Introduction to Professional Scientific Communication

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Lecture – 19
Writing a Research Proposal and Preparing for a Presentation

So, welcome back to this course introduction to professional scientific communication. So, the week four, then this is going to be the final lecture of this course, where we will be covering some of the aspects with regard to scientific communication. There are two aspects that you will be covering in this particular lecture one is to give some guidelines as to how do you write research proposal, what is the research proposal as supposed to what is the research paper.

So, these two are slightly different and research proposal is something important for people who are in research. So, I will discuss about some of the aspects about research proposal as to how do you write it the second aspect that we will talk about is, about presentation right. When you make a presentation, overall presentation, how do you conduct yourself and how do you make yourself an effective communicator and then there is an associated element there is to make what is called as a power point slides the most common mode of presenting your data when you make a overall presentation is by making these slides.

So, we will look into some of those important elements that you may want to consider while you know preparing in those slides, because that is what going to convey what the results that you have and why do you think that these are important and significant. First let us start with it is a research proposal, all of you now are aware of you know sort of the guidelines for writing a research article, most of the point that we discussed in the research articles should be followed you and for research proposal for example, how do you arrive at a title how you write it abstract.

You know what is an introduction in a sentence what is given what is new, what is light, and what is heavy, and how to stay focused all these things apply in everything that you write whether it is a research proposal, whether it is abstract, whether it is a research article or you when you make a presentation, these rules apply. Because these are the way by which we can make your; the medium by through which you convey your know

information, or the observations, it makes it easy for the reader or the audience to understand.

Therefore you know you need to keep that in mind when I am discussing about research proposal said whatever additional input that you need to know that is what I am going to provide it does not mean that what we discussed earlier does not apply here. So, you have to keep that in mind.

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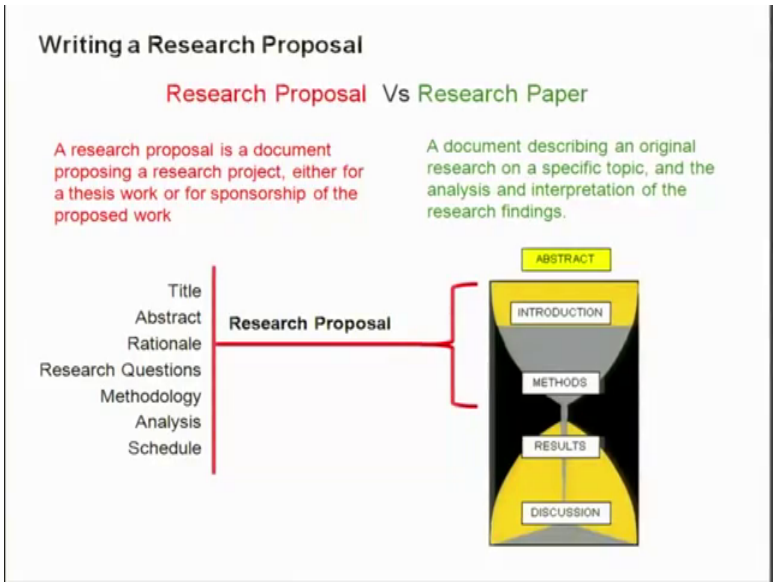

So, let us look at these two things research proposal versus research paper, the one that is shown in the green color is something that we already described, the one that is shown in the red is something that yet we you know introduced in this particular course. I gave you some in information, or I would come to that little later as to why and when you should use color, right, so most of often in my slides you must have seen I have used a white background I have given a black color font.

Now, I am used 3 colors first time just to tell you that there is a difference, you know here the green means something that is I expect you all of you to be aware of because we are discussed and something red is something that we are not aware of assuming you know you are starting from a clean its late. Let us see what it is this is something that we discussed often many a times almost 6 hours or. So, that research paper is a document describing an original research on a specific topic and the analysis in interpretation of the research findings that you have carried out right.

So, it has a structure abstract introduction methods results discussion and of course, the title at the end that you need to add. So, how it is different from research proposal, so by definition research proposal is a research proposal is a document proposing a research project. So, basically you know before you know, you how you are a PhD student for example, and then you are carried out your work and your observations your interpreted you're written a paper right.

So, that is what called a research paper, but to say what you want to do often what you do is your supervisor would have told you come up with a proposal, what do you wish to do? Why you wish to do? How do you want to do? So, that is proposal you say this is what I want to do, the reason why I want to do are the following there is no I wish to carry out my experiment.

So, this is something that planned work plan and justification significance as to why this should be done. So, that is what it is a research proposal I am reading it once again the research proposal is a document proposing a research project either for a thesis work or for sponsorship or the proposed to work. So, in other words you go and meet your supervisor and they say that you go come up with a research proposal.

So, that is what you write and go or for example, you have to get a funding for your work either for a salary or for the grant that is required for carrying out the research. So, you write a proposal and there are referees we look at the way we discussed you know you have a editor we have sub editor your referees, the same way even when you send out a research proposal, there are you know reviewers.

Who look into the proposal and see whether you have the question that you wish to address are important and the methodology that you proposed or relevant and that can answer the questions. And whether you have the ability you have the facility you have the wherewithal to carry out the work you know that is these are the 3 element that are looked at in any proposal and finally, whether it is feasible whether it is doable, whether it can be completed within the timeline proposed.

And then if it is yes, then they will fund you they may agree for a thesis work and then allow you otherwise it will be rejected very similar the way the papers are handled. Let us see how structurally these two are different; you have the similar thing the first half of your research project, the paper research publication introduction method that pretty

much is present in a proposal. The research proposal would have title abstract rationale, why do you want to do?

Research questions and how would you address this question the methodology, how would you analyze the data again the methodology and then the timeline schedule you know how much time you require for this to be done and what is the overall duration of the project. So, you do not really do anything, but you propose all that you wish to do and you justify as to why this be done, and an outcome why that would be important in this field therefore, it should be funded.

So, you sort of convince somebody to fund you think yourself as a different profession, let us say you write a story you know you are a storyteller right. So, storyteller is somebody who writes a beautiful script right narrates a very good you know story you had a convince now a publisher for publishing your story. So, what he would look at it your publisher would look at whether the theme that you are taken to you know the questions or whatever you are covered in your story is it relevant to the society, because you know readership whether there will be and reader to read the book because I am going to put money on your story to print, and then there should be reader because otherwise I am in loss right.

I have invested I didn't get back the money or you go and talk to as a director yes you know cinema director and say that this is my story I would like to why do not you make a movie out of it right. So, you again you are looking to your story and you see whether it this is it a viable you know story is it financially way viable would it if I make a movie would it succeed you know when a box office hit kind of a thing. So, that is exactly is a research proposal.

