Effective Engineering "Teaching" in Practice
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Lecture - 01b
An Inexperienced Engineering Teacher's View

Welcome to the next lecture in the course Effective Engineering Teaching in Practice. In the previous lecture, we looked at some introductory aspects of the course as well as 3 scenarios pertinent to inexperienced teachers or at different levels of experience. We were going to go back, think about how the various approaches - the 3 different approaches were different and then come back and discuss. Let us start discussing those three approaches.

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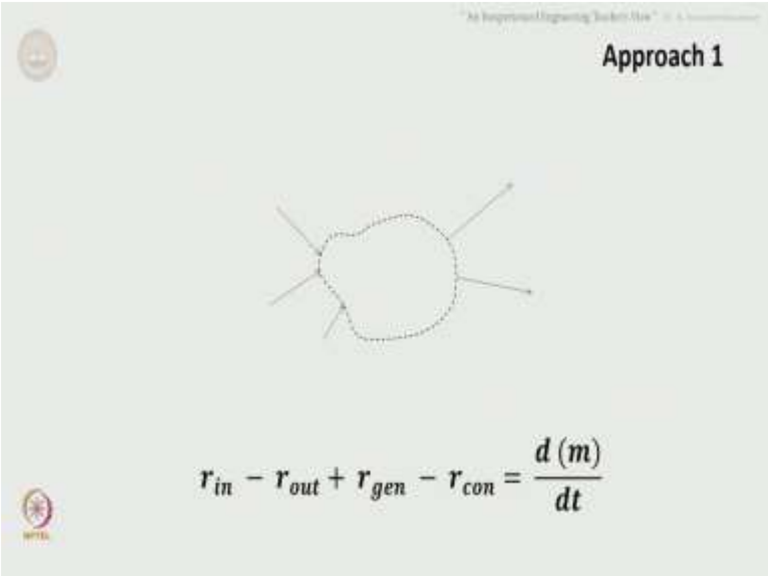

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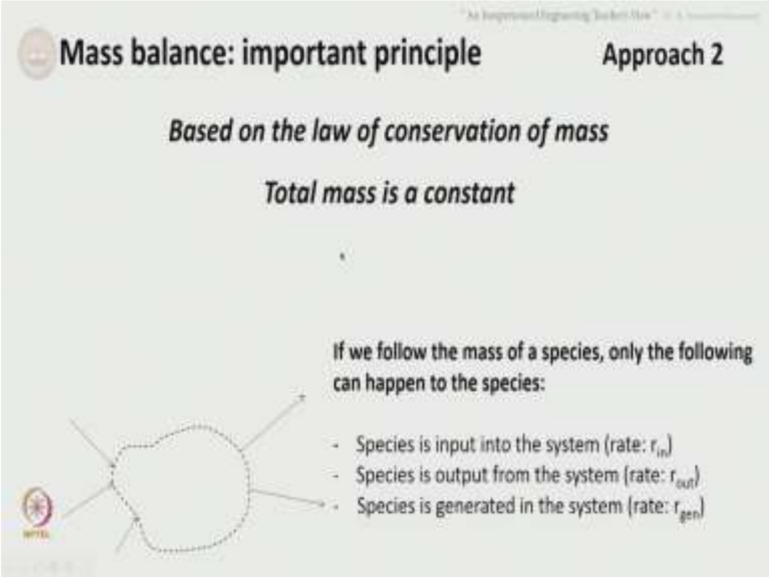

The first approach just to recall quickly was just this acted out, and then the second approach had some details and so on.

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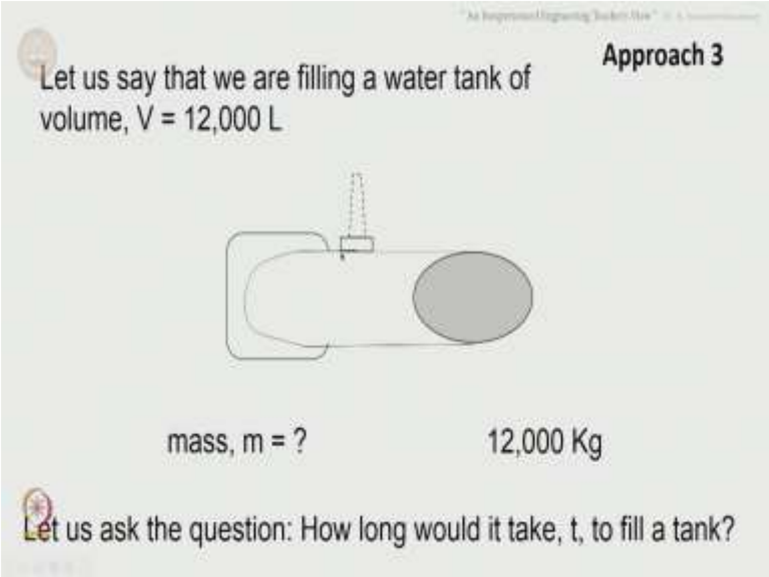

