



The Art of Being Remembered

IN A NUTSHELL

How to Prepare and Give a Presentation

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Request for Comments

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1 | Presentation — How To

Giving a presentation is like telling a story. — Following this predication, preparing a presentation is working like an author who writes a story, essay or poem to tell a message. Therefore keep in mind that it is always **you** who will be associated with the presentation — nobody else.

An almost unlimited amount of material is available (books, workshops, presentations, Internet, ...) giving information about how to make a presentation. In the following important hints are given on how to prepare for and on how to give a presentation. In many cases the topics addressed are being found of primary importance as experience has shown that students as well as presenters in general tend to overlook them.

In the following, the preparation and giving of a presentation will be discussed based on a time line which is split into a sequence of four distinct phases:

- **Long before** the presentation →
- **Just before** the presentation →
- **During** the presentation →
- **After** the presentation → the discussion.

2 | Long Before the Presentation

2.1 | The Screen-Play

Before you start working with the presentation tool of your choice, find answers to the following questions and write them down and/or make sketches showing the information sequence: use paper and pencil and not your computer!

Be aware of the challenge that you are going to present your work of some month or an even much longer period in a very limited time span (~ 20 minutes) to an audience that in general has very limited to no knowledge at all about what you have done.

1. Very important question to answer in the beginning: What is the story you want to tell? Why should the audience listen to you?
2. Develop a “screen-play” of your presentation: in which order do you want to explain what leading to which overall message(s)?
3. Which are the **three** (not more!) key messages you have? Take some time to distill these key messages from your work! Each key message should be formulated in a phrase (or very short sentence)!
4. What do you want the people to answer if asked about your presentation immediately after the presentation, e.g. at the end of the session or two days later?

Notice: If you do a real good job, people might remember these three messages – but generally not more!

- (a) How does the potential ordering (priority list) of your key messages looks like?
- (b) How can you best explain/support your key messages?

- (c) Which subset (!) of all your results best supports the transfer of the key messages?
 - (d) What can be left out as it is not of highest priority to support the key messages? In almost all cases you will not be able to show everything you have achieved in the context of your presentation. Therefore you have to restrict yourself, do not regard this as a drawback, take it as an opportunity to focus!
5. What are your personal objectives? How can you best achieve them? Note that your answers given to this question have a totally different focus than all the other ones (addressing the audience): what do *you* want to achieve with the presentation?

2.2 | The Audience

For the screen-play as well for its detailing it is important that you reflect the audience for your presentation.

1. What can you expect from the audience? Better do not expect too much: in most cases you can assume that everything will be new for most of the people you talk to!
2. Do you have to anticipate particular persons for the presentation? What will their expectations be?
3. People might not be very interested in your topic and/or people might be tired from the (many) presentations before it is your turn: under these potentially awkward circumstances: how can you make them interested in your “story”?

2.3 | Going into Detail — The Story Board

After you have developed the overall screen-play, you have to think about how to present your story. For that you should observe the following general recommendations:

1. The maximum (!) number of slides you should plan for “to tell your story” is equivalent to the number of minutes of your presentation: 20 minutes = max. 20 slides. This includes all slides also for title, list of topics, . . . and last slide!
2. The first slide will show the title, the type of presentation, your name, affiliation etc.
3. The second slide shows the list of topics you are going to present: “This is what I will talk about”. Restrict to not more than 6-7 topics, never use a second level here. A topic is expressed by a single or 2-3 words – not more.
4. Reserve one final slide for a summary: showing your few most important messages, sometimes called “take home points”. Do not use a “Thank you” slide, if you want to thank someone, say it. The last slide stays on the screen for a longer time – e.g. during the discussion – therefore take the opportunity and show your key messages to the audience!
5. Give a short (!) but meaningful title to each slide without working on the detailed contents. This builds the backbone of your presentation – this is the top level view of your story!
6. For each slide think about the message of that specific slide in the context of your overall story, write down some words expressing the contents supporting the respective message.
7. Go through your set of slides (the sequence of your statements) and check that in total it

results in a comprehensive story.

8. Make sure you have a single sequence in your presentation, in no case (never!) navigate back and forth in your slides to tell your story!
9. When you are satisfied with the sequence of your statements reflected by the sequence of the slides you can start to work out each slide in detail. Always check how all the statements fit into your screen-play, in total giving a “red yarn” guiding through your story.