So, you are putting your ideas and you are saying how it can be achieved, you are saying or schedule as to timeline when it will be achieved. And then you are going either to a prospective thesis supervisor and say this is my proposal, and he looks at and he may say that well whatever you have said is not achievable you do not have this kind of equipment.

There is no approach you can you know analyze this kind of a data it is challenging practically not possible or you will say you change this it is doable, and then you sort of you know get it better and do or you are an established researcher you want to apply for

funding then same thing, you say that this is important, this is why it is important, this is a why I want to do, this much time I will take this much money I need.

And then they review it and then say that it looks like is a good question, the methodologies are sound approach is very good the proposed timeline is very realistic and this guy can do it given where he is what facility has, what expertise has, its doable then they fund you right.

So, this is how their research proposal works and if you get a funding or if you get a supervisor for your project, then you carry out you know you execute your plans, then you get observations, then you analyze your results, then you get the interpretation, then you write the paper, then you publish in other words proposal is required for you to conduct experiments and then publish your results that is exactly what is what is shown it is not one against the other it is one leading to the other a research proposal is something.

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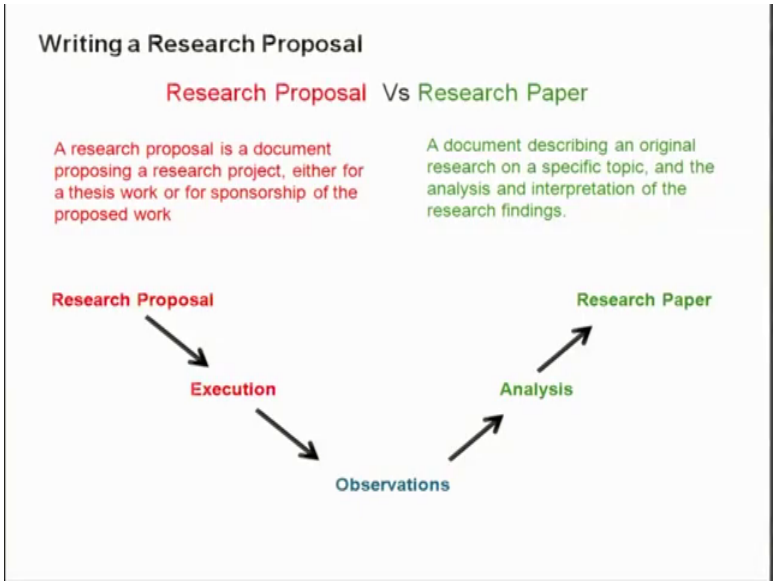

That you wish to execute therefore, you will get observations and the observations would lead to analysis and that lead to research paper, so that the difference right, for most often we talk about research paper and go to the research proposal, because you know for you know reasons that are quite obvious right. Let us see now what is the kind of structure for here is such proposal research paper you know what is the structure we discussed, let us see what is the structure or what are the guidelines for.

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Writing a research proposal a research proposal must address the following, what are they what do you plan to accomplish? Why do you want to do it? Why are you how are you going to do that the approach methodology.

So, you have to clearly tell this is a larger context, these are the things that is not explored these are important to be explored, but you cannot do everything. So, you have to say what do you plan to accomplish, why do you want to do that justify, and then how are you going to do that you have to say that this is the method I am going to use it, now you cannot say that I will go around the globe in 24 hours right, you know if you do that it is great, but the question is how will you do that right.

So, you have to sort of convince that is doable, and that is what we said as how are you going to do it. Now the proposal is for sponsorship you know this is important, if you are asking for funding then it is why you are the best person to execute this proposal remember you are not alone, remember that when you are identifying any research question or you saying that this is the area that is not explored or that is important you may not be the only person who found that.

Because you are doing everything based on the literature right, because proposal you are going to come up with based on the literature you are not done you know something work and writing a paper that your results now confidential nobody knows probably until you publish. But a proposal you are taking all the data from the existing literature, and

based on that you conceive an hypothesis device an approach and you say you want to do that therefore, there it is all the data that you need are that led to the questions that you are asking is available in the literature therefore, others can also arrive at it.

And what is the important is that you have to tell why you are the best person to address these questions right, because you to understand in all these things the money is involved it like for example, sponsorship therefore, they are not many who would be coming forward to fund research and there will be many who are aiming to get them money from the sponsor right.

So, you have to be among the best, if not the best right, because always when you are writing a research proposal or sponsorship you are competing with other brilliant applicants you remember that unless you are among the best top you know 2, 3 percent, 5 percent you are not going to get the money right, you have to convince. So, therefore, you have to really, really you know put your brain in writing a very, very good research proposal that is very, very important.

And often unlike research paper you know in research proposals are very structured depending on the funding body where you go, they would give you a format. The format will have 100 of questions not necessarily 100, there may be 10, 15 questions, specific questions that they have ask you have to address each questions therefore, it is very well structured only you have to think of a appropriate answer or response to a given section for a question and so on.

If we can do that well you know in a convincing mirror then you are able to get the funding right therefore, it is the structure with regard to the structure proposals are much easier and they are you know specific to a given funding body when you write. So, therefore, you want to you know look at the application format for each funding body what is the length that they are asking when is a deadline when I should apply and. So, on remember, if you put an application now it may take 1 year for you to get to know the outcome right.

So, you have to plan in advance if you want to start something 1 year from now, you should have submitted the proposal you know 1 year in advance. If you are submitting the proposal 1 year in advance, you should have thought about the project 6 months in

advance and you allowed yourself six months to write. So, in essence you are talking about what research project you would do 2 years down the line you have to think now.

And then start working on it right, that is where you know remember the first bullet half into the famous paper that we discussed often that you have to have the calendar, you have to mark everything, you want have you know everything planned well ahead in time therefore, you know 2 years down the line you have the grant with you to start the work right. So, that is very, very important right. So, that is about the research proposal and now we shift the gear and look into a new topic that is presenting your research work ok.

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It is not a easy task for example, I am standing here I am giving all these guidelines here you know making a presentation, for even for 13 minutes of my presentation here I would have spent about 12 hours to prepare for it.

So, therefore, you have to really prepare well it is not easy right even for me who has been teaching for last 16, 17, 18 years, who is in research field for last 12 years presentation takes this much time. So, if you are a beginner is going to take more time it is going to be more challenging to prefer prepare for that kind of presentation that is a bad part. The good part is it is not something not doable it is doable if you plan, practice, execute, you can become an effective communicator you have to understand what the reader, what the audience need to know what the audience would like to know.

So, you need to know what to present from audience perspective you have to prepare for that, if you do that you can be an effective communicator it comes in different you know ways. For example you are done your thesis work; you have to go on different thesis difference right. So, you need to communicate what you are done, so you would have worked for 5 years 6 years they will give you 40 minutes for you to present.

