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PLATFORM PRESENTATION

Presenting Research Paper: Learning the steps

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Abstract

For a beginner, presenting a research paper at a conference as a podium presentation can be a daunting task. She is required to choose an appropriate conference for presentation, prepare an abstract, prepare slides and the speech that goes parallel with the slides and train oneself to answer questions posed by the audience. She has also got to overcome the fear of speaking in public and conquer the phobia of encountering a hostile audience ready to shred her paper to pieces. This communication intends to provide useful tips on how to go about preparing and presenting a research paper.

Almost every conference has at least one slot reserved for oral or podium presentation of research papers. These podium presentation sessions are important for the presenters, organizers as well as for the attending delegates (Table 1). For the beginners and the recently-initiated, the challenge of organizing all the data and ideas for presentation in less than 10 minutes, might seem overwhelming. Added to that would be the anxiety of speaking in front of a crowd consisting of experts and above all, to be prepared to answer searching questions posed by the delegates. Through this communication, we intend to provide a supporting framework for the beginners about how to go about such scientific presentations, which are so vital for one's career and above all, for advancement of science.

Once your research project is over, findings analyzed and report written; you should be on the lookout for conferences where presenting your research would be of relevance and interest to the delegates. But even before the conference is chosen, you could start thinking about the process of presentation.

Step 1: Identify the Core Message and Decide if Podium Presentation is the Appropriate Format

The first step is to identify the core message which can be stated in one or two sentences. Then consider if the research paper's data and analysis is too vast and complex to be presented in 8-10 minutes. If you think it is, one option is to present it as a poster. The other option is to present only a part of the data as a podium presentation.

Step 2: Choose the Most Appropriate Conference and get all the Information you need about the Conference

While choosing the conference, you should give maximum importance to relevance. The question that you should ask yourself is: Will the delegates attending this

conference be interested in my research paper and its findings? Would that be relevant to their needs?¹ Of course, your other commitments, cost of registration, expenses involved, traveling time, etc. would also influence your decision. Once selected, you would want to know greater details about the conference and the oral presentation session. To get these details, visit the conference website and read its brochure. You may even contact the organizers to get all the finer points you need to know: details about the abstract (timelines, type, word count restrictions, whether figures and graphs can be incorporated, etc.), the prospective delegates (experts, beginners, super-specialists, specialists or generalists), presentation (time allotted, technical details such as software permitted) and venue (seating capacity, whether there would be concurrent sessions, kind of audio-visual aids that would be available, type of stage and seating arrangement, etc.).² This information is vital for you to plan your presentation. Many conferences provide explicit instructions or guidelines and even templates for presentation.³

Step 3: Make a Plan and Stick to it

Proper planning is essential for making a successful presentation. Great thought should go into making important decisions about the presentation: What is the core message and how to elaborately

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Table 1: Importance of oral/ podium presentation of research papers

Presenters	<ul style="list-style-type: none"> • It is an opportunity to convey important results of a recently concluded research • A chance to enhance skills: Summarizing the research work, public speaking and effectively communicating research findings and defending your work • Discussions during the session can help you understand various aspects (including limitations) of your study better. This can help you create a better balanced research manuscript • You start to get recognized as a worker in the chosen field and a budding expert • Opportunity to interact with others (including experts) working in the field, opening the doors for future collaborations • Enhancement of CV (Curriculum Vitae) and consequent career advancement • You fulfill criteria prescribed by certain universities and employers for eligibility for courses or for promotion
Delegates	<ul style="list-style-type: none"> • An opportunity to clarify doubts and learn from researchers' hands-on experience • A chance to widen the network of researchers with common interests • Developing new ideas for research
Conference Organizers	<ul style="list-style-type: none"> • Providing avenue for researchers to present their work increases the attractiveness of the conference for the scientists

describe it (content), who should present the paper (presenter) and what work should other team members carry out (support), should we stick to the conventional format or innovate a bit (style) and what precautions should I take to ensure that the last-minute glitches do not spoil the effort.

