Research Writing
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Lecture – 17
Tools for Writing Up Literature Reviews and Methodology

Welcome back to the MOOC course on research writing. My name is Aradhna Malika, and I am helping you with this course. And in the previous class we talked about organizing your section on methodology. Now we will talk about some tools and techniques for writing down your literature review and methodology sections. So, let us see what we have here for you, tools for writing up literature reviews in methodology.

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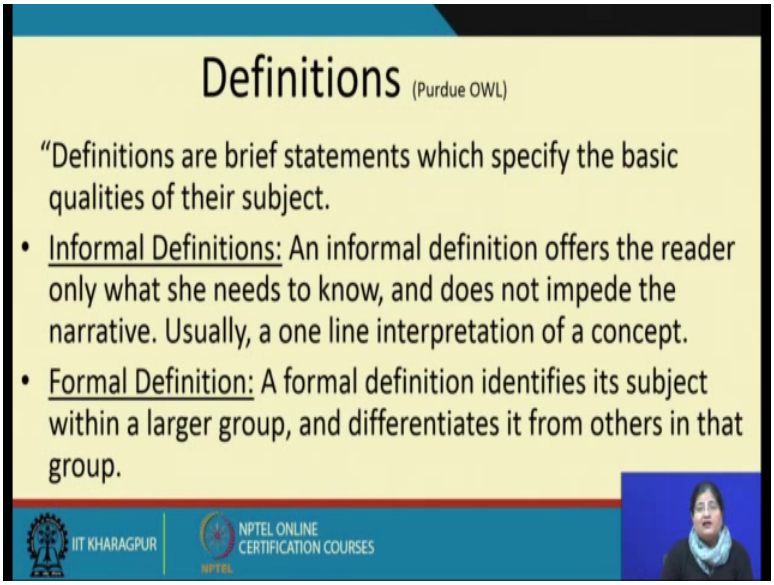

The first thing we need to know is definitions, how do you define different things and how do you write up definitions. And definitions are brief statements which specify the basic qualities of their subject. Now, where is 2 types of definitions here are the informal definitions and the formal definitions. Informal definitions offer the reader only what here she needs to know, and does not impede the narrative. They are usually one-line interpretation of a concept. Formal definitions on the other hand identify their subject within a larger group, and differentiated from others in that group.

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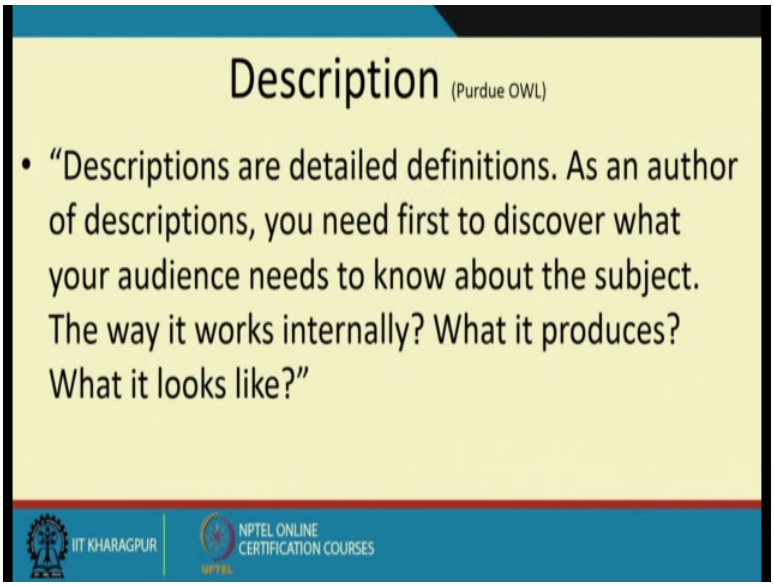

Descriptions on the other hand are detailed definitions. Descriptions help you elaborate what your audience needs to know about the subject. The way whatever you are talking about works internally, what does it produce, what it looks like etcetera. So, descriptions are detailed definitions, they are they have more detail than a definition, they talk not only about the concept, but it is use it is you know, it is it show it works it is outcome it is you know the physical features etcetera.

