Writing a research proposal

Science

WRITING A RESEARCH PROPOSAL Writing a proposal is not an easy task for anyone, and it may be especially difficult if you have not done one before or if you have not done much writing. The job takes diligence, commitment and hard work. But all the hard work is well worth it. The Format of a Research Proposal Here is a basic outline of what should be contained in a research proposal and a few comments on each of these sections. 1. Introduction a. The problem statement b. A rationale for the research (statement of the research objectives) c. Hypothesis d. Definition of terms e. Summary including a restatement of the problem 2. A review of the relevant literature a. The importance of the question being asked b. The current status of the topic c. The relationship between literature and problem statement d. Summary including a restatement of the relationships between the important variables under consideration and how these relationships are important to the hypothesis proposed in the introduction 3. Research methodology a. Participants (including a description and selection procedures) b. Research design c. Data collection plans i. Operational definition of all variables ii. Reliability and validity of instruments iii. Results of pilot studies d. Proposed analysis of the data e. Results of the data 4. Implications and limitations 5. Appendices a. Copies of instruments that will be used b. Results of pilot studies (actual data) c. Human experimentation approval d. Participant permission form e. Time line So what makes a good research? The following shortcomings have been found to be the most pressing criticism: * The data collection procedures was not carefully controlled * There were weaknesses in the design or plan of the research * The limitations of the study were not stated * The research design did not address the question being asked by the research * The method of selecting participants was not appropriate *

The results of the study were not clearly presented * The wrong methods were used to analyze the information collected * The article was not clearly written * The assumptions on which the study was based are unclear * The methods used to conduct the study were not clearly described or nor described at all Quite a series of pits to fall into. To help you avoid the worst of them, here is a set of questions you might want to ask about any research article. Criteria for Judging a Research Study The Review of Previous Research 1. How closely is the literature reviewed in the study related to previous literature? 2. Is the review recent? Are there any outstanding references you know of that were left out? The Problem and the Purpose 3. Can you understand the statement of the problem? 4. Is the purpose of the study clearly stated? 5. Does the purpose seem to be tied to the literature that is reviewed? 6. Is the objective of the study clearly stated? 7. Is there a conceptual rationale to which the hypotheses are grounded? 8. Is there a rationale for why the study is an important one to do? The Hypothesis 9. Are the research hypotheses clearly stated? 10. Are the research hypotheses explicitly stated? 11. Do the hypotheses state a clear association between variables? 12. Are the hypotheses grounded in theory or in a review and presentation of relevant literature? 13. Are the hypotheses testable? The Method 14. Are both the independent and dependent variables clearly defined? 15. Are the definitions and description of the variables complete? 16. Is it clear how the study was conducted? The Sample 17. Ws the sample selected in such a way that you think it is representation of the population? 18. Is it clear where the sample comes from and how it was selected? 19. How similar are the subjects in the study to those that have been sued in other similar studies? Results and Discussion 20. Does the author relate the

results to the review of literature? 21. Are the tests related to the hypotheses? 22. Is the discussion of the results consistent with the results? 23. Does the discussion provide closure to the initial hypotheses that the author presents? References 24. Is the list of references current? 25. Are they consistent in their format? 26. Are the references complete? 27. Does the list of references reflect some of the most important reference sources in the field? 28. Does each reference cited in the body of the paper appear in the reference list? General Comments about the Report 29. Is it clearly written and understandable? 30. Is the language biased (nonsexist and relatively culture-free)? 31. What are the strengths and weaknesses of the research? 32. What are the primary implications of the research? 33. What would you do to improve the research? Planning the Actual Research | Activity | Estimated Time | Introduction | * Search general sources and come up with an idea * Formulate a research question * Present a preliminary hypotheses | | Review of the literature | * Search through secondary sources * Search through primary sources * Reconsider the literature and state the research hypotheses | | Methodology | * Identify and describe the dependent variables * Identify and describe the independent variables * Field-test the dependent variables * Create data entry forms * Locatea suitable sample * Pilot test the research hypothesis * Distribute permission forms * Collect data | | Results | * Analyze the data * Report the results using tables and graphs if useful | | Discussion | * Review the nature and purpose of the research * Refer to the results in light of the research * Draw the appropriate conclusions about the confirmation or refutation of the research hypotheses * Discuss limitations of the study * Discuss implications of the study * Discuss future directions | | Selecting a Dependent Variable Nine things to