So, you cannot say that 40 minutes is too less, a time for me to present 6 years work that is all you have. So, how will you pack everything in 40 minutes, you should be able to do most often when you go for an international conference they will give you even for an established researcher who is having a group of 5 PhD students, pick 6 PhD students, they will give you 12 minutes to make a presentation. So, you are going to cover a research area that you are done for last 5 years 10 of them in your group has worked for it. And you have 12 minutes to present you should be able to present and make an impact as to what is that you contributed.

So, in should know, so that is what presentation conference. Defending your research proposal, so you have written a proposal and it goes to the funding body they are evaluated they may come and ask you to defend present your proposal and defend they may have a question. So, it is a different kind of a presentation there presenting the progress of the work, say suppose you are funded after 2 years of funding they will come and ask you come and make a presentation as to what are the achievements you already made what is still yet to be completed, why it cannot be completed and things like that that is a different kind of presentation.

You know all these things there are certain important elements regardless, what kind of presentation you make that you need to understand. And again I will tell you it is not that you know whom are you see in conference, the defense are over you will find that the person seemed to be very confident and making a good presentation. It does not mean that he or she is not nervous, regardless every time anybody who goes to a stage, you know first few seconds everyone feels nervous right.

It is not easy to be there in the podium looking at the audience and then a making a presentation, you can see in this cartoon again the audience all you know laughing and the guy who is on the podium is very nervous this happens to everybody, you have to overcome it right and you are to hide if not overcome and then succeed right. Again I am

putting some you know guidelines from a link, the reason I am putting a guidelines from a link is that you can go and refer to that right.

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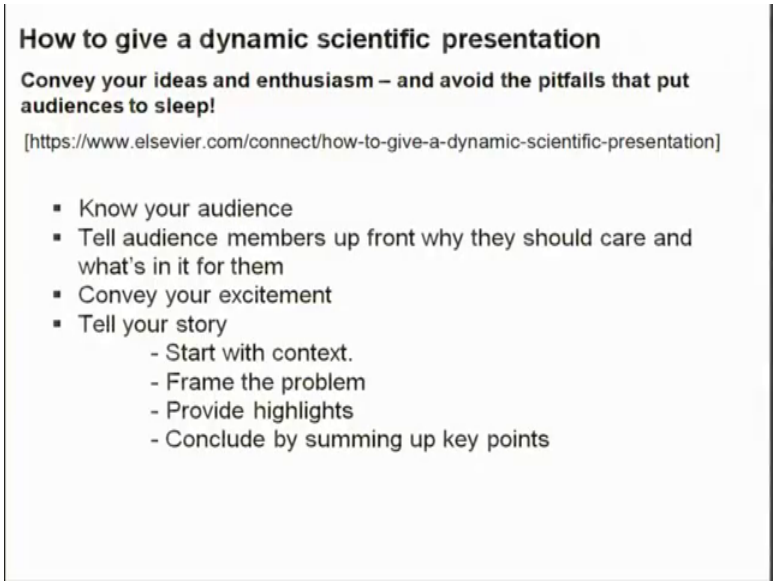

It gives me the confidence, that it is not something that that only you feel that way, a majority feel that way right lack of confidence how to face the audience is not just restricted to you and everyone feels that way. So, you overcome by practice, but there are certain guidelines that you want to follow.

So, that is what I am going to list now it's from Elsevier group a publisher and you can go is a pdf version you can download from there. So, that is how to give a dynamic scientific presentation convey your ideas and enthusiasm and avoid the pitfalls that put audience to sleep right. So, you have to engaged the audience right you have engage audience keep them alive they are with you throughout your 10 minutes, 12 minutes, 30 minutes.

Whatever the engagement and they are able to you know get what exactly you are trying to say they remember and next time down the line 6 months, 1 year they should say oh you are the guy whose made that presentation fantastic. They should come and tell you may you made a great presentation, that you can do you know there are very simple steps, but you have to remember that to follow. You are going to and really help you to walk through these steps is easier said than done unlike the other ones. So, let us do that

know your audience this is very, very important, even before you make plan for your presentation you have to know your audience.

Where am I giving the talk, who are the audience the majority of them are they from my field, or they from different field or you know say for example, I am a physicist, I am giving a talk in my area in physics to an audience, which is mostly physicist. Then I know the technical term that that I am going to use that everyone would know that, but the audience is general you will have people from chemistry, mathematics, biology, everyone is there.

So, I should be very careful when I use a technical term, because not everyone would know what the technical term means. So, accordingly I have to change my talk right, so at what level you are conveying the ideas right that is very, very important right. So, that is how it is, it is just like the way you are talking to for example, you are you are doing a research.

And if you are talking to your thesis supervisor then you can be to the point because he knows the rest of the thing, you are talking to your friend in the lab again you can talk to the point you can understand, the rest you are talking to somebody in a department, but a different lab you may not work on the same area, but if you explain a little bit more you can appreciate, but you go across the road and you talk to your parents about your research problem they cannot get you are get to their level and explain.

So, it what you convey depends on to whom you are conveying right, whether you are able to convey or not you have to first understand your audience, you prepare the top accordingly if you are going to defend your thesis right. Then it is not that whether the audiences know the subject or not, it is for you to convince the audience that you have done a good work that is the objective of your presentation, but if you go and make a presentation in scientific conference then you go to say what the significance of your discovery right is.

You do not really bother about your control this is that that is these details are not required that they assume you are taken care of all those things, but you are going and making a presentation to defend your project proposal, there you are not going to say what you are done you going to say what you wish to do, and how you wish to do, that is

the idea that you have to sell at the same time you are going to give a talk in a school to all high school kids.

Then your world a picture at a very different level, it going to be very generic, but you know you going to convey and make these students enthusiastic about science yet convey what area you are working on why it is important. So, you have to do it in a different way. So, you have to know the audience right, what age group they are what area they are in whether they are expert, whether they know everything in your area accordingly you prepare this particular slide that is very important.

Tell audience members upfront why they should care and what it is not? What is there in your talk for them that is absolutely important right, you have to tell them as to why they should appreciate your work. So, you have to justify why you are done that, so often people jump on to say I have done this this is my reserves and, so on. It does not make any sense unless you make it extremely clear as to why these questions are important, and how these questions are and you know kind of approached to answer and then what are your observations is what do they mean.

So, then only they will appreciate you have to really, really sell. Convey your excitement, it is very important you know you are to say with all the enthusiasm what you got is something extraordinary right, because you know this research is nothing, but novelty you have added something new to the wisdom that knowledge that was not existed before.