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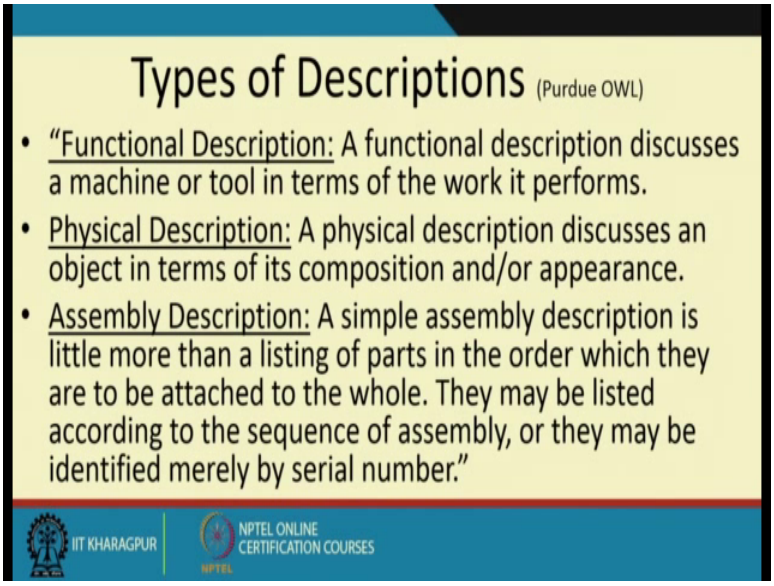

Various types of descriptions, function description discusses a machine or tool in terms of the work, it performs now this is helpful. When you write up your methods section or when you are describing your sample, descriptions definition and descriptions will be useful when you are writing up details of the sample. You have selected the method you have or the method you are going to use and the tools that you are going to use within that method. Physical description discusses an object in terms of it is composition and or appearance.

So, what does it look like? What it is composed of etcetera functional description talks about what something does. Assembly description talks about the various parts of the tool that you are going to use. A simple assembly description is little more than a listing of parts in the order in which they are to be attached to the whole. They may be listed according to the sequence of the assembly or they may be identified merely by serial numbers. So, we are talking about how different parts fit in the serial number, and how they are connected to each other.

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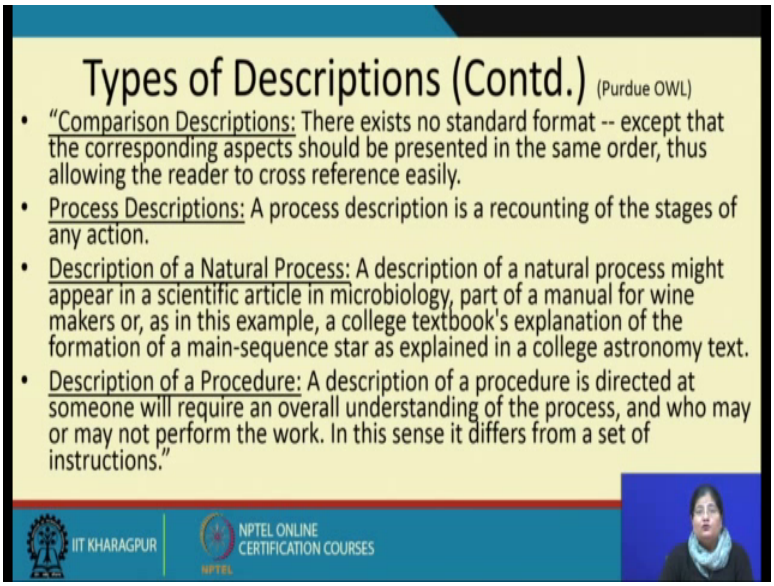

Comparison descriptions are you know their descriptions about 2 entities that can be compared, and they allow the reader to cross reference easily. Process descriptions are recounting of the stages of any action they are different from assembly descriptions or functional descriptions. A functional description discusses a machine or tools in terms of or tool in terms of the work it performs. So, in terms of the output process talks about

how; so, how that activity is done and it is a recounting a different description of the different stages of any action.

Description of a natural process might appear in a scientific article in microbiology part of a manual for wine makers etcetera. So, different natural processes you know so, are described here. Description of a procedure is directed at someone who will require an overall understanding of the process. And who may or may not perform the work, in this sense it differs from a set of instructions procedure it is process description is a recounting of this stages. A procedure is a detailed description of that process ok. How do you compose descriptions?

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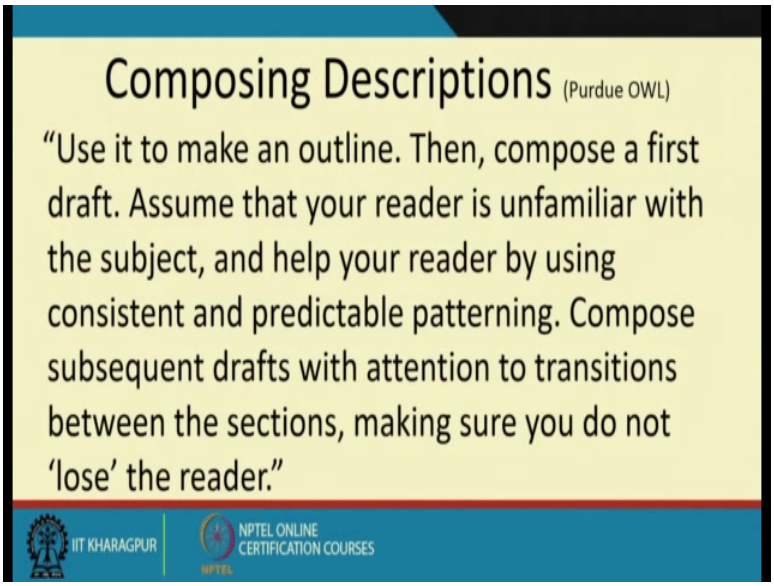