Many scientists work on a research project, but only one can present it at the conference. It is best to assign

the job of presentation to the one who has led the study, participated in the study and carried out the analysis. In short, the one who is well-versed with the intricate details of the study and knows the subject inside out should be the one chosen to present the study.⁴ Decide the role everyone in the research team will play. Although the presenter will have the overall responsibility, she can be helped by others in the team. For example, one member can perform a thorough literature search looking for recently-published relevant papers, another can help her prepare presentation content and slide design and all can contribute in helping her prepare for questions that might be asked. Other team members can plan how to do this in a time-bound manner and efficiently. You need to reserve enough time for discussions with team members in deciding the key message and how to elaborate on it, for practicing the speech and handling the question-answer [Q-A] session. As several activities are undertaken concurrently and as multiple milestones need to be reached in a timely and orderly fashion; it is always better to have a workable "time table".⁵

Step 4: Prepare the Abstract and Submit it

The abstract should be prepared as per the requirements specified by the conference organizers. It is always a good idea to prepare a structured abstract consisting of introduction, objectives, methodology, results and discussion as the sub-headings. When relevant and permitted by the conference, do include graphs to explain intricate results. The abstract should convey the core message. The importance of the abstract cannot be over-emphasized. It is generally published in an abstract book and/or uploaded at the conference website and it serves as a reference material for posterity. In addition, many delegates scan through the

abstract book to choose which presentations to attend and which ones to skip. Ensure that all the co-authors agree with the contents of the Abstract.⁶ Write a covering letter for the abstract emphasizing the importance of your study. If time permits, one can even think of preparing the full manuscript even before the presentation. It makes the presenter's job simpler. She has to just select the appropriate sentences, tables and graphs from the manuscript and put them on the slides. If the paper has already been presented at another conference previously or if the study results have already been published in a journal, make sure that you explicitly declare this in the covering letter.⁵ Honesty and transparency are the best practices in the scientific field. Most organizers will allow you to present the work even if it has been presented at another conference, as the type of audience and location of the conference could be different.

Step 5: Draft the Content for Slides and Speech

The content of slides and speech need to match and synchronized during presentation. The number of slides that you can include will depend on time available, intricacy of data and ideas to be conveyed, the number of slides with figures and graphs and the speed of the presenter's speech. However, the general rule is to have 1 slide per minute of presentation (may be excluding the title, competing interests and acknowledgment slides). Most conferences allow the speaker to present paper in 8 minutes and expect that about two minutes will be spent on responding to questions and comments.

Logically, the slide sequence will follow the IMRaD format (Introduction, Methods, Result and Discussion) with emphasis on providing precise objectives, important details of methodology and results and relevant discussion

Table 2: Suggested sequence of slides for research paper presentation^{4,6,8}

Slide title	No. of slides	Content of Slides and corresponding speech
Title Slide	1	List complete title of the study. Include names of all the authors (surname and initials) with institutional affiliations
Competing Interests	1	Some conferences expect the presenter to describe competing interests (financial and other). This allows the attendees to view the results in an appropriate context
Introduction	1	Use this slide to provide relevant background information in brief. It should allow the delegates to understand the need for conducting the study. State the research question.
Objectives	1	Clearly state the primary and important secondary objectives. Include only those objectives for which relevant results will be described in the presentation. Some prefer to skip this slide as they think it lengthens the talk. They incorporate objectives in the "introduction" slide
Methods	1 or 2	Describe methodology describing important relevant information related to study design, population studied, study procedure, statistical plan and ethical aspects (IRB approval, participant consent and assent). Desist from providing unnecessary details. Complex methodology would entail using two slides
Results	1 or 2	Provide numeric data. Use tables and graphs where relevant
Discussion/ Conclusions	1 or 2	Describe what new evidence the study has provided. Describe limitations and strengths of the study. Describe how the results should be used given the overall evidence. Directions for future research. Give a take home message.
Acknowledgement 1		Acknowledge the help and assistance of funding agencies, and individuals who provided significant intellectual inputs and other support

