

Course Name: Technical Communication for Engineers

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Week- 02

Lecture 02- Title and an abstract

Hello everyone and welcome to new discussion under this technical communication for engineers and science students. As said also in the first one that it is almost for everyone. The intricacies which are required and the better understanding about technical communication in all professions. So, first we will take the title and going how title should be written very briefly in earlier discussion also. We have covered this part that why title is important because whenever we are producing a research article or any study then you know one probably notice that article with interesting descriptive research, a title will attract most. That should be the aim while writing.

Also, we have discussed that it has to be brief and other things. But the importance of title and keywords very-2 important which we will be now seeing also or discussing here. So, by contrast research papers, titles that are not descriptive are usually passed over. That means that students or the audience will just go through and may not notice the work which one has produced.

So, it has to be very in that way good. So, the research part may be good but if the title is bad, the product might be good. If the title is bad, topic is bad then may not attract the audience. So, this shows the importance of coming up with a good title for your research paper. And this is I tell you that putting a nice title to the work, thesis, seminar, dissertation, project proposals or any other document.

This is one of the challenging task I would say that using minimum words but at the same time, creating a showcase of your work. with minimum words, precise word with more or brief title. That is the important part here. So therefore, writing a title may not be required or should not be done at the initial stage. May be later on or a rough title or draft title can be written and later on once the study has been completed then the appropriate title should be rephrased there.

The main purpose is that once the reader see a topic or title, if it is interesting, he will go through the next part. That might be an abstract also. So, what are the different types of

titles on the left side. And what are the comments or critic can be of those titles. Like on the left, it is written benefits of meditation for nursing profession.

A quantitative investigation. This is very conventional kind of title. So, this describes the topic and the method of the study but it is not particularly catchy, not that interesting. As I have said, it is a very conventional kind of title. Second one is the why Mindful nurses make the best communicators.

So, this way partly describes the topic but again having problem that does not give any information about the method of the study. And it could simply be a theoretical or opinion piece. So, in that way, it is again not befitting title. As I said that when we are searching especially nowadays on digital media or net or that thing then we will be using words like nursing, communication and meditation. And these are the results we will be getting.

So, one has to be very-2 careful while phrasing a title. Now here, the title is very brief, very short, just 2 words Meditation Gurus. So, is somewhat catchier but gives almost no information at all about the article. So, even a very short article may not be very good either. So, one has to be very-2 careful while phrasing an article, a title.

Nurses on the move, A quantitative report on how meditation can improve nurse performance. In the first example I gave, it is the rephrase title but whether it is again catchy. So, begins with a catchy main title, the first part before the semicolon and is followed by a subtitle that gives information about the content and method of the study. So, in some way, it is good. So, as we see that the last title has all characteristics of a good research title.

However, I would say that it is little longer and again if it can be improved then it can be a better title for a research or for a manuscript or any article. Now here in our discussion in future or even in this one, whenever I am using a manuscript, paper, article, whatever the discussion which we are having is applicable for all types of written communication. So, it is not only the manuscript or research manuscript, I am also including in that one the articles, the manuscripts, the dissertation, thesis reports, project reports, project proposals, these rules or these understandings are applicable everywhere. Now like in the summary, the 4 titles which we have seen, we will see against 4 characteristics. The first characteristic, the predict contents whether the title reflects what is inside or not.

Secondly, whether the title is catchy, interesting or not. Thirdly, whether it is reflecting the tone of the paper or not or manuscript or article. And last one is the important keywords. Whether it is carrying the important keywords so that when it is searched on

digital media, immediately should be searched there. So, first one the benefits of meditation for a nursing profession, a quantitative investigation.

So, on this predict content, yes it predicts. But interesting, no. Reflects tone, no. Important keywords, yes like nursing, meditation, investigation, quantitative word.

All these are there. Whenever somebody is just using 1 or 2 keywords for searching, they will find this article. Second is why mindful nurses make best communicators? So, this predict content? No. Interesting? Yes. Reflex tone? Yes. But important keywords? No.

So, this is just opposite of first example. Now meditation guru, predict content, no. But interesting, catchy, yes very much. But on other characteristics like reflect tone and important keywords, no. So, again this is not good.

