IT'S APRIL & TIME TO FINISH STRONG

GENERAL OBSERVATIONS

"R"esearch – not writing a paper on a topic, rather performance task requires an original, replicable research project that develops a new understanding, uncovers new information, or develops an new synthesis of existing information.

ABSTRACTS are not scored so why do one!! If you insist on including one, then write the abstract after the paper is 100% complete.

AVOID changing your question throughout the paper. Be clear and consistent from Introduction to Conclusion.

"(R)esearch papers require multiple, large-scale revisions, often with input from peers. Give special attention to voice, clarity, grammar, and appropriate word choice. These can have a significant impact on how the paper is read, (and) whether the argument, approach, or analysis is understood . . . " (College Board). IT'S ALL ABOUT DEMONSTRATING (NOT STATING) YOUR CREDITABILITY!!

Emphasize research as a process that requires time, reflection, problem solving, and revision.

Emphasize research process as a social and community-based endeavor, where researchers are in conversation with other scholars, and learn from others comments, ideas, and findings.

Encourage students to find peers to share ideas and drafts with . . .

Emphasize the importance of starting to collect the evidence or data as early as possible in the year, so as to leave enough time to carry out the study, complete the analysis, and leave time to write up and revise the paper.

INSURE that your "Final Submission" is a pdf of the RIGHT PAPER. Don't post a previous draft by mistake. IT HAPPENS!!

DON'T BE SUBTLE - Students should clear and explicit – USE COLLEGE BOARD TERMS – "align", "research question", "replicable method", "new understanding"/conclusion etc. Write your paper as if audience is an intelligent non-expert who does not know anything about this specific topic. As author and researcher, the student must clearly convey what they did, how their research approach aligns with past research in the field, what they found, and what implications their conclusions have on their research question.

Writing style and citation style should MATCH the foundational sources. Default citation should be (Jones 2015, p.202). I like to see page references because it shows you didn't read just a couple pages of the article, especially when a source is cited multiple times.

ORGANIZATION is critical to follow a paper of this length and complexity. Think two layers of organization.

First, this simple structure should be clear in your paper - INTRODUCTION, LITERATURE REVIEW, METHODS, FINDINGS, ANALYSIS OF FINDINGS and CONCLUSION. Headings might be slightly modified to fit the field (e.g. "Process" in place of "Methods").

Second, organize your ANALYSIS OF FINDINGS and CONCLUSION around the same 3-5 categories used to organize your survey questions in the INSTRUMENT section – each of these categories should be a subheading in your paper. Remember these sucbcategories should match those used in the foundational literature, not of your imagination. These subcategories should be incorporated into your research question as a means of narrowing it. CONCLUSION should report a clear and distinct set of conclusions/new understandings for each subcategory of analysis.

INTRODUCTION

Per College Board, poor papers lack a pointed research question or clear focus. AVOID claims that are overly broad and uncited. AVOID hyperbole in discussing the importance of your topic or the significance of their findings. You didn't cure cancer!! – HUMBLE & INFORMATIVE is good!!

INTRODUCTION must explicitly identify the "gap" being studied (e.g. differentiate the populations). AVOID broad generalizations. Include sources and evidence, not a reflective proposition based only on speculation of the student. Statements of fact and arguments must be cited. Include at least two foundational sources to establish context for your research question.

BE SURE your survey questions match/address your research question. DO NOT proceed until you ALIGN your research question with the survey questions that will provide data evidence relevant to the research question. Your paper will NOT be cohesive without this alignment!!!

STATE one explicit, precise, focused research question that is narrow enough to be studied within the scope of the project but broad enough to develop a new understanding. Students should state their research question early and clearly to help the reader understand the direction and focus of the research project.

REVISE INTRODUCTION near the end of the research process. Clearly identify specifics on how your research question aligns with past research.

LITERATURE REVIEW

TIME FOR ONE MORE EXAMINATION OF ALL SOURCES IN YOUR BIBLIOGRAPHY. Incorporate one or two additional sources that are relevant to the research question that you ultimately settled on. This gives you one more shot at improving the alignment of your research question and academic literature reviewed.

Literature Review should sound like a "conversation" among experts in the field.

Organize the Literature Review by ideas or perspectives, not by authors.