2.4 | Implementation: The Slides

Generally important points to be observed while preparing the slides are:

1. All slides have a title which gives you the opportunity to put emphasis on the related statement. The title has to be meaningful in the context of your story, poor examples would be “Calculation”, “Measurements”, “Results” as these single words do not say much related to your story. Better alternatives would be e.g. “Measurements Confirm Numerical Model” or “Numerically achieved Results show moderate Difference to Measurements”. Formulate a positive statement for a title.
2. Always observe: “**less is more**”: do not overload slides with information like text and/or pictures/graphs/schemes. Keep every slide as complex as necessary but as simple as possible. There is no problem leaving a large area of a slide empty. By this you make sure that each slide will be understood quickly and easily \curvearrowright the audience will be able to follow your story.
3. Do not make use of animations like “flying” or “jumping” text components or pictures.
4. In case of a more complex contents it might be advantageous to develop the contents in very few steps while showing one major part after the other synchronised with your explanations.
5. Add graphical material to your slides where appropriate: “a pictures tells more than thousand words”. Pictures have to be meaningful in the context of your presentation, do not show cartoons etc. Specially engineers are used to communicate based on graphical information like pictures, drawings, graphs, schemes or videos: use these kind of visual elements to transport your key messages.
6. Be aware of the fact that all graphical material will make the audience to focus at. This has to be specially considered when you show text and e.g. a graph on the same slide. Therefore better start to explain the graph and then continue with the statements given by the text. If you do it the other way around, the audience will not listen to you until they have understood the graph! *Every picture is a “vampire”, sucking up all the attention.*
7. Abbreviations and acronyms are problematic as the audience might not be familiar with the meaning behind. Always thoroughly check whether an abbreviation or acronym is commonly known to the expected audience or has to be explained (in writing) when shown the first time.
8. Do not use your own coding to differentiate between e.g. design alternatives, test runs, models, mathematical approaches: you are familiar with but not the audience.
9. Do not show something on your slides which you will not refer to or you will not explain.

10. Do not show something on your slides which you will comment with e.g. “not necessary to be understood ...”: do not talk about that you do not want to talk about it!
11. Always be serious, do not show cartoons or jokes or other material which incorporates a high risk of misinterpretation and confusion. This holds specially true for an international audience.
12. In case given, use the template (slide master format) supplied for the presentation.
13. On each slide show a sequence number. Questioner can easily refer to these numbers for addressing specific aspects of the presentation they want to discuss.

2.4.1 Text

Generally text is of utmost importance for your presentation.

1. The minimum text size depends on the size of the room, 18-20 pt can be regarded suitable in many cases. This also holds for all graphical material: make sure that every single piece of information can be read easily!
2. Never write full sentences: do not use more than one line for each statement → no line breaks in a statements, layout left-justified.
3. Give max. seven statements in a list, never use more than two levels in a list.
4. Be aware that specially symbols might cause problems (are corrupted or even do not show at all) if the corresponding font is not available on the computer used for the presentation.
5. Use a sans serif font for all text like Arial, Verdana or Tahoma. Do not use different font types. Highlighting can be done through e.g. a bold font or colouring, do not use underlining.
6. Do not place text in picture regions: in almost all cases this deteriorates the readability both of the text and the picture.
7. If you place text on a coloured background make sure that it has a high contrast, see also under section Colouring.

2.4.2 Graphs

Graphs showing e.g. functional dependencies should never be used in the form suitable for a paper: in any case they have to be reworked completely to be shown in a presentation (!):

1. Graphs must be simple and easy to be understood: note that the audience (potentially in a farther distance to the screen) will only have a very limited time span to understand the information given by a graph which can be very dense.
2. Place max. two graphs on a slide, better only one: what best supports your statement?
3. Both, abscissa and ordinate must be labelled (including units!) and easy to read.
4. If more than one function is shown in a single diagram they have to be clearly distinguishable.
5. Lines should be thick enough to be recognised from larger distances, e.g. 1 mm.
6. If you use different line styles for different functions in a diagram make sure that they can be distinguished clearly. Same line style but different thickness should be avoided.

7. 2-parameter functions ($z = f(x, y)$) can be displayed in a 3-D representation. Note that in these cases general trends can be easily shown but it is almost impossible to read any values. If some values are important to be recognised: add a pointer to the graph indicating the points of interest, including respective values if necessary.
8. Do not give values in an accuracy which is neither relevant in the specific context nor can it be derived as the methods applied are not capable for such a very high accuracy. The audience will anyhow not be able to remember multiple decimal places.