The last example is the nurse on the move. A quantitative report on how meditation can improve nurse performance. And here it is scoring all yes that against the predictive, yes the article or the title predicts what is the content. Title is interesting, catchy, reflects tone what is inside the title, manuscript or article. And finally, important keywords are also there like nurses, quantitative meditation.

So, all these are there. And therefore, one should try to phrase the title in a manner that it should predict the content what is inside the paper. There should not be mismatch. I have already said in the first discussion that is a very bad thing that the title does not match with the text which is in your article or manuscript. Further it should be catchy.

Third is the reflect tone. It should tell the reader or should give a feel to the reader how it is written, what is the content of the article or manuscript and the proper keywords have been used within the title. Now a paper or article or manuscript involves ensuring that the title of the research accomplishes 4 goals. What are those 4 goals? One is a good title which predicts the content of the research paper which we have just discussed in the comparative study of 4 titles. Second is good title should be interesting, catchy. Third is the reflects the tone of the writing and fourth, it should contain important keywords.

So, whenever you write a title, just this is the checklist. Go through these 4 points. If your title is able to satisfy all 4 points then it is good. Even if it is satisfying 3 points might be also good because sometimes it is very difficult to satisfy all 4 points. But maximum point, if it is just satisfying 1 or 2 points then it should be rephrased again till you get satisfaction on these 4 points which we have just discussed.

So, whenever we are writing a research title or research topic earlier discussed as 4

points used that few other tips are also there for effective research paper or manuscript. Make sure the research title describes what the topic, the method, the sample and results of your study. These are important things. Further we will be discussing on these aspects. Avoid unnecessary words and jargons.

This also I have mentioned in previous discussion. that like abbreviations should not be used or complicated words should not be used. I showed a video in the previous discussion. All complicated words have been used. Though grammatically or English literature point of view was correct.

But the main aim is communication. Whether the person is able to communicate in a manner that the person who is receiving that communication comprehend or can understand easily. So, for a very simple question, the answer should be also very simple. And therefore, the title should be comprehensible even to non-experts. That should be our aim because those who are going through your manuscript or title or paper or project may not be expert.

You are the best expert of that field. And therefore, you should be able to communicate in a manner that almost everyone should be able to understand easily. Make sure the title is between 5 to 15 words in length. Now this is just suggestion depending on the work. But even 15 words is quite long.

I will give you one example. Earlier time, for PhD titles, the restriction was of 80 characters. And we used to rephrase and rephrase. And we used to come out with a very appropriate title because the restriction was there. But if you do not keep the restrictions then people may rise in a complete sentence as a title and that may not satisfy all those 4 conditions. Catchy, interesting and all those things or reflecting your work other thing.

So, a title should not be very short. Examples we have seen and title should not be very lengthy either. appropriate, most appropriate title will attract the reader. Further title should be strong and focused and sufficiently informative because just in one line or few words, how can you you know give the entire content of your manuscript or research or paper. So, sufficiently. Therefore, sufficiently informative and you know should reflect what is inside.

Attractive, striking, interesting and easily comprehensible. Now we come to the next part of any manuscript, dissertation, PhD thesis or other thing after the title is abstract. Now here, many other words are also being used, other terms are used like a synopsis, summary, extended summary, executive summary. So, all summaries will fall in one category and a synopsis and summary, you would not find much differences there. But

definitely, there is a difference between abstract and an extended abstract and abstract, extended abstract and summary.

So, these differences and these intricacies about these things, we will be discussing here. So first, mostly the reader goes through after the title. This is the section of a person has read the title and he finds attractive, he finds sufficiently informative what is inside your text. So, the next thing once he finds interesting the title, next thing he is going to read the abstract part.

or extended abstract or whatever. So, abstract is the next thing which he will read. Therefore, the abstract has to be very interesting, fully informative and very brief as well. Generally, abstract should not be written for more than 1 page or 300 words. Because if an abstract is written for 4-5 pages, then the focus may be lost. And the reader may close that manuscript or chapter or whatever, may not go further.

So, if it is very briefly presented the work, methodology and every results, discussions in a very brief manner within one page, in typed page I am talking. then the reader might go through. And if he finds your abstract interesting then he will go through the other sections as well. So, this is the next important aspect in manuscript writing or you know written communication.