Distinguish your own voice and observations from those of the sources discussed in the Literature Review. Their voice should blend with those of their fellow researchers.

Literature Review should NOT provide credentials for every source – save your creditability discussions for establishing why researchers were chosen as your foundational sources and the focus of your inquiry. Focus on establishing YOUR CREDITABILITY through the use of sources that are relevant and clearly connected to the inquiry described in your INTRODUCTION.

Establish your research within the scholarly community. Now that you've set your research question in stone, REREAD your LITERATURE REVIEW and ADD explicit discussion on how past research (foundational to your study) partially answers your research question. The part that isn't answered should be explicitly identified as the "gap" you are filling with your research project.

Be sure your review considers multiple perspectives. Good comparative discussions will usually focus on similarities and differences in the populations they studied versus your study of GHC student body; and in modifications made to the Instruments to better measure opinions of teenage respondents without exposing them to stress or harm.

No need to spend a lot of time of the personal resumes of researchers. Spend word count on making a compelling argument. Why these researchers are considered experts in the field is very relevant but shouldn't be an entire paragraph of text (again hyperbole is not necessary to establish creditability).

Integrate multiple perspectives into the Literature Review. "Students should be able to recognize and acknowledge perspectives that do not align with their own initial assumptions ("expectations").

To blend perspectives use transitions that distinguish: "Agreement" and "Opposition"; "Exemplar" and "Corroboration"; "Consequences"; and "Sequence" (e.g. chronological).

Connect the ideas of various peer-reviewed authors (at least six different authors should be discussed in the Literature Review).

Review key statistical concepts in research design and analysis (e.g. Independent vs Dependent variables, Correlation vs. Causation). Get help if you don't understand the underlying statistics employed in your paper or foundational literature.

Encourage students to read Methods sections from their foundational literature for appropriate methodology choices. Never justify a research design with "convenience" – always explain how the choices were reasonable without making excuses.

METHODS

Every METHODS section should clearly and separately address – Population, Sample Selection, Instrument Design, and Implementation (including measures taken to avoid bias). Experimental design should focus on controls, dependent variables (that being predicted), and independent variables (factors that could explain influence on dependent variable.

Explicitly explain in detail: why the research design was chosen; how it was carried out; and why this research design is appropriate (show your research approach has precedence in the field). It does not need to be chronological accounting of all aspects of implementation.

Replicable METHODS section means that an intelligent non-expert should be able to easily understand the description and be able to replicate the key elements of the research design. Does NOT need to provide every detail of the process, just the key elements that: (1) led to every member of the population being equally likely to be selected for the survey or experiment, (2) sample size is of sufficient size to perform basic inferential procedures (e.g. t-test and confidence intervals), and (3) measures taken to avoid (not eliminate) bias.

METHODS section should read entirely as past tense (you already completed the research)!! Leaving in future tense reflects a rushed unrefined paper.

DROP all Granada Hills Charter and personal references from your paper. M

Demographic data from the survey can be used here to describe characteristics of the respondents (e.g. grade, gender etc). These demographics should be presented after the sample selection is described so the sample doesn't get confused with the population at large. The sample is a result of the selection process, and should be presented in this context.

Population should be described and contrasted with the populations studied in the foundational literature.

Never justify ". . . methodological choices based on convenience or feasibility rather on what would be most appropriate to address the research question." Describe in detail what you did, NOT what you couldn't do.

Include a copy of the complete survey as an addendum to your report, and explicitly reference it in the body of your METHODS section. Your Methods section should include an Instrument table that fills no more than one page. (We will review how to merge pdfs in class)

Avoid using samples that are too small to draw meaningful inferences from it.

Limit discussion of stratified random sample to one paragraph. Use design terms (e.g. mechanical collection, natural setting) without feeling the need to define the term in the sentence, simply explain how the term applies in your research context.

Cluster samples would be the appropriate term when students selected classes randomly, and gave the survey to all members of the classes selected. Selective surveys can be justified when the target population is too small to draw a sample from the general population. These self selection methods should be noted but not apologized for but not represented as "random" either.