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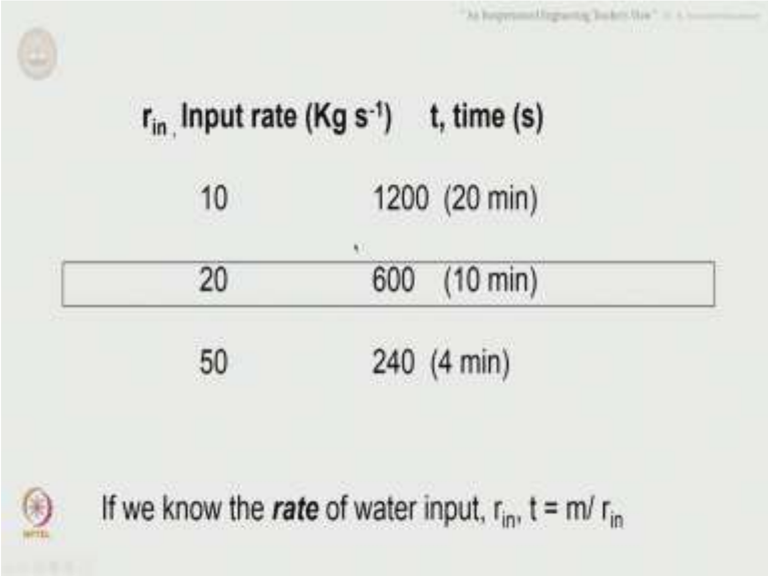

And then there was this third approach which considered the concept of rate.

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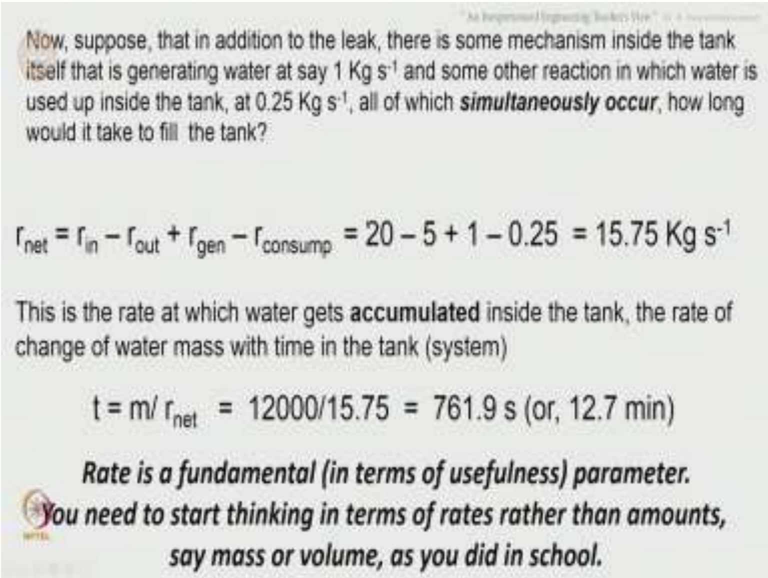

And then introduced the mass balance principle or in a useful form of mass balance as applied to a system.

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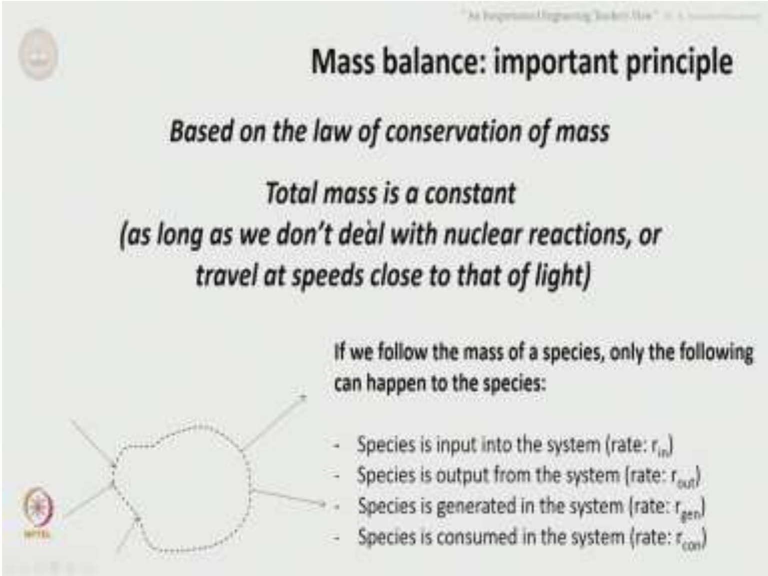