2.4.3 Tables vs. Charts

Tables are mostly unsuitable for presentations: the information in almost all cases can be displayed much better with help of charts. If you can not use another form for the presentation than a table (really?), make sure that

1. rows and columns are clearly labeled, including units.
2. Reduce the contents to support your primary statement(s).
3. Make sure that all table entries can be easily read → minimum font size to be observed.
4. Highlight specially interesting elements by an extra border of e.g. a thicker coloured line or by a differentiating background colour.
5. Make charts as simple as possible to be easily understood: reduce the contents to support your primary statement(s).
6. In almost all cases 3-D views of one parameter based information do not support the understanding as it is impossible to read any data values in the short period of time the chart will be displayed on the screen: in this case always make use of a simple 2-D chart.
7. Think about the most suitable type to support your statements e.g. pie chart to illustrate proportion, bar chart to show comparisons among categories.
8. Clearly label all aspects depicted in a chart, in case of a pie-chart place the labels close to the corresponding proportions, do not use a separate legend which shows colours and the related aspects. In case of a bar chart with multiple aspects shown for each bar use the same color for the same aspect, the lower in the bar the darker the colour should be.

2.4.4 Formula

Formula are specially problematic in presentations:

1. What is your message in these cases? If a formula is (too) complicated, the audience will not be able to follow in the short time (*"I know more than you"*), if a formula is (too) simple, what is the statement made by showing it (*"I also know what you know"*)?
2. If a formula is used to support your "story", you might graphically highlight the major components.
3. Make sure that all elements in a formula can be read easily (font size!): specially observe the minimum size of indexes.
4. Special attention has to be given to symbols: make sure that the symbol font exists on the computer used for the presentation.

2.4.5 Schemes

Schemes like flow charts etc. can be a very helpful tool to support the “story telling”. Schemes can not be used in the form for a paper: in any case they have to be reworked completely (!) for a presentation. Be aware of the high potential for misunderstanding and misinterpretation:

1. Make schemes as simple as possible, always focus on your associated messages. Do not use too many elements in the scheme, do not go into too detailed aspects, restrict to a very limited number of different element types, whenever possible show a symmetrical layout of the graphical elements. Note that in these cases like in others mentioned the audience has only very limited time to fully understand what you might have developed over months: use an appropriate high level of abstraction.
2. In case of a flow chart, clearly indicate the start and the end of the flow. Do not use complicated loops which nobody will be able to understand in the short time span the scheme will be visible in the presentation. Crossing lines in many cases are a cause for misunderstanding.
3. Whenever possible use a standardised graphical syntax if available in the specific field.
4. If a standardised and by this commonly understood graphical syntax is not available in the specific context: introduce the few (!) and consistently used elements verbally.

2.4.6 Colouring

Colouring can support the understanding of your messages but can also result in confusion:

1. Make sure that there is always a high contrast for all elements on the slide, e.g. do not place medium grey text on light grey background: better use black or very dark blue text on white background. If you have a dark background use inverse colouring for the text, e.g. white text on dark blue or gray background.
2. Do not use light colours, use strong ones: e.g. do not use different blue or grey colours for different functions in the same graph, better use totally different basic colours (red, green, blue, black) to distinguish between functions.
3. Never use red-green (~10% of people can not distinguish) or red-blue (tends to flicker on the screen) combinations. Yellow and turquoise should also be avoided as they do not provide sufficient contrast.
4. Make sure that the different aspects are shown in a way that they can be distinguished very easily and fast based on their colouring.
5. Be aware of the fact that through the presentation technique available (data projector), colours might look differently on the screen than on your computer, sometimes colouring is not shown at all on the screen or displays much lighter or darker than intended.

2.4.7 Animations

Animations like animated graphics or video sequences often cause problems as the required software to play the animation are not available or the presentation techniques is not prepared to play videos. If relevant make sure that all your animations play correctly before (!) your presentation. If you use a separate program to play the video make sure that you will find the video file immediately on the computer during your presentation.

2.4.8 References

References are always to be shown on the slides for all graphical material not being prepared by yourself! Write a small font copyright note just below the material. In case you want to acknowledge someone for some statements or e.g. equations you show, add the reference in the lowest part of the respective slide in a small font: the only reason for a small font!

2.5 | The Rehearsing

After all slides are prepared, give the presentation to yourself while speaking loudly (very important!). Take the time to do this more than once! Check the time you need, adjust your presentation to strictly meet the given time requirements. Take this requirement very seriously!

