Research Writing
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Lecture – 20
Writing the Results Section

Welcome back to the MOOC course on research writing. My name is Aradhna Malik, and I am helping you with this course. And in the previous class we finished our discussion on how to write your methodology section. We discussed presentation of different types of data, both qualitative and quantitative. Now in this class we are going to talk about how you present your results section.

So, you started by identifying a gap in the knowledge based, you reviewed literature you justified the gap that you found in the knowledge base. You told the world or the readers how you found that gap in the knowledge base, and why it is important to fill that gap in the knowledge base, and then you evaluated the methods that were available for filling up that gap in the knowledge base, you narrowed down you you evaluated these methods on a series of parameters, and then you narrowed down and chose one specific method to fill this gap in the knowledge base.

So, then you start getting results. So, today we are going to talk about how you write up the results section of your paper. The purpose of this is, the purpose is to report what you found out as a result of the methods you employed.

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So, you found out something and you want to report what you employed you want what you found out as a result of the methods you had employed ok. What you put in the section, the first thing that you put in this section or this section actually summarizes what you found out.

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It brings out the key results that are tabulated or reduced or analyzed and presented through appropriate info graphics. Now we had talked about reduction of data how do you reduce the data you analyze it, you summarize it, you condense it, instead of saying

ok. I found out this much you know so many percent people had pets, so many percentage of people had dogs as pets. And so many percentage of people or such such and such percentage of people had cats as pets and. So, you know instead of writing sentences what you do is you draw up a table, and you summarize your findings. And you present this through appropriate info graphics, we had this discussion in a previous lecture.

Then you also described the highlights of the results. So, you described something significant that has come up or that has been brought to light as a result of the analysis of your data. So, then you you you describe how you analyze the data, you write down your analysis in the method section, and then you come up with your results, and you write down your results you say this is what I found out, and these are the most significant or most important or most outstanding findings from whatever I have found out these are the note worthy findings.

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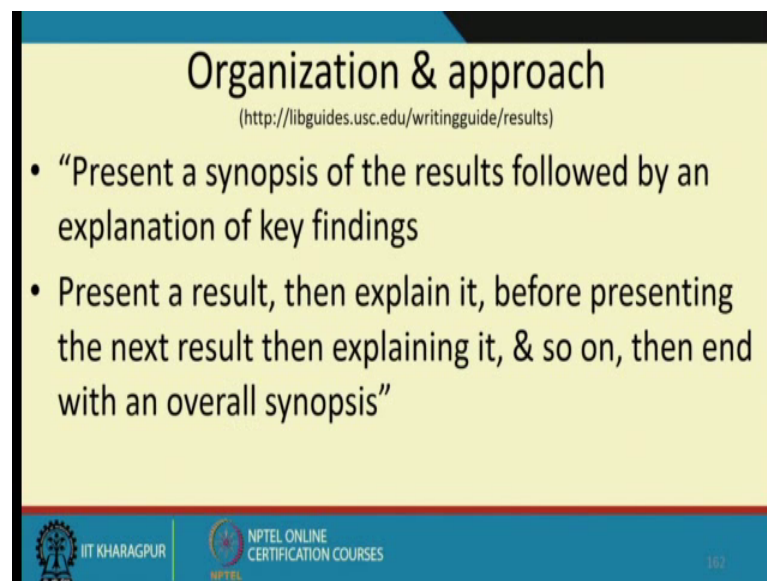Now, the importance of a good results section. Again, this is from a website put up by university of southern California. I have given you the reference here. The importance of a good result section is that when formulating the results section it is important to remember that the results of a study do not prove anything. The results are just results they do not prove x or y, you report the results is only in the discussion of the results that you establish proof of whatever you have found out. Avoid providing data that is not

critical to answering the research questions. So, it is very, very important that when we write a good results section, it is very important to find it is very important to note these 2 very, very important things; that is, one results do not prove anything. And then in order for the results to mean anything, we should provide the results that are directly tied we may find a lot of things while analyzing our data. But we must report only what is directly tied to our research question. How do you organize the results section? You present a synopsis of the results followed by an explanation of key.

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So, you summarize the results, and then you present a synopsis. Then you present a result you explained it, and then you move on to the next result and then explain it and so on and then an end, with an overall synopsis you still do not tie the results with your literature. At this point, you say you say you know so many say you explain your results in you know instead of just putting numbers, you put numbers in a table and then you say the p value of something is so and so, but you explain what that p value means in terms of the research question.
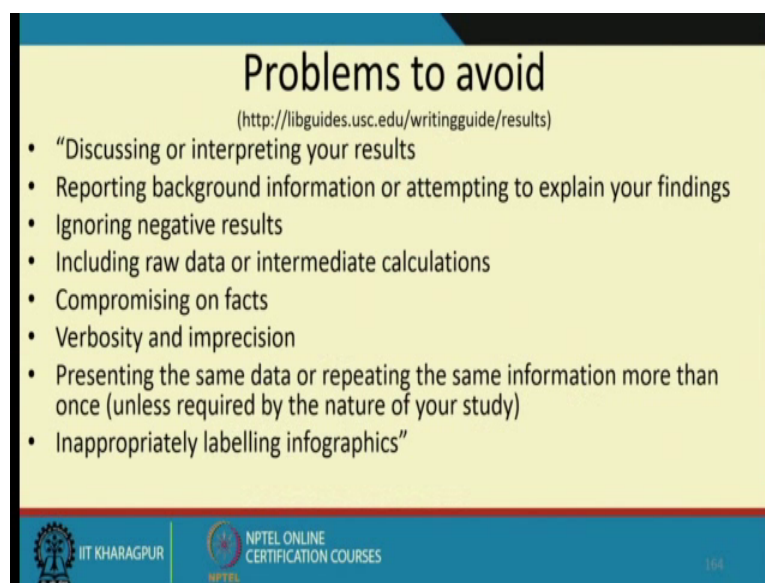
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Now, the content of the research of the results section would include an introductory context for understanding the results by restating the research problem. So, you restate the result the research problem, and then you provide a context and you say this is within this context this is how something pans out, or this is how these these results are valid or these are the results this this research question or research problem forms the foundation.