So, that is you know excitement you say that look I have done something, I watch something, I observe something, which is phenomenal is going to change the way you look at it you have to say it with pride you have to say it with excitement, there for the audience you know join and then appreciate what you are done. And important is you're to tell your story start with the context that is very, very important you tell context, why this work is important? Why these questions are important?

Frame the problem you say define the problem it is very important, you know your observations are you know you can come much later you do not need to give all the details that is not required, you know they are not going to look at every data in your in your observation to say whether it is right wrong. Because you do not have time for all

those things, but what is important is frame the problem beautifully provides highlights of your results yes say, these are the questions I asked.

The questions are important for these aspects right and then say this is what I approached and these are the highlights of my observation, you do not need to show everything, you cannot show everything, if you have walked for 5 years, somebody asks you to make a presentation for 12 minutes. It is impossible for you to show everything, and you shouldn't show everything either because people are there to listen to you for only for 12 minutes, you cannot expect them to wait there for 1 and half hours.

So, you tell only that is relevant only that are significant only just highlights to say your observations are you know significant, phenomenal, great, whatever. And then conclude by summing up the key points and say what is the take home message what is the larger pictures, how your findings really helped as to go to the next level and solved something unsolved before, you say that that that really you know make people to judge that you are indeed you have done a good very good job. And the most important thing is keep it simple often people use all sorts of technical jargons and not many would understand.

If you can say things in much simpler way, what the simplest way if you can convey that because all you want to say is whatever you have done the other person who is in the audience should understand that's all that is the whole objective of your presentation. And if you can do that with simple words, in simple language you know you have to it is not to show that you know how good you are in English language or whichever language you are using, or how good you are vocabulary is that is not important right.

What is the important is whether you are conveyed, what you wish to convey whether the majority in the audience are you able to get what you are able to say it is extremely important that you consider this mainly you and you make presentation especially, whether it is slide or when you are conveying when you are talking its very, very important.

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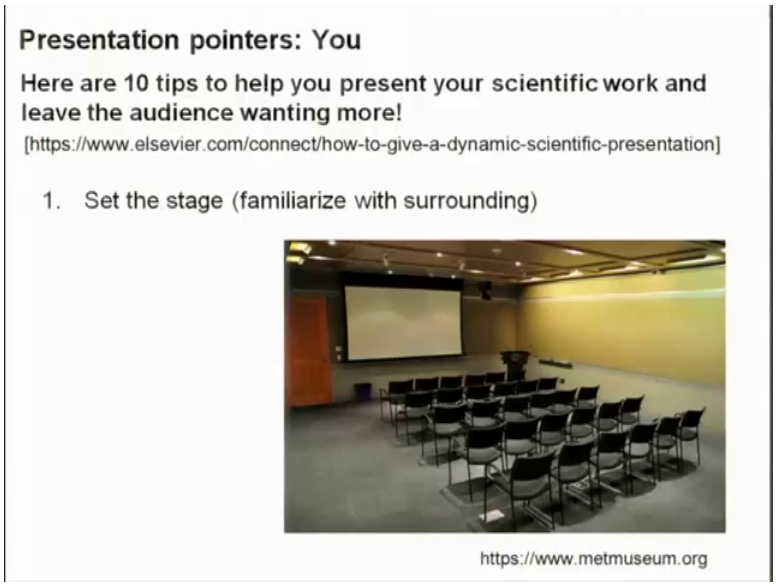

Now you are going to look into that is a general idea, now I am going to look into ten tips again I am quoting here I can give my own perspective, but till I feel that it is important that I give you some links and then help you with that links because then you can go back and read more on that and then improve your skill set.

So, here I have ten tips to help you to present your scientific work and leave the audience wanting more they should feel at the end of 15 minutes my god you know I should listen team for ten more minutes that is how they should feel, but your presentation is not that way they will feel my god I wasted 12 minutes right.

So, you shouldn't be that it is to leave the audience with that you know frame of mind that they wish to hear more from you that is, but you finish in time that is fine, but if they shouldn't be other way right like they have wasted 12 minutes. So, how do you make that kind of an impact, now these are you know that some of those tips that I am going to say starts even you know much ahead of you getting onto the stage set the stage.

So, there is always there is a session scientific session or you are going and making your thesis defense you should first go to the stage you know when nobody's around you go there, and then you see where is your laptop where will you present where is a screen where is the podium. If you stand there can you see the screen often the screen will be on this side and that side, but you have to look at this screen as well as the audience you know you have to do that.

So, you have to have a kind of a familiarity to that you know audience right, you know to the venue right and then you know understand like you know where is have laptop, where is a switch, where is that. So, therefore, you do not you know there at times the podium is in a corner of a stage next to that there are steps. So, you are to be watchful that if I step back a few you know steps then you may fall down.

So, you have to know where everything's are that you got understand that is extremely important, you need to know the surrounding and you also need to know where are you sitting how will you come to that place, you cannot get confused with the last second should I go on the left side right side, you know you have to know plan it everything there for you do not confuse right, or you do not get confused that is what I have shown you.

So, if this is a typical kind of a seminar room there are people sitting there is a podium there is a you see that there is a screen podium and the corner more often you stand in a direction that half way you can see the audience the other half we can see the slide you know the screen. So, on a podium when you speak you have to you know take the audience to look at the screen as well as you should keep looking at the audience because when you speak they look at you, and you also have to guide them you know on the screen therefore, you should be able to see both.

So, you have to stand in such a way there for you to know how the with the surrounding, what are the surroundings how to reach there and things like that. And even before this is when the hall is empty when nobody there you go load your slide check it out, try it out few times and you know that this is doable right, do not assume that you can do that you know because most often these guidelines for the beginners. So, you want to do that because there is a session break you can do you can go and do that.

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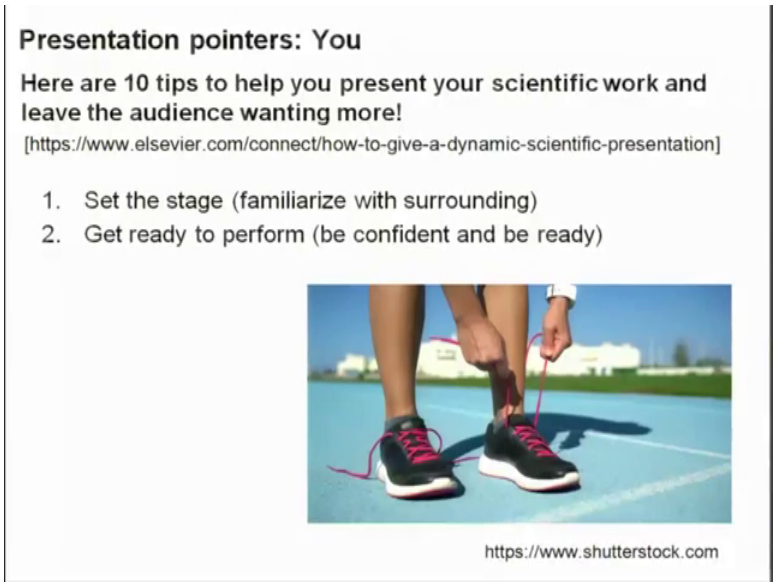

Get ready to perform right, so that is important. So, you have to be mentally ready, mentally there in the podium even if you are not sitting there you are sitting among the audience, you have to be mentally ready that you have to say in another 15 minutes I will be on the podium, I will be facing everybody I am going to say this right you have to be mentally ready you shouldn't be scared then right be confident and be ready right.