ETHICAL RESEARCH methods should be discussed in the METHODS section. Note when you eliminated and/or modified survey questions to make them more "appropriate" for a high school audience. Show you were sensitive to the well-being of your respondents. Note when school supervision was employed (e.g. nurse was present for each of your experiments); and/or questions were designed to avoid stress on the subjects. For some, a paragraph is required and for others a couple sentences would likely be sufficient but no one should ignore entirely (say something so you look like an ethical researcher!!).

Explicitly address ethical issues somewhere in your paper, METHODS section makes the most sense as that's where you describe how you interacted with the subjects.

LOSE the map exhibit from Bria's previous Capstone submission!! Not applicable in some cases and flirts with plagiarism!!! You should make your own visual using the school picture but be sure to CITE school as a source of the map.

FINDINGS

DISCUSS the most pertinent material or evidence in the body of the report, and EXPLICITLY reference the appendix in the main body of the text (MAKE SURE YOU GET CREDIT FOR ALL THAT DATA!!)

Clearly cite all of your tables and displays at the bottom of the display. Look at charts and tables presented (AND YES CITE YOURSELF in the tables you created with your data – DON'T be subtle here, make it super clear that you gathered the data – column headings can help with this emphasis).

Use a report appendix to provide data sheets and histograms not used in the body of the paper (formatting will be covered in class).

HISTOGRAMS used in the body of the report need to be identical in size and design.

TABLES should be formatted to fit on a single page where possible. More efficient table spacing will shrink pages considerably. Adjust table heights by widening question row – that will shorten up these tables considerably (each should easily fit on one page for presentation). Font size can be played with as well (smaller than text in paper itself). Provide figure numbers.

ROUND your means and margins of error to the nearest hundredth (two digits after decimal point)!!! In cases of integers (e.g. reporting counts), report no digits after decimal point. Round p-values and percentages/proportions to the nearest tenth of a % (e.g. 23.4%).

ANALYSIS OF FINDINGS

Students should present evidence produced from their own research that establishes a series of claims that in turn support an argument/position. Think one claim per paragraph. Considered together, these paragraphs should be relevant to supporting your argument.

OK to backward plan your research question to match your statistical claims. Presenting what you discovered is a form of argument.

Do not conflate CAUSATION vs. CORRELATION.

DON'T TRY TO ANALYZE EVERYTHING – YOU HAVE FINDINGS FOR MULTIPLE RESEARCH PAPERS > OK TO STATE THAT YOU'LL LIMIT YOUR ANALYSIS TO CERTAIN CATEGORIES OF DATA. STATE SUCH EXPLICITLY IN THE PAPER. Example: "Initial review of the findings identified the following highlights for each of the categories studied which had the greatest relevance to the current inquiry." Use category subheadings to organize and guide the reader – a second finding can be included to make the claim in any one category but not more than that unless you need more analysis for the paper.

CONCLUSION

BEWARE OF "General Understanding" – NO SUCH THING!!

BE HUMBLE WITHOUT BEING TIMID. Research yields new understandings incrementally and credible researchers moderate their claims. Hyperbolic language regarding what the student did or the impact of their new understanding is discouraged.

"Limitations and Implications of New Understanding" should be rooted in the "methods" employed and the "method-generated evidence". Explicitly explain the link between your "research question" and "research approach". Explain how your research aligns with the Literature Review.

Acknowledge limitations on your ability to "extrapolate conclusions from their evidence". In reporting your limitation, BE CLINICAL NOT APOLOGETIC.

Example: Note how your margins of error would have been smaller with larger sample sizes. Could that have changed your conclusions? Were any of the mean differences close to being statistically significant but fell a little short? Cite example in your CONCLUSION to make the point. (To see how larger sample sizes would affect your margins of error – recalculate Excel formula "confidence.t" using n=500, n=1,000, n=10,000 – note whether the ten times Independence rule is being violated).

Example: Selection process was not entirely random?? Compare the population that the sample was drawn from (e.g. GHC student body) and the larger group of subjects. METHODS section should include geographic and demographic distinctions that are relevant to your specific research question: "GHC student opinions are a proxy for _____ (suburban high school students in the US or CA high school students or high school students in a relationship). Briefly explain how responses might be influenced by these geographic and demographic differences.

Example where conclusion is far too general – "This paper established important new findings in the area of the LGBT community." The paper states and then moves directly into implications and limitations. Considerable explanation is required on how the data findings reveal "new understandings" for each of the subcategories considered.