this is in the determine part.

Write and produce instruction and the last part that is the evaluation that is the conduct the summative evaluation, and the conduct the formative evaluation not the formative evaluation and then the revise instruction and what is that it will go back if there is, it will go back either in

analysis on strategy. So, the aim is the learning goal and then the and instructional approach, right. So, this is the instructional design model process.

(Refer Slide Time: 12:24)



So, different instructional design module are there, one is that the ADDIE model. Dick and Carey model, Kemp's instructional design model, Kirkpatrick's 4 levels of training evaluation but we will talk about this ADDIE model first. What is ADDIE model? A analysis, D is design, ADDIE A for analysis, D for design, D for development, I for implementation and E for evaluation. So, it is a traditional and systematic instructional design model.

The outcome of each step is critical for one after it is in a sequence . So, ADDIE is main characteristic is that it is a linear approach and it provides a clear cut step-by-step sequence of events in teaching a lesson in that ADDIE model. So, in the analyse phase, this is the first ADDIE A identify, the main keyword is identify what they have to identify? Identify what are the learning problems that is identify.

(Refer Slide Time: 13:58)

Identify	The Learning Problems
	Goals and Objectives
	The needs of the learner
	The Existing Knowledge
	The Environment

The goals and objectives that you have to identify, the needs of the learner what are learner needs that have to identify, the existing knowledge have to identify, the environment how the environment that also identify, different constraints are there you have to identify those constraints and the delivery option that of the first in the analysis phase you have to identify all these things, then only after analyzing then only the design phase will come.

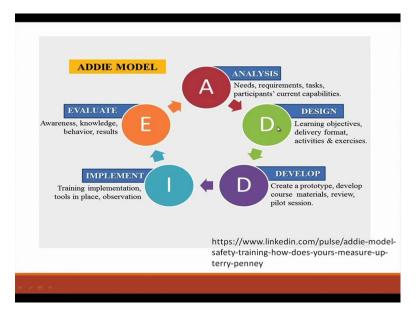
So, after identify we will do will specify. What we will specify? What is the learning objectives that we have to specify? The story boards that we have to specify, user interface, content. So, here the keyword is specify in the design process.

Now, after that we will come to the development phase, here the development thing what you have to produce the learning material we are producing the learning the learning material, content we have produce. So, here the keyword is the produce, produce learning material, produce content so that is the keyword in the case of the development phase.

Now, the fourth stage is the implementation phase where the content put in production or the training that is put in the place. So, that is the implementation phase and the last phase the last one is the evaluation. Evaluation is assist criteria used, gather learner feedback or this we are evaluating it. There is two types of evaluation one is the formative evaluation and other is the summative evaluation.

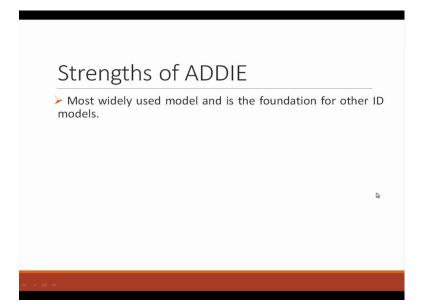
Now, what is formative evaluation? It present at each stage in the ADDIE process one evaluation that is the formative evaluation and summative evaluation is conducted on finished of the instructional programs of the products or the finish one you know evaluation that is the summative evaluation.

(Refer Slide Time: 16:25)



So, just see here, the in this picture ADDIE where A is analysis needs, requirements, tasks. This is the A and then from A a D. D is the design learning objectives, delivery format, activities and exercises. From D to come it develop, create a prototype, develop course materials, review, pilot session from D to I implement, training implementation, took in place, observation and E is the evaluate awareness, knowledge, behavior, results, this is the ADDIE model.