So, you have to make yourself ready. So, you make sure that you are dressed up well and you do not you know thirsty you had some water whatever it is are carry a bottle of water if it is not available these are all very, very important thing I do not you know you go there and then you are thirsty you look around anybody give me water that does not look good right, you have to go right you have to be prepared and the important thing is you have to be even prepared for some accident. What is that accident?

Your slide may not show some video movie or whatever you have planned for something. So, that is not playing or something happened you know slide is not moving. So, you have 12 minutes, so it is not necessary they should you know some problem with your slides, some movies are not coming or some, you know something happens to your slide, but you cannot get you know bugged down by these things then you should still be able to narrate what they mean.

So, you should be prepared for that do not think that if something happens I am going to stand still there wait for everything to be fixed it does not happen, because you have 12

minutes, if there is some problem with your slide you have to consider that that is within the 12 minutes you have to manage and come out you know you should easily should be able to overcome.

So, be prepared you know it is it can happen if you have made 10 presentation at least one presentation will have problem are the mic may have a problem you know it may not be audible. So, you have to raise your voice be prepared you know do not expect everything to be perfect it can happen. So, if you have preferred, if it is not audible then you have to rise your voice, sometimes the amplifier they would have kept the volume too high. So, you have to pitch it a little low right.

So, you have to you know this is what called has you know getting ready right, that is exactly what people do is not uncommon, do not think that only for presentation I have to do you must have seen, the athletes when they are about to sprint you know they do all these things jogging, because your body also requires some warm up right.

They tie the lace they get ready you know this is exactly the same thing it is not unusual for any performance you have to prepare in the here you have to be mentally prepared because more of a mental thing than physical thing that is exactly is called as get ready to perform, and including if there is anything that is unexpected happens still you have to you know happen all of a sudden the projector lamp may fuse it gone right nothing is there. But still you should be able to convey you know these are some you know element that you need to keep.

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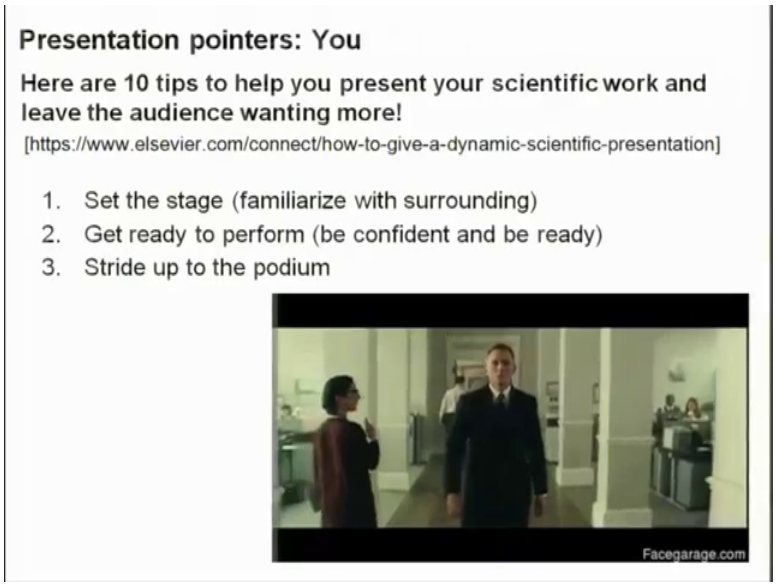

Stride up to the podium, its important say somebody going to announce so and. So, is going to go and come present make a presentation on this title right. So, you going to walk only when your name is called right, you know you going to walk now how are you walking is important people are going to watch you know they may not know you now the announced, mister Sharma is going to come and make a presentation right.

Then you stand up and everybody is sitting one guy stands up and then everybody's going to watch you there is going to be 15 seconds for you to come from your seat to the podium, everyone is going to watch you right that is the time everyone is going to watch you because they see with this guy right.

So, how do you walk to the podium is very, very important you may be nervous believe me even today when somebody calls me to make a presentation a podium, when I walk I am nervous everyone most of us are nervous even after many years of presentation, but we do not show you make a big smile, and you walk not just walk you walk like bond you go with the confidence.

And that is what it is do not show anything go straight street you know if you faster quicker, but not running make sure that you do not fall down anywhere, but it should be a confident walk then people think that oh my god this going is going to make a good presentation and you walked up all the way and then you also feel good that oh my god I going to make a good presentation because confidence matter.

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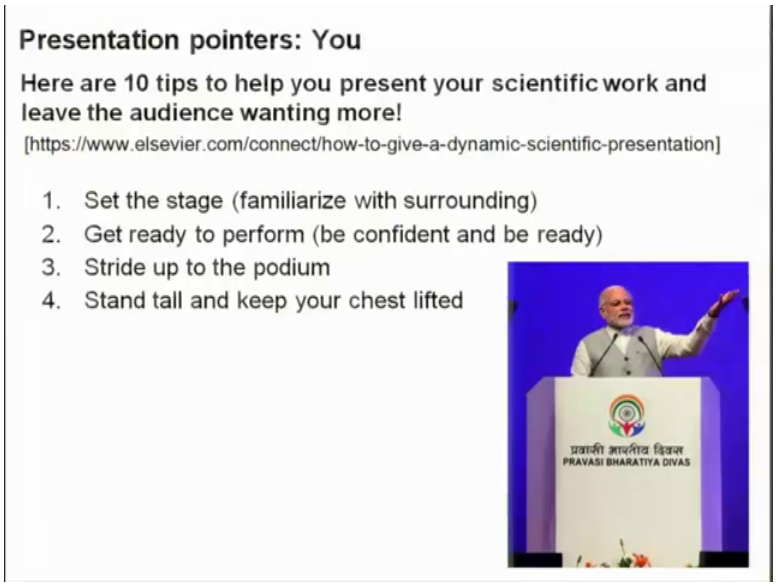

Right and then how we are going to stand near the podium and how we are going to make a presentation, this is what the tip says stand tall and keep your chest lifted right. You have to be confident, if you want one example for being confident, nowadays in our country is the man you must have seen you know our prime ministers speech anywhere you see is a person who appears to be so confident in any forum that he addresses right.