Use the descriptions to make an outline then compose a first draft. Assume that your reader is unfamiliar with the subject and help your reader by using consistent and predictable patterning. Then compose subsequent draft with attention to transitions between the sections making sure you do not lose the reader. So, you use you talk about different parts of whatever you are talking about make sure they are connected together. Make sure they are connected well, and you do not and then you compose the first draft then you revise it and make sure that one-part flows into another instructions.

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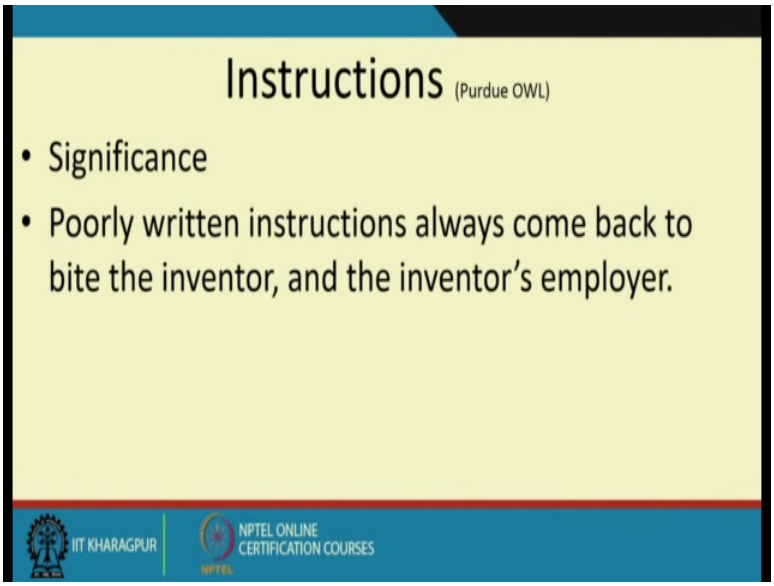

The significance of instructions are instructions help you understand, how a process needs to be completed. Instructions tell you about instructions are very important when you write up methods. And when you talk about the method section, then instructions help you under excuse me understand which what to be what has been done, and how it has been and how somebody else who would do or who would try to replicate your study, do whatever you are doing, or it advices the reader as to how a process has been followed.

Now, poorly written instructions always come back to bite the inventor and the inventors employer. For example, I will tell you few years back in our department, we had a video camera that used to record different kinds of things you know in especially in the communication classes, we would record things. So, at one point of time, I wanted to transfer those recordings to the computer. And I went through the whole instruction manual. Now, I will not tell you which company made this.

And this was sometime back about 5 or 6 years back we were using a video camera. And I went through the instruction manual, and the instruction manual talked about every little part there was in that video camera, but it did not talk about how the files could be transferred to the computer. So, they imagine that we would know how to do that. And they did not talk about how those files could be played on the computer. The files could be transferred again I found out by written try, they assumed that the person using that

video camera would know, how to transfer the files to the computer. And even though they had explained, which part went in where and what the cable looked like and you know how to charge the video camera. That particular piece of instruction was missing. They also did not tell us how to play those files because the files were recorded in a format that is different from the format we normally use for video recording.

So, that I felt was such a big flaw in those instructions. So, similarly we assume that the reader of our instructions you know knows, what they what we are talking about, many times we do not I had to like you know take the model number of the camera I had to go online and had to search for how the camera could be used and how a specific format of the files could be converted into a format that could be played through the commonly available video players.

So, you know, but that was something I found online by going through a search engine. But this was they should have been listed in instructions to make it easier for the user of the camera because; obviously, you cannot store everything on the camera. Similarly, when we do something you know when we were write about a method that we have used we assume that the reader will know what to do, and many times the readers do not and that then again comes back to bite the reader your paper may not get published. Because of these missing parts or you may get reviews your paper the publication could be delayed you know you may have trouble convincing your reviews about the authenticity or the thoroughness of your work.