So, it has to be brief summary of work presented. It tells the prospective readers what and how the work has been done. That means very briefly, you are going to describe the methodology, algorithm, lab experiment whatever and what are the results, important findings, breakthrough, innovations. Everything should come within one page in a very brief manner. And in some way, it is an advertisement of your work, article or manuscript. So, the title is a showcase, abstract and advertisement.

Make it interesting. Like title has to be interesting, so your abstract has to be interesting. Again easy to comprehensible or understood without reading the whole article. Because once he finds interesting and if he is interested in that field, he will definitely go through the introduction section of your manuscript or thesis or article. And if it is not good, He may not read further.

So, must be accurate. I have been saying precise, accurate, brief, specific, particular, simple and easily understanding. Do not try to use complicated English words. Use simple sentences, small sentences. Try to use direct speech. Though I said that I will not be discussing the English part or language part of communication but indirectly of course, we have to be careful about that.

So, we have to bring that brief discussion on that thing also. So, here we are having as I have said that extended abstract is also here which we will see the difference also. So, clear abstract will strongly influence whether or not your work is further considered for reading by the reader. So, generally abstract and synopsis, another term synopsis are also used.

synonymously, interchangeably however there are differences. So, some differences are there which we will go through. That abstract means an abridgment or summary. Now when we say summary, then summary is not really you know synonym of abstract. But anyway, so it is a very brief part of a longer publication, brief presentation of longer publication and that is what the abstract is. Whereas a synopsis means a brief summary of the major points of written work either or prose or as a table.

In synopsis, you are having more flexibility. So, for PhD thesis, many times a synopsis has to be submitted. not an abstract. Synopsis may go for 4-5 pages and that synopsis goes to the examiner for a PhD thesis whether he would like to evaluate that PhD thesis or dissertation or not. So, he would go through the synopsis. If it is abstract because PhD is a long years work, so it cannot be summarized everything in just one page.

So therefore, synopsis is allowed there. So, there in the synopsis, the important table or figure can also be used because you are having freedom of using 4, 5, 7 pages to prepare a synopsis. So, synopsis you can say longer version of an abstract or equivalent to extended abstract. So, an abstract is said to reflect the mind of the author of research paper. It indicates what is inside, how things have been done. And if I compare with summary then summary on the other hand is said to reflect the events of particular act of a play or is a nutshell.

So, you know there are differences but I would say in terms of length, there are more differences. Summary, you know it is a complete reflection of the work. All sections would be summarized in summary section. But in extended abstract need not to be. So, the abstract of a paper is the only part of the paper that is generally published in conference proceedings.

And this is again important. If you have good research findings, innovations then write a good title and abstract and submit to a conference. They will review and if they find interesting, appropriate for the topic of the conference, it would be accepted. So, generally if it is nicely written, it is accepted. So, abstract and they do not publish lengthy papers or full papers, many-2 conferences.

They publish only abstract. So, whenever you would go for oral presentations if allowed

then you would do detailing of the work which you have done. So, those who wanted to hear about your work after going through the title and abstract, they will listen your work or they will see your powerpoint presentation as well. So, that is a potential referee see when he is invited an editor or review a manuscript. This is what I said if a synopsis is prepared for PhD thesis then abstract is prepared for a manuscript. And so, when you submit a manuscript, first the editor or associate editor or handling editor will go through the title and abstract.

And if he finds that it is appropriate and nicely written for that particular journal, then he may send for reviewers. or evaluators to review that manuscript. Otherwise, if it fails on the first 4 grounds then it is rejected by editor at the beginning. So, there is then no further chance left.

So, that is why it is very-2 important here. Remember the title is showcase and abstract is an advertisement of your work. that readers see when they search through electronic databases. So, the search keywords which we have said, we will be also discussing few more points related with that already discussed. So finally, most readers will acknowledge that when they look a paper.

So first, they only go through the titles of the paper. Of course, you would not find people that they start reading the methodology part or results part. They will first go through the title and that is why repeatedly I have been saying that it has to be interesting, brief and precise and so on. If a title interests them, they glance through the abstract of the paper. That is the next step. And only a dedicated reader, one who finds title and abstract interesting will go further and see the entire content of the paper.