You think yourself I am the prime minister Narendra Modi, I am confident person and then you take over this stage right, and then you know you have that is what you have to feel that you have to feel that, you have every you know you have the audience under control that is extremely important.

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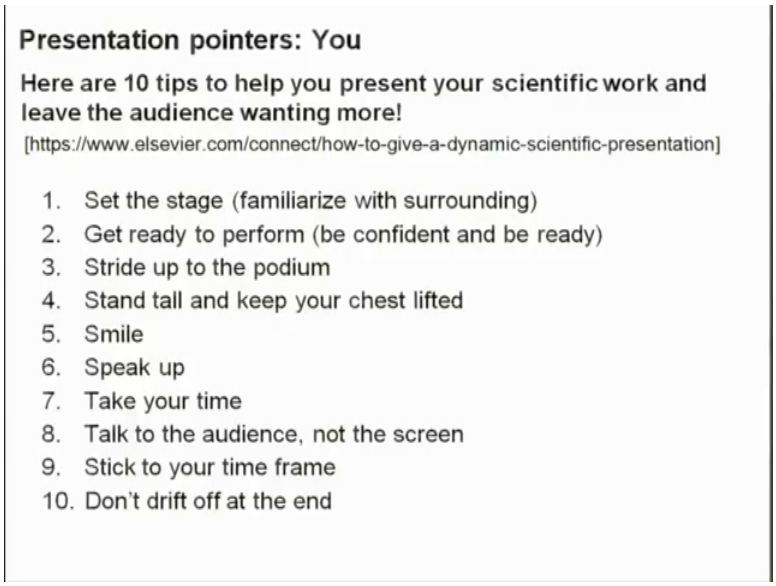

Third smile is important you may be nervous inside, you do not know all these people you may be some of them are your examiners trying to pull you down with questions it could be the thesis defense, or it could be your project defense are experts in that area forget about it all these things as long as you are in the podium you are in the person in control of that room right. So, you have to really smile and look at the audio that is important right, you smile look at the audience that gives a confidence.

So, when you go there do not just get to this podium, and start you know giving your talk you go and stand few seconds look at everybody smile that time you know everybody who is talking everybody will become quiet, they all look at you because you are going to start right then you start right, and that is where you are to speak up.

The first few sentences are very, very important because these are the most difficult sentence to make when you make a presentation, you do not know how to start my advice is the advice of anybody is that you have to memorize a for a few sentence, what you want to say the rest will come, but these are the first few sentences that are very, very important memorize that first few sentences and always start at a pitch that you can sustain for the rest of your talk, you know do not go very high, do not be very low in your pitch that it has to be a pitch that you know makes others feel that you are extremely confident about your topic, what you are presenting you start with that and then go.

Another important element is that do not rush, you have to remember most of our language in Indian language our narration is very fast, whether it is Hindi, whether it is Malayalam, whether it is Bengali, or Tamil we speak fast. So, the same way we speak English as well often you know that becomes difficult for people who are not you know the speaker from that language is narrative them if you are talking to heterogeneous audience then you are the way of speaking become difficult for people to follow you have to pause, your sentence after that there has to be 1 or 2 seconds gap.

Especially when you are changing one topic to the other just the way in a research paper you have a paragraph, you are shifting a gear and going to new topic then there has to be a little gap therefore, they know that it is something different not continuous of something that you said before. So, these are the things that you need to you know sort of learn how to deliver right, and you can add often there are certain things people walk around in the stage another important point that you are to keep in mind that when you are presenting any talk in a conference or.

So, you shouldn't be walking on the dais that is more often you will feel people you will find people walking that is not a good practice, you stay near the podium look at people you have to look at the audience. And then meet their eyes and then whenever you are you know pointing to the slides you have to turn and say that this is what is the screen, when you turn there they should also look at the screen and you come back they should be looking at you, what you are saying it is very important look at you know you can consider this in this one course right.

If I am talking to all of you I am looking at your eye isn't it, but you are not there when I gave this talk I do not know who is looking at this video, but still I am looking at the camera therefore, when you watch the video I am looking at your eyes is very, very important the eye contact is important you cannot turn to the screen and keep you know talking about your you know research topic that is something not acceptable you have to address the audience.

And you have to be slow that is very, very important that is what you call here sum it up as speak up time take your time meaning that you know you have to be slow and then convey, what you wish to convey do not rush through that is because the whole exercise of you going to the podium and presenting the topic is that you want to convey your

excitement, you want to convey what you discover to the audience for that to happen you have to convey it in the best possible way therefore, they can appreciate.

So, if you rush through nobody will follow right, so you have to take your time whatever time allotted to convey do not rush and come back at the same time you know this is what the point I already told talk to the audience not to the screen look at the audience and talk to whenever is required that they look at the screen your turn to the screen they also look and then use and often you will have a pointer.

Where for you to highlight which part of the slide they have to look at one again problem people use this they use the pointer everywhere always they keep the pointer on again this is something which is unacceptable, you should turn on the pointer only when it is required, point only where is required do not really draw lines over the screen that is unaccept unacceptable. Ninth point stick to your time frame is important if we are given 12 minutes, you have to present your results in 12 minutes.

You may keep your watch next you in the podium or there are ways by which you can set a clock in your in your presentation itself, or you can look at often there are clocks that are there at the back of the in a room you can look at it and then you can you know phase it across you know accordingly. Even if there are you have left with few slides to show for example, but your time is ending do not rush with the rest of the slides, you can always say that you know in the interest of time I would like to end up now and conclude my talk by saying you know you can come to the conclusion without really rushing through the slide, because that would also show that you are not you know planned properly it is you are not a professional.

So, you know that you have few more slides, but still you can say you know talk about what is there on the slide without showing them for the interest of the time and complete it. So, one of the ways by which you can do this you can always have the final slide, the you know take home message or acknowledgement as the final slide. When you know that your time is ending you have to wrap up wind up now instead of each slide pressing and going to the last slide there is a end button in your keyboard just press that right.

It goes right to the last slide, and then conclude it would sound more professional because you planned it quite well you can summarize things that is very, very important for you to control not to get panicked or whatever it is and finally, do not drift off at the

end. So, you conclude your talk and you have to make an acknowledgement you say who funded your work, who helped you, and thank the organizers, thank the audience and say you know if there are questions I would be happy to you know take if the for example, organizers do not allow question and answer session.

You say that you will be happy to meet anyone and discuss during the break hours or whatever you know this is what very, very important you have to be very, very respectful to the audience do not be arrogant do not think that even if you have published your findings in a journal, nature you talk more journal do not think that, you are done something great and therefore, you do not need to care the audience right.

