

## **NSP Comprehensive Exam: The Do's and Don'ts**

(March 20, 2012; compiled and edited by C. Jordan)

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### **Characteristics of a good essay**

- Good use of section headings to underscore main message
- Well placed summary statements that reiterate in 'plain' language what was just laid out in a more detailed and technical fashion and most importantly, that serve to underscore the significance of the data (i.e., the conclusions drawn from the data).
- Clear and concise writing, with excellent use of summary statements throughout that tie information and concepts together and which serve to remind readers of the most critical and salient ideas and facts.
- Well organized and extremely easy to read with new information coming at a comfortable pace so that a coherent picture emerges for the reader with minimal effort (exactly what one strives for when writing a grant!).
- Information provided in the introduction is not only easy to follow but also strategic, with obvious relevance to the proposed Research Plan that followed.
- Good job stating clear hypotheses and their predictions and discussing potential outcomes and pitfalls, with appropriate attention to alternative strategies and controls in the Research Plan.
- Strategic and appropriate use of schematic and figures.

### **Characteristics of a failed answer**

- Evidence of plagiarism
- Well written but did not answer the question (or only partially answered the question)
- Did not read and cite the current literature
- Failed to propose expts that directly test hypotheses
- Wrote a lot but failed to provide pertinent or correct information
- Data dump that did not lead to a coherent picture of the student's understanding of a phenomena
- poor organization/writing/lack of guide posts and/or clear statements of key concepts and arguments

### **Specific recommendations re: writing an NRSA-like research plan**

- Know the difference between hypothesis and prediction (predictions follow from a hypothesis)
- Discuss potential weaknesses of proposed expts or methodology
- Make sure to state a hypothesis and then propose experiments designed to test the hypothesis.
- Clearly distinguish between hypotheses that have been tested from ones that have not.
- Clearly state endpoints and how those endpoints will be measured and your plan for data analysis.

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### “Do's” -----

- **Learn how to use a bibliographic data base now if you do not know already.**
  - Most bibliographic programs (e.g., Endnote) will allow you to build your bibliography as you write. This will save you some time.
- **Read the question carefully and at least twice through before you begin working on it.**
  - Some students have done a beautiful job answering the wrong question.
  - If you have any questions or are confused about the exam, consult the Exam Coordinator (Cindy Jordan).
    - You are not allowed to discuss any aspect of the comp question with anyone (including other students, postdocs or faculty) until the exam is completed (including during the remediation period if remediation is required). In short, all questions regarding the exam should be directed to the Exam Coordinator.
- **Make sure that you answer each and every portion of the question.**
  - If the question is asking for 3 pieces of information or analysis and you do an absolutely stellar job responding to two of these (but disregard the third), there is a high probability that you will fail the exam.
- **Think before you write.**
  - You have 5.5 days to complete each exam question. The committee knows this and is looking for your ability to analyze and synthesize an area of research, *not an exhaustive review*. Read the relevant literature and then make sure that you put aside enough time to actually think about the problem, before you begin to write.
  - Consider writing an outline first as ideas about your discussion emerge.
- **Read every paper that you cite.**
- **Keep your answer (discussion) pertinent to the question**
  - Expect that you will read and learn more than you actually write about in your answer.
  - A failed answer can be one that provides too much information, if a lot of the information is not relevant to the question.
  - Better to have a thoughtful shorter answer based on careful and critical evaluation of relevant literature than a scattered careless long answer based on skimming of relevant literature (or peripheral literature).
- **If the question asks for your analysis or opinion – GIVE it!**
  - Do not try to take the easy way out by summarizing both sides of a story. The committee is often looking for you to weigh both sides of the evidence and make a decision regarding a given problem. This will be particularly relevant to the question asked about a current controversy in the field.
- **PROOFREAD.**
  - Grammatical and spelling errors are simply unacceptable and give the impression of carelessness.
- **Use subheadings.**
  - If the question asks for 3 different pieces of information, then use subheadings to delineate when you are talking about each. This is also an excellent way of ensuring that you have addressed each item.
- **Be master of the obvious.**
  - Demonstrate you know the basic features of the concept being tested before getting into details. Question writers and graders become more forgiving if you can demonstrate a mastery of the basic knowledge related to the question.

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- **Use diagrams, illustrations--especially if you are a visual learner.**
  - Draw the diagram or figure first, then explain it in your answer. Remember—a well designed graphic is worth a 1000 words.
- **Re-read the question after you have finished writing your answer.**
  - Make sure you have fully addressed the specific points requested in the question.
  - Points are most frequently missed when the examinee neglects to address each key feature of the question.
- **Budget your time.**
  - Make a general schedule for yourself and try to follow it. Give yourself time to:
    - Conduct a literature review
    - Read the papers
    - Think about the concepts
    - Write and then read it
    - Revise
    - Potentially repeat steps above
- **Number your pages!**
  - It seems so obvious, but many students forget to add page numbers.

### “Don'ts” -----

- **Do not cite a paper that you read about in a review paper without actually reading the paper yourself.**
  - Remember that review papers (and empirical papers) offer interpretations of published papers and these can be wrong! If you incorrectly cite a paper, it is your fault. Be wary of accepting another person's interpretation.
- **Don't assume that the committee will simply agree with claims that you make.**
  - Be sure to use empirical findings to support your ideas.
- **Don't assume that every committee member will have the same background that you have.**
  - If you are discussing complex methodologies, you may want to include a short description of the method. Remember that committee members can be drawn from any department within the NSP. Knowing who is on the committee can help you judge how much background information is needed.
- **Don't use unnecessarily complex language or structure.**
  - Your goal is to communicate, not to impress the committee with your vocabulary or ability to use recursive structures. That being said, obviously, you will need to use some jargon but when you do, define it when used the first time.
- **Don't write a “data dump.”**
  - Envision your answer as a story: connect ideas within and across paragraphs.
    - Start each paragraph with a clear topic sentence that emphasizes the main issue to be discussed.
    - End each paragraph with a summary statement.
- **Don't make up or gloss over information you are not 100% certain of.**
  - Most question writers and graders have a highly developed BS detector. Far better to write nothing than write obvious nonsense.

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- **Don't be 'behind the times'**
  - The student should try to follow up whatever the topic is into the present. Students should know how to use Web of Science to do a citation search ('cited reference search').
  - Suggested strategy: start with a few recent authoritative reviews on the topic to gain knowledge about perspectives and current controversies in the field and then delve into the primary literature to learn more. In short, use reviews as a sort of a road map for what primary literature to read.
  - Read literature published in the last decade as well as what came before. In short, know the current data but also know the history behind it. There is good chance that the conclusions drawn from recent data are not as clear cut as the authors would like you to believe.
- **Don't forget to read the question again after you have written your answer to see if you have addressed the specific points requested in the question.**

**Mixture of both:** All examinees will have one or more strengths in terms of depth of knowledge. Ok and important to show this, but understand extra credit does not transfer over to other questions.

### Compilation of feedback from the following NSP faculty:

Kim Fenn, Laura Smale; Karim Oweiss; John Goudreau; Caryl Sortwell; Cindy Jordan, Joe Lonstein; Anne Dorrance; Ke Dong