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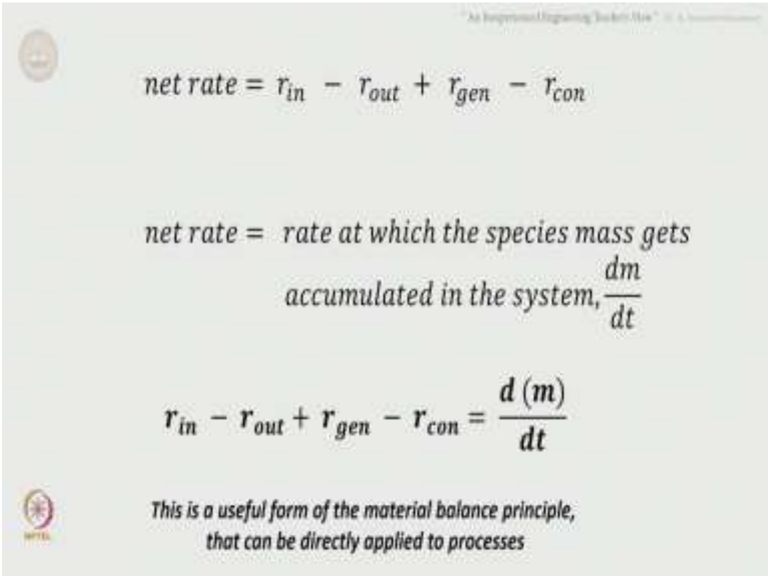

This is where we ended up in the last class.

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And we were going to see what were the differences between the 3 approaches, I am sure you would have found many differences.

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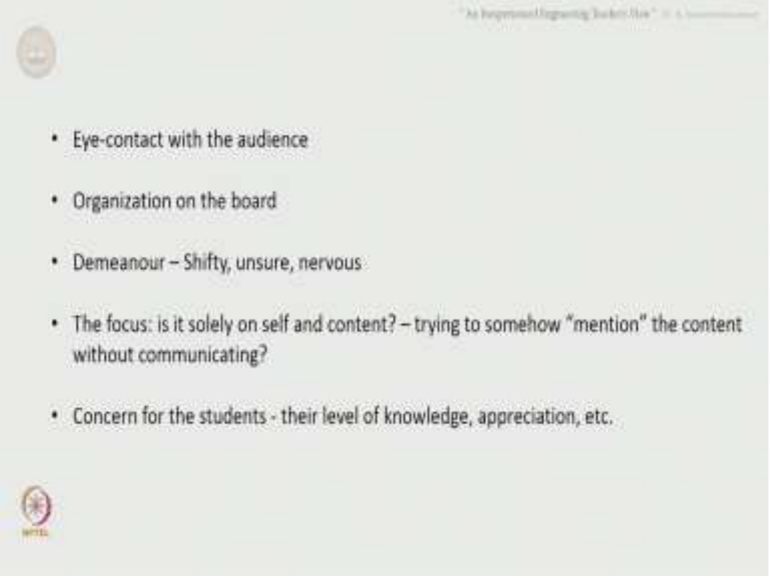

For example, in the very first approach, there was absolutely no eye contact made by the instructor with the audience right. That is very important; that is one of the essential features of communication. The organization on the board, the person wrote something here and then wrote something on top and so and so forth; that is not very good.

The demeanor of the instructor – shifty, unsure, nervous which is very typical of a first time instructor, inexperienced instructor. The focus import most importantly was solely on the self and the content, nothing else right. The person was interested in what the person was thinking, no real appreciation of what the class was about, a class of whatever - 60 people sitting there and 60 students sitting, absolutely no concern about that and was very focused on the content that was going to be covered. And the person was trying to somehow mention the content without really communicating the content. Communication as we all know is that we need to say something, the person on the other side or the people on the other side need to understand it and strictly speaking they need to say something back and then we need to understand it. That is complete communication.