1. Identify parts where you might speed up your presentation or where you have to spend more time for additional explanations than expected in the beginning.
2. Identify parts for which you ran into problems while speaking about:
 - (a) This might indicate parts of your “story” which require some rework asking for modifications to your slides also.
 - (b) This might indicate parts you should train the presentation more often.

2.6 | The Final Checking

Finally you should proof read all slides to make sure that no typos exist any more and that everything looks as intended.

1. Make sure that all material on the slides is of highest quality and reproduces nicely.
2. Make sure that the layout of graphs, charts, diagrams is consistent over all slides: the look should always be the same.
3. Go through all points listed above one by one and check their correct implementation.

3 | Just before the Presentation

Before the session begins in which you will give your presentation, it is strongly recommended that:

1. You familiarise yourself with the environment you will encounter for your presentation.
2. Load your presentation on the computer equipment available or check the connection of your computer to the beamer. Make sure that technically everything is working fine.
3. Briefly go through all slides to check that they are projected as intended. Special attention should be given to symbols and to video sequences if applicable.
4. Find out your best position to the screen if not given by the local arrangement of the equipment.
5. Check for the lightning of the room to make sure that the presentation will be clearly

visible.

6. Check about a clock in the room which you might refer to during your presentation to get feedback on your progress. In case there is none you might place your wrist watch on the table in front of you.
7. Make sure that you inform the session chairman that everything works OK.

4 | During the Presentation

After all points listed above have been observed carefully you are well prepared to give your presentation!

1. Before you start to speak: take your position, look at the audience, shortly wait until the audience is ready for your presentation — and begin to speak.
2. It is recommendable to learn the first two, three sentences by heart. After that, you will feel somehow familiar with the situation and will find it more easy to speak freely.
3. Speak to the audience, do not speak to the screen! There is generally no reason to look at the screen behind you: look at the computer in front of you to make sure that your explanations refer to the slide shown.
4. Always look at the audience. Hint: select few persons you know evenly distributed in the room you look at “in a circle”, one after the other and starting from the beginning again.
5. Reading from notes or from the screen in front of you is a no-no! Speak freely.
6. Speak in short and simple but active, positive sentences, do not try to speak in deeply nested sentences. Do not exaggerate, do not use double negative statements.
7. Do not refer frequently to something which you will show in one of the following slides (pointing ahead). The audience will have forgotten this reference immediately. When you identify the need to do this quite often take this as an indication that the ordering of your statements making up your story might need to be reworked (→ should have been detected in your test runs already).
8. Always explain graphical elements on your slides. Do not assume that the audience will understand this “automatically”. Not explaining graphical elements implies the high risk of misinterpretation.
9. When pointing on the screen to focus the audience on a special aspect: TTT = “touch – turn – talk”: point on that aspect while looking at the screen, turn to the audience and explain – or the other way round.
10. Make sure that the focus you set while pointing on the screen is clearly visible to the audience. In no case “wipe” around with the pointer on the screen.
11. If you use a laser pointer hold your hand against your body which avoids flickering movements of the pointer on the screen. This is specially advantageous in case you are a little nervous while suffering from acute stage fright.
12. Do not move around, keep staying at a position which you have tested before you speak to the audience or which is given by the local arrangement e.g. a speaker’s desk.
13. Do not hold your hand(s) in a pocket!

14. Very, very important: be on time! One, max. two minutes longer than the planned duration reserved for your presentation can be accepted but never more! As you will have given the same presentation to yourself (and e.g. to some friends) more than once already, you will be able to be very exact in the overall timing.

5 | After the Presentation — The Discussion

After a presentation it is very common that the audience will get the opportunity to raise some questions or comment on what was presented.

1. In the discussion answer questions as precisely as possible. While answering look at the person raising the question.
2. Do not compliment the questioner, e.g. with “This is a good question!”. All questions are good except those obviously meant to blow the questioner’s own trumpet.
3. If you do not understand the question, kindly ask for a repetition.
4. If the questioner has raised more than one question at a time which you do not remember after having e.g. answered the first one kindly ask for a repetition of the additional ones.
5. If you do not know an answer at all, do not hedge around the subject, simply say that you do not have an answer for that question at the moment.
6. In case a questioner is explicitly referring to a specific slide or an answer can be supported by one of your slides: select that slide for presentation before (!) you give the answer: do not talk to your computer!
7. Do not go back and forth through your slides multiple times: this is always annoying for the audience.

Finally enjoy the applause and relax!

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