(Refer Slide Time: 16:59)



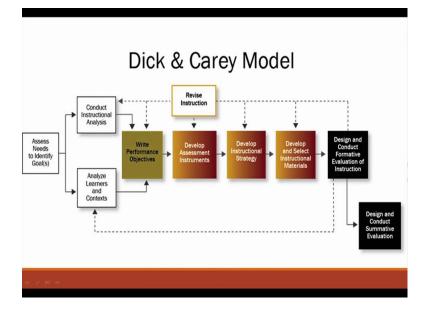
Now, what is the strengths of the ADDIE model? Why ADDIE model what is the strength. It is most widely used model, in the foundation for other instructional design model, it is the most used model and it is flexible and can be used for traditional instruction and across many you know industries the ADDIE model is used and it is very effective when testing for easily measurable criteria. It allows for collaboration at each level and at any or every stage. So, this ADDIE model is used and evaluation is the key component built into ADDIE.

Structured guidance for design ADDIE model. So, but there some weaknesses of ADDIE model what are those? ADDIE is a linear model, analysis, design, development, implementation, evaluation. So, it is a linear model which is not amendable to (acum) accommodating user generated content. So, it is that is the problem and you cannot get to the next phase without addressing the one. So, in that case you cannot get (here) development if you do not do the design part, right.

So, you know (it see) this the problem. So, it is you know time consuming and it is that is why it is (consu) costly and time consuming. Evaluation is the key component in to the ADDIE and it does not allow the designer creativity right. So, this is the problem in the ADDIE but further more story boards are not always effective in creating or you know, conveying good design but in this because the process in the ADDIE model we are using this. So, this si the weaknesses in the ADDIE model to we come to the Dick and Carey model.

The dick and carey systems approach model promotes a systems view of instruction instead of viewing instruction as the sum of the isolated parts (())(19:21). So, what is that? The model it engages instruction as an entire system including the you know the inter relationship is the entire system between the context, content, learning and instruction. So, the dick and Carey model is widely known and forms the baseline of many other systems. So, what are the major components in the dick and called Carey model?

One is to first to identify the instructional goals. The second is the conducts instructional analysis. The third one is the you have to analyse the learners and the context. The fourth is write the performance objective how to write I will teach you later. Develop assessment instruments, develop instructional strategy what are the instructional strategy develop and select instructional materials what instructional materials is used if the learning goals is this that design and conduct, formative evaluation of instruction and revise instructional design and conduct summative evaluation.



(Refer Slide Time: 20:54)

So, just see here, this is the dick and Carey model. So, here assess needs to identify the goals and there are one is here, the conduct instructional analysis, in this part analyse learners and contexts and the and from here, the second part is the write the performance components objectives. Develop assessment instruments, develop instructional strategy, select instructional materials,

design and conduct formative evaluation and design and conduct and here, this is the revise. So, whatever the revise instruction we can do that. This is the dick and Carey model.

So, what is the strength of the Dick and Carey model? The main strength of the this model is that the designers requires, clear and measurable learning objectives, okay thereby, developing instruction is a systematic process. So, this is the strength of this dick and carey model but weakness is that it is the base of the (())(22:02) that everyone of its components are essential and therefore, none can be you know skip you cannot skipped anything, so that is the weaknesses.

What is the difference between the ADDIE model and the dick and Carey model? The ADDIE model has five phases we know that ADDIE but the dick and carey model, it has 10 phases and more detail and the ADDIE model has an evaluation at the last phase but where the dick and carey model has two big you know parts evaluation.

The first part is the evaluation that are done in every steps that have you know purpose to revise the instruction in every its steps and the second is that the evaluation that evaluates that the instruction that have evaluated formally and from and sufficiently revise to meet the standards to the design. So, in that case you know each it will the evaluation is there but in the ADDIE model the evaluation is in the ADDIE in the last phase. Thus but the similarity is there that in this two system the focus is both on the methods, right.

So, the system approaches that the focused on both the model of inputs that is the output and the process of designing the learning goals what the learning processes is? The evaluation them mapped (())(23:41) the basic design is the same and for today. Next day I will teach you the detail about what is the ADDIE model. Thank you.