IRB: Institutional Review Board

on impact of the study (Table 2). However, many presenters find it convenient to work in reverse direction¹ while preparing the slides. They prefer to write a couple of conclusions of the study and then work backwards to include relevant results and methods. It is said that this helps eliminate unnecessary information.¹ One can incorporate a Table or a Figure to explain complex data. The Table should be complete but not too big. You can highlight the important numbers (bold-type, different color) that you would be pointing to and discussing. Complex patient flow can be depicted using a figure. Graphs constitute one of the best ways of displaying data.⁷

You need to follow certain general rules while making slides (Table 3). The one major rule is to always adopt a 'minimalistic' approach: use minimum text, minimum lines, minimum images and minimum information to deliver your presentation.⁴ You should have only that much material on each slide and only those many

slides that will help you deliver the core message during the allotted time. If you have too much material on the slides, you will have to rush through the written material. Your audience will not have enough time to read it and they will lose track. Skipping slides towards the end of the presentation for want of time conveys that some of your slides are unimportant. This is the surest way of making the audience disinterested in your presentation. Never write the whole messages or paragraphs on the slides. Avoid showing complex data. There is just not enough time to explain complex long tables. In such a situation, it is often advisable to summarize the data for easy understanding. When the data is too complex, some researchers prefer to print handouts about the study and make them available to the attending delegates in the presentation room. The material on the slides should be presented in the form of short phrases in bulleted format. These should be used as props or reminders for

your speech.

Once the slide set has been finalized, keep a copy of the presentation on another pen-drive or hard disk. Ensure that the pen drive does not have any other important material. There have been occasions where the entire content on the pen drive has been wiped off after attaching it to the conference computer!!! Email the presentation to self or a friend. These additional copies come in handy if the computer hard disk or the pen drive gets corrupted. If you are planning to use your own laptop for the presentation, carry HDMI (High-Definition Multimedia Interface) to USB cable convertor, as some computers have HDMI cable while the others have VGA cable (Video Graphic Array) to attach to the LCD (liquid crystal display) projector.

Write down the speech in plain simple language. Do not use jargon. It impresses no one. Use short sentences and active voice. Choose your language carefully. Use words such as "significant", "always", "never", "best" or "optimal" only if they are supported by the data.¹ Write down your speech slide-wise. This will help you write appropriate clues on the slide. You can use the 'notes' window in the Microsoft PowerPoint to enter your speech. This will help you when you are rehearsing your speech. You must remember that, given the constraint of time, you will not be able to go into details. You will be able to cover only the salient essential issues. For example, it is important to inform the characteristics of the participants studied (eligibility criteria). However, you cannot afford to read out all the inclusion and exclusion criteria, but will have to mention only those that will give the audience clear idea about who the study is about. It is essential to keep this balance between sufficient disclosure and the time required for delivering the methodology section.⁴ While formulating slide/slides for the Results section,

Table 3: Tips for the better slides for a podium research paper presentation^{3,9,10}**Slide formatting**

- The longest dimension should be the horizontal one. It is difficult to view and read vertically oriented material
- Choose background color that provides high contrast with text color. Black or blue colored text on a white background is one option. It is less effective when color graphics such as clinical pictures are added. The other option is dark (black or blue) background. The text could be white, orange or yellow. Avoid red or green as they do not project well and readable by persons who are color-blind.
- Do not have too many words in a line. Not more than 6
- Do not have too many lines on a slide. Not more than 6
- Leave adequate margin of at least 1 cm between the lettering and outer margin of the slide
- Make duplicate slides, if you need to refer to a slide more than once. Do not go backward and forward during a presentation. It consumes time and looks shabby.

Textual Matter

- Keep text to minimum: If there are too much material to read, the audience stops listening to the presenter; as they cannot read and listen at the same time
- Select a good easily readable sans serif font: Arial or Helvetica cause least confusion
- For emphasis, increase letter size or use bold-type. Use italics sparingly. Avoid underlining text
- Never use "ALL CAPS". Difficult to read
- Spacing: Space letters so that areas between letters are adequate making them easily legible. The lines should appear to be distributed evenly and uniformly
- Check for spelling and grammatical errors

Figures and Graphs

- Use visuals sparingly but effectively
- Figures, drawings and graphs should be bold, simple and contain only essential details
- No gridlines
- Ensure that similar graphs have similar scales