And then only few people will go through the entire manuscript that is figures, introduction, discussion. Only those who really belong to that field or very much interested then they will go through the things. We will have a separate discussion but very briefly, I would like to mention here again a very old saying that a picture tells 1000 words. So, our figures have to be very nicely drawn. Whatever the technology or tools which is available, digital tools are available, use them and nicely draw figures with full annotations, captions and the title and everything.

And all key ingredients of a figure of paper or key features because once a reader starts going and if he finds that figures are very nicely drawn, informative, accurate then it attracts him further to go through the other sections of your paper or manuscript. So, the focus should also be equally focused. Focus should be given on figures or illustrations, maps, whatever charts and all kinds of charts and which one should be used so that it can reflect your data results accordingly. That is individual choice. But always try to find out

the best way of representing your data and that can be done only through nicely drawn figures.

Further introduction part, so that is the third thing which a reader will go through after title, abstract, introduction. And in the last, it comes the discussion or conclusions, observations that will also go. And a person who has gone through all these sections, I tell you he will also go through the even acknowledgement section or references also. So, only a reader with a specific interest in the subject of the paper and a need to understand it will go through thoroughly and will read the entire manuscript. But the conditions are there that initially the title has to be attractive and then abstract. And then he finds very interesting and his interest and that paper of the same field then definitely he would be more interested.

And many times, he might be going many times through that paper to understand the entire content of your paper. And once he has used or gone through the paper, for his own research or work, he will be using your work. And then he would be giving the references, it will increase the citation and other things. So, that is why it is very important that these things should be taken very meticulously, very seriously. So, vast majority of readers, the paper does not exist beyond its effect and this is the problem.

And there we have to improve. that the title and abstract if these are the very good reflecting your work then you can pull the majority of readers to go through the entire manuscript. Further for referees or evaluators, a few readers who wish to read beyond abstract, abstract set the tone of the rest of the paper. So, that is why you know if they find not interesting, immediately the manuscript, project proposal, anything article may be rejected by the editor, by the publisher or by the sponsors. So therefore, it is very-2 important. These things should be kept in mind while preparing such manuscript or document thesis or dissertation.

So, this is the responsibility of the author to ensure that the abstract is properly representation of entire work, research work, paper, whatever manuscript. Further the abstract is condensed, concentrated version of the full text of the research. This is just gist. So, it should be sufficiently represent the paper.

If a reader read as a distant document, an abstract must be as detailed as possible also. So, same time it demands that you have to be brief but detailing to the possible extent. But one has to keep also in mind the limits on the word counts. Some proceedings, some conferences, some journal will ask you to limit your abstract within 300 words or 500 words. So, there that skill will be required that you are providing a very brief representation, very accurate representation of your work but with sufficient details and

within the limit which is restricted by publisher or whoever. So, this will require a good writing skills as well as fine judgment about the information which is necessary and what information which is not necessary in the abstract should not be put.

You know what I mean is not necessary at the abstract level. But the all relevant information related with the work has to be presented in some other sections. for example, the details about the experiment which has been done or details how the field work has been done or how the data in the field has been collected or about the instrumentation. Those details can come later on in other sections but not in abstract sense. So, that is what other necessary information that a reader should find attractive should be there.

Further that abstract must contain as much as information as possible. But the condition is that it has to be very precise and focus and relevant information should only come in the abstract part. And then other information can go in other sections. Abstract should not present a biased picture that is also true with the title so that it is also true with the abstract. It should not present a biased picture. Otherwise if a person reads and did not find what is inside the manuscript or it does not support the hypothesis which author or authors have put then it becomes insignificant and will get a very adverse findings.

and adverse you know feeling about the author or authors. Further you know that if there are some negative things which have been discovered or found in results then those should also not be highlighted much inside the abstract. These things can come during discussion about limitations because no technique, no instrument, no approach is always perfect. So, what are the limitations of your experiment or instrumentation field, data and other things. Those can come in discussion part or in other sections but not in abstract section.

what I am trying to see the negative things should not come in abstract section. As far as a possible extent, the reader should be able to independently evaluate the author's conclusions. So, in that way, it should be there. Now what are the important ingredients or components of an abstract? So, despite that an abstract is quite brief, precise, it must do almost as much as work the multiple-page paper that follows it. And therefore, each section is typically a single sentence. So, whatever the manuscript is containing for example introduction, methods, methodology, data, results and discussion.