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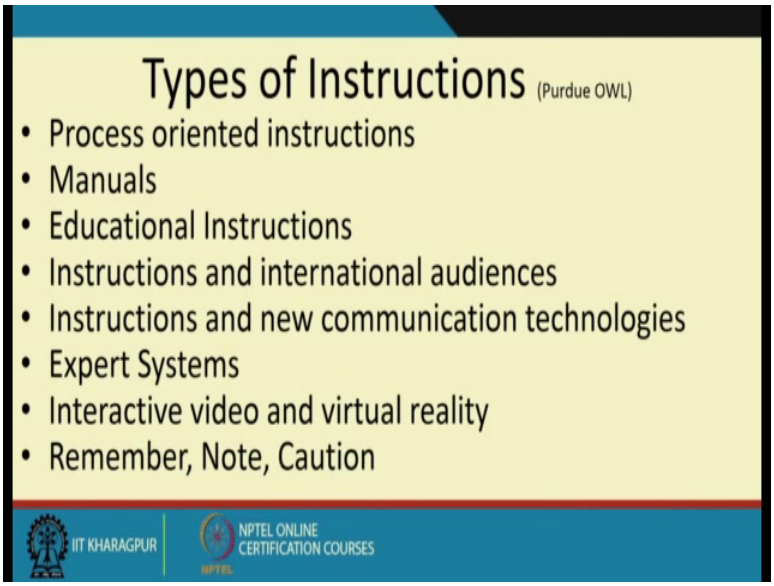

So, various types of instructions; there are process oriented instructions, there are manuals, we have different manuals we have educational instructions, we have instructions and international audiences. This is specifically, important in the context of our work reaching out to a large number of people. Whenever we write down the instructions, whenever we write papers for publications, when we talk about different methods that we have used; people in other countries may have trouble understanding what we are talking about; unless we use standard terminology and unless we write down in detail what we have done.

So, that again will help for example, when we write about say when we are talking about currency for example. In India, we use currencies called lakhs and crores. Now people in Southern Asia would understand; people in Srilanka, people in Pakistan, people in Bangladesh, people in say Nepal would understand what the word lakhs and crores means. But unless we write it you know we could write it in brackets and we could say 1 lakh is equal to 100 thousand. So, you know that is something that we could mention and that will help international audiences relate to it.

Similarly, we just talk about millions and billions in excuse me, when we are writing a paper about say currency, and we only talk about millions and billions and we talk about big hours and the canals, and you know these are measures of real estate. So, excuse me of land. So, you know unless we use both terminologies put one end the bracket and the

other outside the brackets, it will become difficult for people to relate to it. So, we must write down these instructions in clear terms ok. And in India for example, when we talking about a switches excuse me. So, we say switch on something and so, or the or press the switch down. So, whereas, or turn the tap left and in other countries you know turning something clockwise or anti clockwise could be differently interpreted.

So, that is something that we must take care of. instruction and new communication technologies, when we are talking about instructions it is always a good idea to have a an online support for the instructions that we are talking about specially when we are dealing with machines with the part number the model number of the machine should be mentioned clearly in the instructions that we are writing down for especially for research in the engineering sciences or in the pure sciences where we are using standard machines.

So, if the model number and the make and the generic name of the machine or whatever you are using is mentioned instead of the branch name, then it will really help, because then you know using different communication technologies the message can be transmitted appropriately. And the instructions again the instructions that we write down should you know they I am sorry can you please pause here [FL] portion [FL], instruction and new communication technologies [FL] definite description [FL]. Please cannot take away restart.

So, instructions and new communication technologies we must keep the new types of communication technology in my when we are talking about instructions, different expert systems again, you know how we write up instructions for different expert systems, again needs to be it looked at. interactive video and virtual reality, and how these instructions are communicated, how they cater to the interactive video and virtual reality must also be taken into account ok.

And remember note and caution now, these are 3 terms that we use loosely. When we talk about remember, we are talking about reiterating a point. So, things that we may have mentioned in the instructions, but we really want people to remember again are to be mentioned in the note saying remember. Note, something that we may have missed out in the instructions, or something that we want to emphasize in the instructions that may not have come out so well that can be written as a note. Things that may have been

missed out that we may have assumed can be further mentioned in the section on note. Caution is a section that needs to be treated with a lot of caution.

Caution means that we are warning users to use particular machine or device appropriately. So, when we are writing up about our research we say ok, word of caution, please do not turn off the machine when this process is running caution. Please turn off the machine when you leave the room. Caution, please do not live your blood samples unattended. Caution, please use gloves while handling a body fluids that you are going to be testing. So, those are all to be used in caution um. Remember if you do not use gloves while handling body fluids, you could be susceptible to infection um. So, that is how caution and remember are different, note; using gloves will protect your hands.

So, things that we assume can be put in this section. And that is how we write up these instructions that is all we have time for in this lecture. We will continue with some more discussion on research writing in the next class.

Thank you very much for listening.