Content

- Use one slide to describe one unified concept or idea. This avoids confusion
- Avoid full sentences
- Use multiple simple slides, rather than a single complicated slide, to explain a concept

Other

- Standard templates are unoriginal, over-exposed and boring. Try your own design
- Colors are nice. Play with them. Try multiple combinations to find what you like, but try to adhere to general rules
- Overdoing colors distracts audience and is annoying too
- Using animation and transitions, such as text or images sliding in and out or flying in and out distracts the audience. Sounds during animations are irritating
- Avoid using flowers, sunsets, or your children's photos to fill space
- Avoid fancy clip arts

provide raw numbers and simple descriptive statistics first. Always, describe the characteristics of the study population or those of control and target groups. Provide data regarding the main research question, before moving on to other data. If you have included a Table, Figure or a Graph, you will have to spend some time explaining them. However, you do not have to explain every detail. Just talk about the salient observations or numbers. Before discussing conclusions, point out to the data from other studies, state the strengths and

limitations of your study and then base your conclusions on the totality of evidence. Once you have finished writing the speech, edit it thoroughly. Review it yourself and check that the included material is good, essential and worthy of inclusion.⁷ Also check for continuity and logical flow of thoughts.¹¹ Show the text of your speech and slides to your co-authors. Incorporate their useful suggestions.

Step 6: Practice and Time your Speech. Seek Feedback and use it Gainfully

Practicing and timing your speech are of great importance for the beginners. Invite family members, friends, co-authors and colleagues to view the presentation and give suggestions. While family members and friends will give you suggestions regarding the readability and attractiveness of slides and style of delivering speech; peers and colleagues provide technical inputs, as well. Many practice sessions will be done in solitude, in front of a laptop screen. A few practice sessions will be conducted in front of a small audience. Hence, you may feel nervous, when you have to present it to a large audience at a conference. If you have practiced well, the nervousness soon abates as you start speaking. Practicing and rehearsing will help you not only fine tune your speech; but it will allow you remember it verbatim. This will allow you to continue with your talk even if the slides do not get projected for some time due to technical fault during the presentation.

One cannot predict what questions will be asked. Hence, you cannot prepare enough for the Q-A session. However, you can still practice for it. Request your peers and colleagues to prepare questions and practice answering them. They will tell you if you become combative, submissive or excessively defensive; or whether your mannerisms change for the worse, while answering the tough ones.

Step 7: Familiarize with the Hall and the Audio-Visual System

It is very essential for you to familiarize yourself with the hall, a day before or during an earlier

Table 4: Habits that may distract and annoy the audience

- Unnecessary walking the breadth of the whole platform
- Moving far away from the lectern, causing the objects like microphone to fall making noise
- Too much movement or rock back and forth
- Holding the microphone too close leading to disturbance
- Coming in the way of projection stream, causing a shadow on the slides
- Cracking a joke that reveals gender-bias or disrespect towards a community or a professional group. Using expletives
- Making long circular pointer motions around the whole text line or big areas of graphic illustrations
- Keeping the pointer on, with the spot being seen on the walls and slides; thereby causing distraction
- Habit of clicking pen/pointer repeatedly
- Flipping the slides back and forth to look for a 'particular' slide
- Saying "um", "urr", "ahem" repeatedly
- Using a particular filler repeatedly. The common fillers are "actual", "basically" and "generally speaking"
- Drop in the voice towards the end of the sentence. This makes it difficult to listen to and the content is lost

session. You will then make mental calculations regarding where to stand, how to gaze over the whole audience, whether you can move a bit while presenting or should remain near the lectern. Try to visit the control room. Check for the compatibility and how your slides look on the computer monitor. Changes in programs could lead to differences in the way colors and symbols are seen or get projected. Check how to operate the computer, mouse and pointer. Learn and practice how to advance slides. These decrease the uncertainties in your mind and help reduce your anxiety. Drinking a glass of water or taking a few deep breaths before climbing on to the stage are other measures that some speakers employ to reduce nervousness.

