

Facilitator Notes

# Preparing Tables and Figures: Some Basics

These notes accompany the PowerPoint presentation of the same title by Barbara Gastel.

This module normally would fit well with the modules on writing the parts of a journal article.

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| Module Title | Preparing Tables and Figures: Some Basics |
| Course title (or analogous information) | This module typically would be part of a workshop or course largely on writing and publishing journal articles on research. It fits well with the set of four modules on writing the four respective parts of an IMRAD-structure journal article (Introduction, Methods, Results, and Discussion).Because the results section typically includes most or all of the figures and tables, presenting this module immediately before or after the module on writing the results section can work well. This module also can be combined with the results module. Alternatively, the module may be presented earlier or later. |
| Unit Title | Not applicable |
| No. of Unit | Not applicable |
| Session Day/Time | Not applicable |
| Length of Session | This module typically would run about 45 to 60 minutes if participants have not brought drafts to revise. If they have brought drafts, it typically would run 60 to 90 minutes. If the module is in a workshop or course where participants write journal articles, it can be advisable to (1) have the course participants draft or revise at least some of their tables and figures after this session and (2) have participants meet in small groups on a later date to review and provide feedback on each other’s tables and figures. |
| Aim | This module is intended mainly to increase participants’ awareness of principles to follow in preparing tables and figures. |
| Learning Outcomes | By the end of this module, participants will be able to (1) state principles to follow in preparing tables and figures and (2) know how to find further information on the topic. |
| Facilitator Profile | Ideally, this workshop would be facilitated by someone who has experience with research writing (for example, as an author of journal articles or as an editor), because such an individual can enrich the content with examples from his or her experience. However, a less experienced facilitator also can present the module, as the combination of PowerPoint slides and facilitator notes provides sufficient information to do so. Also, the module can be presented jointly by a facilitator and a co-facilitator who provides additional commentary. |
| Participant Profile | This module is primarily for early-career researchers who are starting to publish their work. It also may be useful to mid-career researchers who wish to improve their writing or increase their ability to mentor others in research writing. In addition, it may be helpful to some editors and writing instructors. |
| Pre-workshop Activities | (1) If possible, each participant should bring a set of instructions to authors. Ideally, the instructions should be for a journal in which the participant hopes to publish. If at least some participants will not or might not bring instructions to authors, the facilitator should, if possible, bring some instructions to authors or links thereto.(2) If possible, each participant should bring a journal article reporting research in his or her field. Ideally, it should report research related to the participant’s research and should be in a journal in which the participant hopes to publish. If at least some participants will not or might not bring articles, the facilitator should, if possible, bring some articles or some links to articles.(3) If the participants have drafted journal articles, they should bring drafts of their articles. |
| Room Layout | Ideally, this module will be presented in a room layout facilitating interaction—for example, with several small tables, with tables in a U configuration, or with a conference table. However, this module also can be presented in a traditional classroom or a lecture hall. |
| Number of Participants | For optimum discussion, the number of participants should be limited to about 10–15. However, the module also can reasonably delivered to about 25 participants.  |
| Files and Materials | PowerPoint file: 14\_Preparing Tables and FiguresExamples of Tables and Figures: If possible, the facilitator should bring some examples of tables and figures. Ideally, they should be from journals in research fields from which some of the participants come. |
| Visual Aids and Resources | Computer with PowerPoint; projector for PowerPoint presentation; Internet connection if possible |
| Potential Embellishments of the PowerPoint | To keep the file small, the presentation consists almost solely of text. Images can be added to make it more visually appealing. For example, decorative images can be inserted between sections to signal a change of subtopic and provide visual relief. Also, relevant images can be added to selected slides if desired. If desired, the facilitator can divide the material on a given slide into more than one slide or can format some slides for progressive disclosure, in which items on a slide are revealed one by one.The facilitator may add slides showing examples of tables and figures. Another option is to link to tables or figures or to journal articles containing them. |
| Learning methods and activities | The following notes may help facilitators to (1) elaborate on the content of some slides and (2) elicit group participation at suitable times. In the PowerPoint presentation, similar notes appear in the notes sections below the respective slides.* (Slide 1 is a title slide.)
* Slide 2 (“Overview”)
	+ Note the topics that the module will address.
	+ Note the module’s overall aim, which is stated earlier in this facilitator’s guide. (Feel free, of course, to frame it in the way that the group is likely to find most relevant.)
* Slide 3 (“Why include tables and figures?”)
	+ Have groups of two or three students discuss this question.
	+ Then bring the full group together and elicit responses. Points should include the following: Tables and figures can serve as evidence to support the findings being presented. They also can help readers to understand the paper.
	+ Identify, or ask the group to identify, implications of these purposes. One implication is that the evidence being presented should be clear from the table or figure. Another implication is that figures and tables should be designed in ways that make it easy for readers to grasp the point being made.