As a result of which, or on which this whole exercise is built and the results are then an outcome of the exercise that was built on this foundation called the research problem which was in turn and outcome of the literature you reviewed of whatever you studied. Inclusion of non-textual elements info graphics to further illustrate key findings if appropriate. So, you provide your results you reduce the information.

and then you provide the reduced information in the form of info graphics and describe the info graphics. A systematic description of your results highlighting for the reader observations that are most relevant to the topic under investigation. A short paragraph, that concludes the results section by synthesizing the key findings of the study. So, you provide a synopsis.

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Now, the some of the problems to avoid when writing a research question are, you avoid discussing or interpreting your results. When you write up a research results section, you avoid discussing your results in light of the available literature. You do not describe your as you describe your results, but you do not say how or why they should be considered valid or not considered valid, or how they tie in with whatever has been done before ok.

You report background information, you avoid reporting background information or you avoid attempting to explain your findings you report whatever you have found out you describe it, but you do not explain it. You know if it is contrary to what others have found out you do not provide that explanation in the results section. You only provide what you have found out.

You avoid ignoring negative results, why? Because negative results properly explained help you form a robust foundation for justifying whatever you are trying to or justifying the thoroughness of your research. It does not you may have done enough, study you may have found out enough number of things, you may think that your study is going to take one direction; however, when you compile the results you find out that whatever you had assumed did not happen.

So, you do not ignore the results that are contrary to what you thought you would get as a result of this study. You report these findings, and your your your final discussion and conclusion may be totally different and that is fine if you are able to support whatever

you are saying with logical arguments. You avoid including raw data or intermediate calculations. So, you finish your calculations, and then you provide the you know you avoid including raw data or raw numbers that have not been processed or reduced so far. And or you do not even provide intermediate calculations you just provide the final results.

The analysis coins goes in with your methodology section. You avoid compromising on facts. So, if there are some facts that you need to present, even if they take the readers understanding to a different level you avoid compromising on those facts. You avoid verbosity and imprecision. Now this is the time you can be verbal you can not be verbose, but you can use more words many more words in the literature section of your paper or your document or your thesis or your dissertation then you can in other parts of your research or in other parts of your document.

So, here the one thing you must totally avoid is verbosity. You can not use too many words, you report what you have found out and stop there. And pull the reader in a specific direction as a result of how you present whatever you have presented. But you are precise you have to be to the point and very, very direct use short sentences if that helps. Using short sentences has 2 main benefits.

For the first very big benefit is that many of us in India use English as a second or third or 4th or fifth language. So, English in most cases is not our native language, we have a different native language and language that is different than English. English for most of us living in India is a foreign language. Now when we start writing, we have learnt we have studied in very good schools we have been taught by the best of teachers. But when we start writing the tendency to make grammatical mistakes in this foreign language is very high. To add to that is the complexity caused by the advent of the internet. Now I belong to the pre-internet generation.

Many of you who are listening to this course or who are watching this course on video were probably born into a life of computers ok. And I think I have talked about this earlier also. So, you have to use the autocorrect function. For us we had to use our brains or user dictionary or use a grammar book or ask our teachers. So, we learnt it in a very different way. Now because you have instant gratification, you have dictionaries on your phone you have the autocorrect feature you have grammarly you have you know what

have you all kinds of things to help you correct your grammar, many times many of us do not want to spend the time and effort learning the the mechanics of the language we are using whether it is English or Hindi or any other regional language. And we say what is the point that is what my students have asked me very many times they say mam what is the point of even learning grammar when there is an autocorrect function, why should I tax my brain I will spend that time learning maybe about finance or operations which is more tiring.

However, when you start writing many times the computer cannot catch those faults. So, if you use long sentences, then the tendency to make grammatical mistakes and confuse the reader and as a result of that confuse the reader is very, very high. If you use very brief very short very direct sentences the tendency to make grammatical mistakes is reduced to a large extent.

And that in turn leads the reader to a lesser number of conclusions, than a long sentence would. If you use a long sentence than the number of interpretations of that lengthy sentence will be more whereas, if you use a short sentence you say this is a table that is it as x leads to y simple. X may lead to y, x leads to a, b, c, d and e. But in most cases, it leads to y, and in some other cases it may lead to j and k.

Then the reader is confused as to which direction you are taking. Or you provide the context within this context x leads to y. So, you describe the context when you say ok. Within this context this is the context x in this context leads to y. X in another context that is different than this could lead to anything else ok. So, you shorten your sentences you make them very crisp and make sure your sentences I mean this is just an approximate figure you have to make your own judgment, but if your sentences are not more than maybe say 12 or 15 words long, the chances of them being misinterpreted comes down significantly.

Present avoid presenting the same data or repeating the same information more than once, unless required by the nature of your study. Avoid inappropriately labelling your info graphics. So, when you label your info graphics, make sure that the data labels are accurate, make sure that your legends are appropriately labelled etcetera, now when you avoid all these problems your results section will be robust, it will be sturdy and it will be easier to understand and it will form a sound foundation for you to build your

discussion and conclusions on; that is, all we have time for in this lecture thank you very much for listening. We will continue with some more discussion on research writing in the next class.

Thank you.