Step 8: Delivering the Presentation

The way you dress is also important. Adhere to the dress

code, if one is prescribed. Nick Morgan suggests that the speaker should dress well and a little better than the audience.¹² Tight clothes hinder the speaker's movements, while overly loose clothing or accessories can get caught in odd places, like a lectern or a flip chart stand.¹³ You should be dressed comfortably avoiding bright colors or distracting prints. The clothing should also preferably allow the speaker to carry wireless microphone with ease.

As a presenter, you are a part of the visual experience of a presentation.³ You should stand in a place that does not hinder the attendees' view of the projected slides. Remove objects like laptop flap, water bottle or flower vase that may be casting a shadow on the slides. Start by thanking the organizers and the moderators and greeting the audience, and state why you think the study is important. The title slide is generally flashed when you are being introduced. Hence, there is no need to read the title of the study again. Some speakers start by narrating a joke or an anecdote. There are two things to consider: do so, only if you are good at it.⁶ Secondly, remember, it cuts into the extremely limited time that you have been allotted.¹ Move on to what you did and what you found and then discuss the importance, limitations and impact of your research. Synchronization between what you are saying and what is projected, is crucial.¹⁰ Avoid taking support material such as written speech or outline to the stage. During presentation, although you may look at the slides on the laptop or the screen momentarily, you should be primarily speaking to your audience. Indulging in eye contact with the audience helps them maintain their interest in the presentation and encourages them to continue reading slides. Smile a bit as you talk and move the head to involve all sections of the audience.⁶ Many conferences

record all presentations and lectures for transmission to the delegates seating in another hall. Many a times, the recorded video is uploaded on the conference or society website. Do ensure that you look directly at the recording camera for some time during your presentation. Use pointer judiciously to target points on graphs, figures and charts or to direct the attention of the audience to particular numbers or text written on the slide. If you have a tremor, rest your arm on the lectern. Speak slowly and clearly. The pace of and tone of the speech should be conversational and comfortable.¹ Most importantly, your enthusiasm and confidence should be visible throughout the presentation. Do not annoy the audience with distracting behavior (Table 4).

You should always abide by the time limit given by the moderator. Extending your time beyond the permitted limit is not only disrespectful for the speakers scheduled to speak later; but might also test the patience of the audience. In addition, the Q-A session may get cancelled and you may lose an opportunity to clarify certain concepts and doubts.

Answering questions is an art form and requires concentration, discipline¹ and tact. Usually, a moderator starts by asking a clarifying question. Presenters, who are good at predicting questions, come prepared for the session with a few slides to answer likely questions. This strategy can be used especially if you have not had the time to explain some intricate data or concept in your presentation and you are sure that delegates would need to know them. Do not make too many slides for this purpose, as then you will have to search for the relevant slide, wasting time and testing the audience's patience. Listen to the whole question and respond appropriately and to the point, demonstrating your knowledge about the research and

the subject. Be calm and talk slowly while answering the question. Never belittle or embarrass anyone in front of the group.¹⁰ In fact, compliment the questioner for asking a pertinent query. If you do not understand a question, ask for clarification. If you do not know the answer of a question, say so. Consider directing the question to your co-authors who may be attending. If the questioning becomes nasty, try to begin with clarifications from the point of agreement¹⁰ and deftly turn the question around asking the questioner for his views on the issue.⁶

Although some people have a natural talent for providing presentation, most scientists will have to work for delivering an effective presentation. For a successful presentation, speaker should have mastery over the subject. But the way slides are made, the way she carries herself during presentation and the way presentation is delivered also contribute to the success of the presentation. This is not the end of the story. Your journey as an effective presenter and communicator may have just begun. After the presentation, you should take note of the questions that went unanswered or were difficult to answer. You should request for the contact details of the delegates who sought more information or clarifications. You should also note down the feedback received after

the session. Many researchers also request the organizers for the clip of their own presentation, so that they can view it at a later date. After returning from the conference, find answers to the questions that seemed tough to answer and contact delegates to provide the information they requested. This is the “sure-shot” way of establishing and enhancing your credibility as a sincere scientist. The suggestions received should be given due importance while preparing the research manuscript. And view the presentation video-clip to check your own performance while presenting and answering questions. This way, every presentation will allow you to expand your network, create a better research manuscript and come up with an improved performance the next time around.

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