Now, you have to really give respect to the audience, and if this is a question and answer session there to be very, very respectful even if it is a stupid question you cannot say it is a stupid question. It is your responsibility to answer every question, if you know the answer if you do not know the answer again be respectful and say that you do not know the answer right. And is very important right and if you do not have a specific answer you can always say I do not know the specific answer and possibly this could be you know you given hypothesis if you are not very sure of or whatever it is right.

But if the question is such that it requires long discussion you can always say that it would require a longer time discussion you can discuss with that person sometime later, this is the way to you know end the talk I have handle the discussion, never be arrogant, never be you know you have to be confident that is important, but does not mean that you have to be arrogant and that is all that is important for you.

Now, I am going to drift a bit and then talk about the other important element, I said you stand in the podium and deliver a talk, but I often I say that you know help the audience to look at your slides. So, I am going to give you some important guidelines as to how do you make slides you know nowadays you guys have seen there is a ppt, what you called power point presentation right.

So, that is something that is become very, very common for making presentation its extremely helpful at the same time because of all the embedded features of the power point and other features that are present in power point software, people like to use everything you know and make it very decorative make it very artistic, but that is not the

purpose of scientific presentation. Let us see what are the important guidelines? When you are making power point slides this is more.

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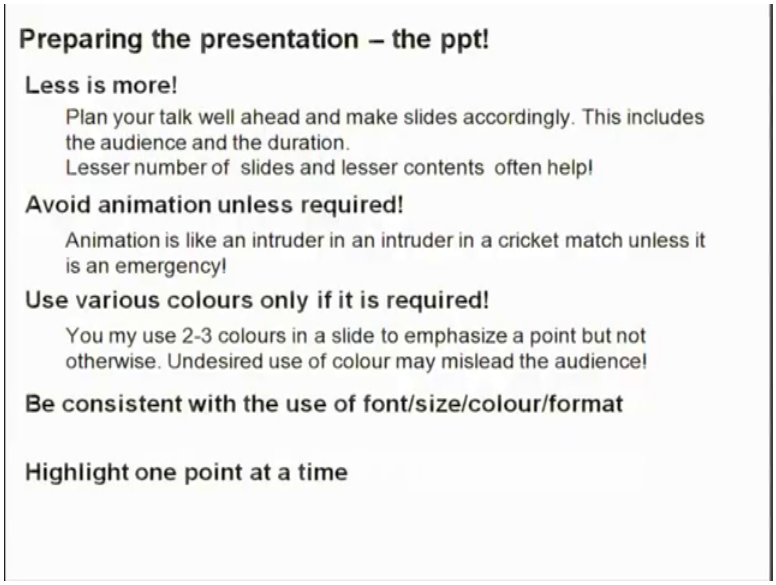

Important that you know remember that, plan your talk well ahead and make slides accordingly you know to whom you are addressing, how long the what is the duration of your talk and make the slides accordingly you have to plan your lecture and make slides as per your lecture, it is not the other way around you make lecture and plan your talk this includes the audience and the duration. So, you have to embed that when you make slides.

Lesser number of slides, and lesser contents often help you know because then you know you can spend more time to narrate to explain orally, otherwise you do not need slides everything written in slide then you stand there keep changing the slide without uttering a single word, that is not desirable right isn't it you are invited to make a presentation.

The slides are there to help you not the other way around therefore, lesser number of slice and lesser content of an else a wide animation unless required, this is very, very important most often even for bullets people make the bullets coming really like bullet in all from all the directions right, that is not desirable and like animation is like an intruder and there is a typo here. Animation like an intruder in a cricket match unless it is an

emergency you must have seen India Pakistan, India Srilanka, they are playing all of a sudden some guy would enter the pitch right.

Then the security will come taking out it is a distraction, exactly that is how the animation is, but if there is an emergency somebody is hurt in the cricket field he falls down then there are two guys who come with a stretcher this is essential there he has to come inside, your animation should be like that you cannot explain something in the absence of animation, animation helps you to explain better then you bring in the animation feature otherwise never bring animation.

Use of various colors, you know often you see in the slides you use various colors only if it is required, I gave you an example sometime back how the green red sort of indicates something. You may use two to 3 colors in a slide to emphasize a point like something like you know I said, something a point that is already discussed something a point that I wish to discuss in the future right, but not otherwise if it is not required if you can convey things with just one color alright like here black and white.

You know it is good enough the white is a background and then you have used black color font is good enough undesired use of color may mislead the audience, because they will be scratching their head as to why it is red, why it is doing does it mean something did I miss something right, because that conveys and everything conveys something you know here you see there is a title which is bold font bigger font there is subtitle which is the same font as the rest of the thing, but it is a bold font that tells is a title right everything convey something.

So, if you use a color then the audience immediately think that it conveys something and if you do not, if really that is not the intention then the audience would think that there is something that their missed that is not good, because you know you are there to make sure that they do not miss out anything, be consistent with the use of font, size, color, format, you cannot have one slide in which you have used five different font right.

Times new roman, Arial script, and then you have used some in some colors I mean different colors you know across the slide use different font, different font size these are not good right. You have to use the same format highlight one point at a time, if you have slide is crowded like this I have not brought in all the points in one go, you must have seen here every point come one after the other therefore, you can keep the audience with

you right it is important that you keep the audience with you while highlighting one point at a time this is a bad example, right.

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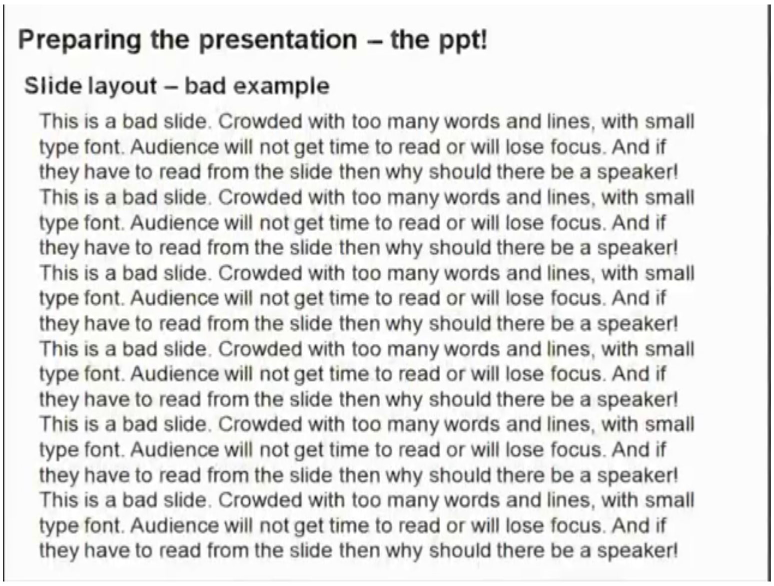

This is full of words this is a bad slide crowded with too many words you know who will read this nobody will read this then why are you putting this slide is useless right . So, your slides cannot have too many lines, too many bullets, too many things, showing one or two points at a time will help the audience to concentrate on your talk because you want them to look at you listen to you when you speak to them and turn to the slides only when you want them to do that if you fill your slide with everything then they are not going to look at it, right. So, follow them right you have to follow them.