remember when selecting a dependent variable: 1. Try to find measures that have been sued before.. This lends them credibility and allows you to support your choice by citing previous uses in other research studies. 2. Be sure the validity of the measure has been established. 3. Be sure the reliability of the measure has been established. 4. If the person requires special training, consider the time and the commitment it will take to learn how to use it. 5. Be sure you can get a sample of the test before you make any decision about whether you will use it. 6. If you will need them, be sure that norms are available. Some tests do not require the use of norms, but if your intention is to compare the performance of different samples with scores from am more general population, you have to be sure to have something to compare it with. 7. Be sure you get the latest version of the test. 8. The test needs to be appropriate for the age group you are working with. 9. Look for reviews of the test in various journals and reference sources. Reviewing a Test The following is an outline of criteria you should consider that would allow you to compare and contrasts various tests. For each test you want to consider, complete the outline to the extent possible and then use this information to make a decision. Be sure to weigh each of the criteria accordingly as well. For example, while a test might be just right as far as its design and purpose, if it is prohibitively expensive or if you need special training (which you do not have) to administer it, it is not likely that you will be able to use it. Basic Information 1. Name of the test 2. Date of publication 3. Test author(s) 4. Publisher 5. Cost of all needed test materials 6. Cost of sample packet General Test Information 7. Purpose of the test as stated by author(s) 8. Purpose of the test as used in other studies 9. Age levels included 10. Grades included 11. Special populations included 12.

Method of administration (individual or group) 13. Method of scoring (manual or computer) 14. Administration time 15. Ease of administration 16. Ease of scoring 17. Amount of training required for administration 18. Adequacy of test manual and other materials Design and Appearance 19. Clear and straightforward directions 20. Design and production satisfactory 21. Arrangement of items on page 22. Ease of reading Reliability 23. Reliability of data provided 24. Type of reliability established (test-retest, parallel forms etc) 25. Independent studies used to establish reliability Validity 26. Validity data provided 27. Type of validity established 28. Independent studies used to establish validity Norms 29. Norms available 30. Description of norms available 31. How norm groups were selected 32. Appropriateness of norm groups to your purpose Evaluation 33. How used in the past 34. Summary of outside review(s) 35. Other evaluative information Selecting a Sample * Find a suitable pool of candidates from which to select a sample * Approach candidates with an absolutely crystal clear idea of what you want to do, how you want to do it, and what they will get in return. * The population must match the characteristics of those groups you want to study * The type of research you do will depend on the type and size of sample you need. For example, if you are doing case study descriptive research, which involves intense and long interviews and has limited generalizability (which is not one of te purposes of the method), you will need very few subjects in your sample. If you are doing a group differences study, you will need at least 30 for each group. * A highly reliable test will yield more accurate results than a homemade essay exam. The less reliable and valid your instruments, the larger the sample size you will need to get an accurate picture of what you want. * Consider the amount of financial resources at your disposal. The

more money you have, the more subjects you can test. * The number of variables you are studying and the number of groups you are using will affect the sample selection process. Data Collection and Analysis At this point in your proposal, you want to address the following tasks and be sure that they are completed before you move on. 1. The development of a data collection form to help you with organization and accuracy. 2. Specification of which types of descriptive statistics you will use to describe the variables you are examining. 3. Identification of the other kinds of information you need to present in this initial analysis of what your data look like. 4. Pilot data collection, so that you can practice the simple descriptive and inferential statistics. Treat the analysis as if it were the real thing and go through every step that you plan to go through for the final data analysis. Selecting an Inferential Statistic Selecting an inferential test is a task that always takes care. When you are first starting out, the choice can be downright intimidating. You can learn about some of the most common situations such as testing the difference between the means of two or more groups and looking at relationships between groups. Protecting Human Subjects Most organizations that sponsor research have some kind of committee that regularly reviews research proposals to ensure that humans are not in any danger should they participate. Before investigators begin their work and as part of the proposal process, an informed consent form is completed and attached to the proposal. The committee reviews the information and either approves the project (and indicates that human subjects are not in danger) or tries its best to work with the investigator to change the proposed methods so that things go as planned.