* Slide 4 (“Tables: A Few Suggestions”)
	+ Note that tables should be included only if they have a purpose, such as one of those just noted. Journals’ space and readers’ time are limited and should not be wasted on needless tables.
	+ Emphasize that readers should be able to understand each table without reading the main text of the article. Thus, for example, a table should not refer to groups just as “Group 1” and “Group 2”; rather, descriptive designations such as “Workshop Participants” and “Control Group” should be used. Likewise, each table should have an informative title, and definitions should be provided for abbreviations that readers might not know.
	+ Note that many journals’ instructions to authors include specific instructions for preparing tables. Following these instructions from the start can facilitate writing and publishing a paper.
	+ Now is a good time to show some examples of tables from journal articles and have the group discuss them. Aspects to address may include what the purpose of the table seems to be, the extent to which the table seems to follow the suggestions given, and other perceived strengths and limitations of the table.
* Slide 5 (“Figures: A Few Suggestions”)
	+ Ask participants what types of figures, if any, tend to be used in their fields. Perhaps ask about those listed as examples in the first bulleted item and then have participants identify additional types of figures used.
	+ Emphasize that figures, like tables, should be included in journal articles only if they serve specific purposes. They should not be included just to be decorative.
	+ Note that clutter in figures is a common problem. Encourage participants to keep figures as simple as possible while still conveying the desired information.
	+ Mention that lettering that is clear when figures are prepared in large formats sometimes becomes too small to read when figures are reduced in size for journal publication. Suggest that participants do the following: On a computer monitor, reduce each figure to its probable size in the journal. If anything in the figure is then too small to read, revise the figure to make it readable.
	+ Emphasize that many journals have very specific requirements regarding the design and electronic format of figures. Urge participants to follow their journals’ instructions to authors carefully in this regard.
	+ Now is a good time to show some examples of figures from journal articles and have the group discuss them. Aspects to address may include what the purpose of the figure seems to be, the extent to which the figure seems to follow the suggestions given, and other perceived strengths and limitations of the figure.
* Slide 6 (“Discussion Question”)
	+ The “pyramid technique” can work well for discussion of this question. In this technique, participants discuss the question in pairs; then two pairs join together for further discussion; and, if desired, two groups of four then combine for additional discussion. Finally, the full group discusses the question.
	+ Major points to take away from this discussion are the following: If specific data (such as numbers) are important to present, a table tends to be more suitable. However, if “the shape of the data” is the main message (for example, if points fall on an S-shaped curve), a figure is preferable. Rarely is it worthwhile to present the same data in both a table and a figure.
* Slide 7 (“A General Suggestion”)
	+ Both because types of tables and figures differ somewhat among disciplines and because of time constraints, providing detailed advice on tables and figures is not feasible in a session such as this one. In part for this reason, encourage participants to use relevant published tables and figures as models.
	+ If most or all of the participants are from the same field, now can be a good time to present some examples of well-designed tables and figures of types common in that field that might serve as models and to point out strengths (or, better yet, have participants do so).
* Slide 8 (“Sources of Further Information”)
	+ Note these openly available sources of guidance on tables and figures, and encourage participants to consult them.
	+ See whether participants have comments on any of these resources or have any other resources on this topic to suggest.
* Slide 9 (“Exercise”)
	+ Have the participants do this exercise in small groups.
	+ Then bring the full group together for discussion.
* Slide 10 (“Another Exercise”)
	+ If most or all of the participants have brought some figures, tables, or both that they have drafted, do this exercise.
	+ Another option is to have participants draft some of their tables and figures after this module and then do this exercise at a later session.
	+ This exercise is well suited for groups of about three or four members.
	+ If feasible, have the full group come together for discussion at the end of this exercise. One option is to proceed as follows: (1) Have participants note some strengths that they observed in other group members’ figures and tables. (2) Have participants wishing to do so identify some helpful guidance that they received during the exercise. (3) Answer any questions, either along the way or at the end.
	+ If this session will be the first one in which participants provide feedback on each other’s work, perhaps precede this exercise with some discussion of giving feedback. Suggestions for giving feedback appear at <http://www.authoraid.info/en/news/details/1058/>, <http://www.authoraid.info/en/news/details/649/>, and <http://www.authoraid.info/en/news/details/302/>. Also, suggestions for receiving feedback appear at <http://www.authoraid.info/en/news/details/1059/>. Of course, some facilitators might need to adapt the advice on giving feedback to the cultural context.
* Slide 11 (“In Conclusion”)
	+ If time permits, include a question-and-answer session before ending.
	+ Perhaps do one or both of the following:
		- Have participants note points to remember.
		- Summarize the session.
	+ If the workshop or course will include later modules, note the topic of the next module. Perhaps also note more generally what will follow.
	+ Perhaps encourage group members to share points from this session with others.
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