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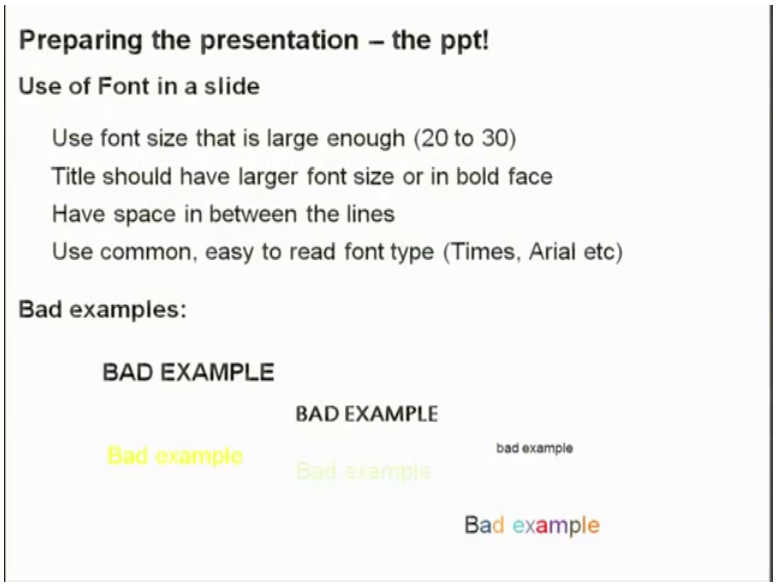

Whether they are understanding like you when you turn they are there and then you have to come to you listen to that that they listen to you rather than reading from this slide these are very, very important right.

Use of font in a slide, use font size that is large enough because people even at the back of the row should be able to read your slide and you should know that how big the projection is if it is small then is going to be very, very difficult, font size 20 to 30 is normally acceptable range that is what being used here as well title should have larger font size are in boldface therefore, it is you know you know that is the title have space between the line, line spacing is important use common easy to read, read font type times Arial, etcetera.

Do not use something that is very difficult examples are here, all caps you know it is difficult to read remember that bad example or colors that are you know like what is shown here yellow color the white background or very, very light color font you cannot read too small, and font size we cannot read one word or each letter having a different color again bad examples these are some of the bad examples.

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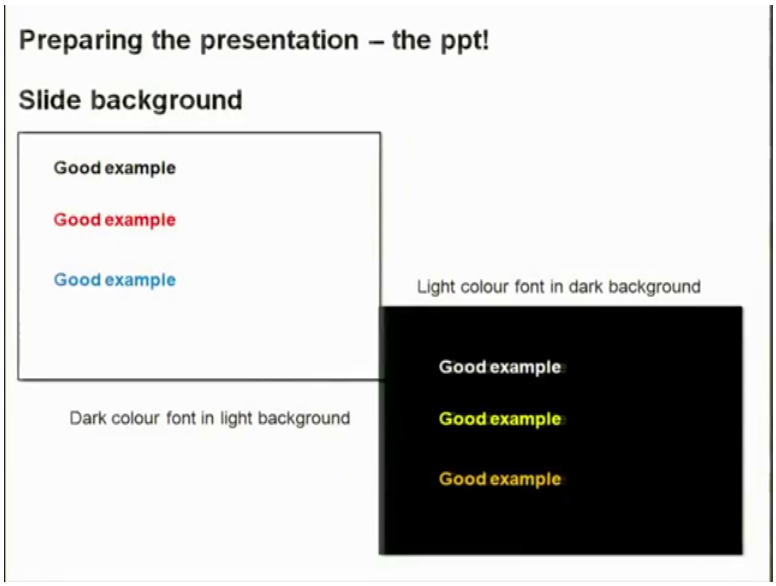

What are some other good examples, either you have a white background or light background and then I have dark color front you know in the light background like what is shown here you can have black, red, blue, color font, but background is white or you have a background that is a dark and the font color is you know light. So, this is the contrasting thing that you should you should maintain you cannot mix and match then it becomes very difficult (Refer Time: 49:46).

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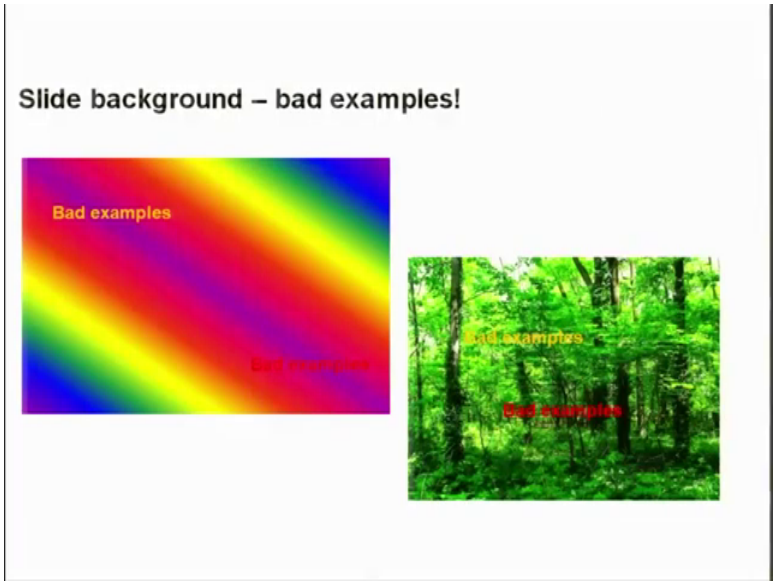

To read some of the examples are here you have colorful background, no matter which font color you use you cannot read some of them you cannot use this kind of background and the top puts some words and things like that these are meaningless right, do not use this and that is pretty much is the end of the you know lecture.

I give you some ideas some tips, and I have given a lot of references that is what I try to do all across the course I have given you enough of links we link all these things in the reading material on the portal when you will be you know finishing each week that will be enough reading material you go and read and I am sure that the entire course, help you to get better with your scientific presentations cassette and hopefully you know you would be feeling happy that you have credited the course, and completed 5-10 hours of this particular course, all the best to all of you I am sure you are going to come out with flying colors wherever you go this course is going to help you to do better than what you are done otherwise good luck.