So, what you can do, You can bring an appropriate sentence representing that section only through a single sentence within the abstract. Because you do not have much space there in terms of words or sentences or in terms of page also. So, in particular, the parts may be merged or spread among a set of sentences. Sometimes it is also required. But as

I have suggested earlier, it is good practice that one should write short sentences because otherwise it can confuse your audience or readers.

So, you know short sentences, direct sentences are always good to communicate. So, what is the checklist that it should motivate the reader and that incremental progress on the problem that is widely recognized as important that should be included. And it is better to put the problem statement first to indicate that what kind of work your paper or manuscript is carrying and also how the working has been done. Further it should also include the importance of your work, why that work has been done, why it is so important and whether somebody has already done that kind of work and what is the difference in their work or your work and what is the difficulty of the area or that field where you have worked and the impact it might if successful.

So, those kind of things are there. Second is the problem statement. So, in the checklist, first we have seen that it is a motivation and the second one is the problem statement. Here what problem are you trying to solve? What innovations? What new things or what new product is one going to create or has created? That should come here. What is the scope of your work? That is the generalized approach for a specific situation. And sometimes, it is appropriate to put the problem statement before the motivation also. So, though I am presenting in a form of sequence but it is not necessary that problem statement cannot come first.

But the normal sequence is that the problem statement should come after the motivation. But as per the requirements, the sequence can be changed. And the third in the checklist is approach. How the experiment or the problem has been solved? What is the method? How the data has been used? Which was the model and algorithm? All those things can come in a very brief manner. If you have used the simulation, computer simulation, lab simulation, model simulation, analytic models, prototype construction of some product or analysis of field data that are for an actual product.

Whatever it has been used, it should be mentioned in third part of your abstract. What was the extent of your work? How much work has been done? How much area on the ground has been covered and so on so forth. What important variables did you control, ignore or measure? Very briefly again, if some model has been used then what that model assumes that can also be there. In that model, what it assumes that many parameters are insignificant. So, those things can also come in form of abstract.

The fourth part which is again very-2 important that should be included in abstract is the result section. that what is the problem statement which you have made at second step. Have you able to answer that question that you have been able to solve a problem or that

a product of this kind was not existing. So, you have created that problem and this is more better product than the previous one or better research than the previous. Here the results can come. So, this is for most good papers, conclude something is many percentage more accurate faster, cheaper, smaller otherwise better than something else.

That means you have to present that this is better than others either in terms of cost, either in terms of size, either in terms of speed or accuracy point. If the instrument has been developed for some kind of phenomena measurement then how accurate it is as previous product. and put the result in numbers if it is possible.

May not be necessary. This depends on how your journal or publisher is allowing. Again, avoid vague statement. That means if your conclusions or results are not producing that kind of you know product or understanding then those statements should always be avoided. Finally, we are coming on the last part of an abstract that is conclusions. And you know starting from your work then other sections still you come to the conclusions. These checklists also most of the time is applicable for extended abstract as well as for summary, synopsis and other thing.

But the length part is much more available there. but plus some additional things. So, when the discussion will come on those things, we will be discussing in detail about that. So, let us only concentrate on the abstract part. So, final section of an abstract part is going to be the conclusion. What are the implications of your research? Suppose I have created a product or I have found some new things then what are the importance of that? So, that implications of your answer which questions raised in under the second part that is problem statement after the motivation. Is it going to change the world? Of course, one thing cannot change the entire world but still we should assess that whatever we have done is good to make some changes in the world and then that should be highlighted.

What we are trying through an abstract or in this section of an abstract is that we are trying to highlight in just one or two sentences the things which has been generated either in form of product or understanding and that should be highlighted. So, your results are general, potential generalizable or specific to a particular case. That you say that in certain conditions, this works better. But in other conditions, it does not work.

But again limitations and other things should not be highlighted in the abstract part. So, with this, I end this discussion. Thank you very much. Thank you.