Whereas, the communication was given a flyby here. And the concern for the students, especially their level of knowledge, their appreciation - whether they were able to really understand whatever was said or how they would really process it and so and so forth. All that was completely ignored by the instructor in typically the first approach, a little bit in the second approach and so on.

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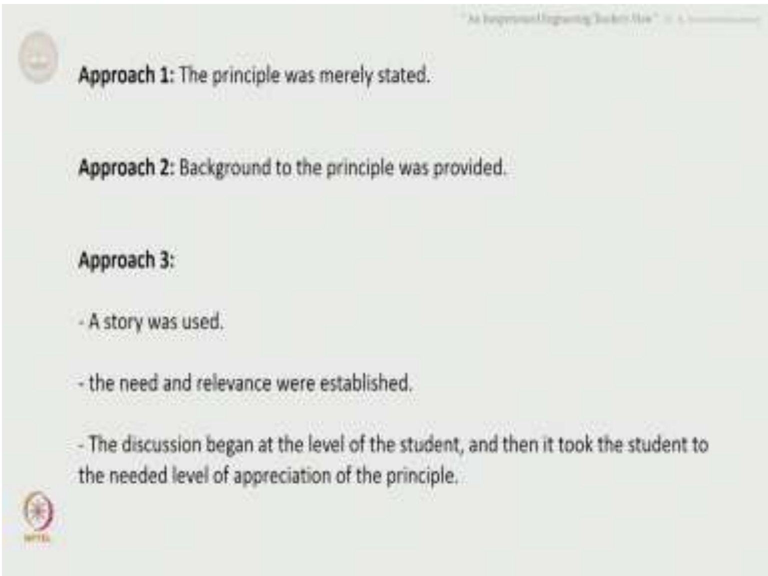

So, approach one; the principle was merely stated approach two the background to the principle was provided - a better communication of course and approach 3, a story was used, right the water tank of story. The need and relevance of the principle were established or the need to know the rate and so and so forth was established.

And then the discussion began at the level of the student and then it took the student to the needed a level of appreciation of the principle. Of course, this would be followed by an example strictly speaking. So, that the students would understand that a lot better, but you get the idea. We would do that anyway in the later parts of the course. I have pretty much used the same examples to show you different shades of things.

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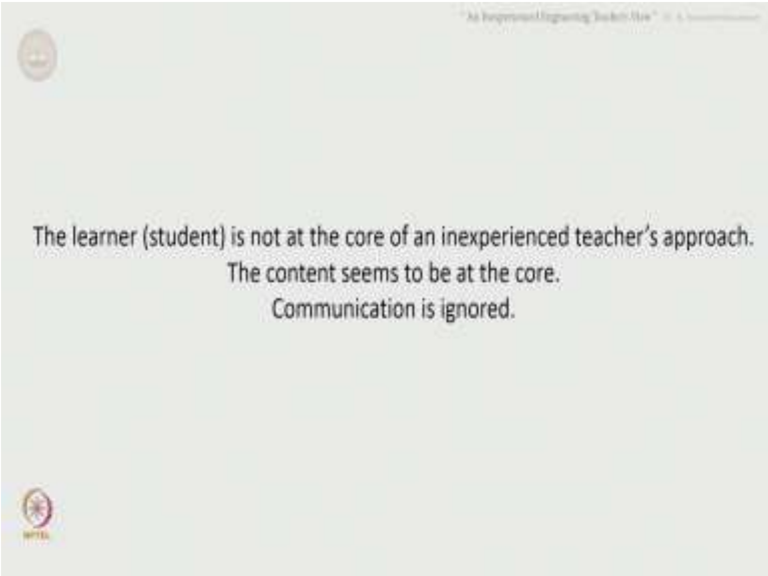

In other words, in the first approach and to a certain extent with the second approach, the learner or the student is not at the core of the approach by an inexperienced teacher. That is the major aspect that was different in the third approach.

The first two approaches, the first approach especially - the content seemed to be at the core of things whereas, in the third approach the content was an important aspect of communication. There were many other aspects, and that I think is something that people learn with time with experience and so on so forth. Content is only one aspect. The way it is communicated to the audience to enable appreciation of the content - that is a very large aspect which is completely ignored by inexperienced people.

And also the communication was completely ignored. So, these I am sure you would have come across various different differences between the three approaches. If you could discuss them in the forum for the course and that would make things interesting I would be following that forum. I think that is what I have for this particular chapter if you want to call it so - the first chapter, which is an inexperienced teacher’s view of the learning process. This would be a short lecture; that is fine, I do not want to continue and so and so forth.

So, this is fine. You go ahead and process this, when we meet the next time we will take things further. See you.