

HHD 501: Graduate Research Methods Assignment

- Brianna Routh (Food Systems, Nutrition, and Kinesiology)

Assignment Notes: Our Graduate Research Methods course series provides an opportunity for graduate students to begin building their proposal directions across diverse disciplines in Human Development and Community Health as well as Food Systems, Nutrition, and Kinesiology. This outline assignment provides a basis for feedback and refinement before students move into the drafting process.

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Purpose: Using ChatGPT or other LLM AI applications for this outline writing assignment will support students written argument structure and explore how to write in a research style. It will also support their critical thinking about how and when this tool might be used in their professional futures, provide them opportunities for exploring the possible implications of authority, credibility, and responsible AI use in their professional work.

Recommended Use:

- **Student Level:** Graduate Students
- **Course Application:** Graduate Research Writing or Methods Courses
- **Course Positioning:** An early step to scaffold peer-reviewed research writing

Duration: 90 min class period plus 1-2 weeks for assignment completion

Learning Objectives

By the end of this assignment, students will be able to:

1. Increase self-efficacy using Generative AI (LLM) in the research writing process
2. Practice critical thinking and digital literacy skills when applying LLM output to writing
3. Identify opportunities and ethical challenges to using LLM in their future professional work

Materials Needed

- Access to an LLM for student use
- Digital platform for submitting assignment
- Example template and assignment

Generative AI Tool for Assignment

For more in-depth information on this AI tool, see attached model card.

- Name of tool: ChatGPT
- Purpose: To generate outline ideas and concepts for research-based writing.
- Who created it/Version used: OpenAI GPT 4o mini
- Any known limitations/biases:
 - Tendency to "hallucinate" or generate incorrect information.
 - Social and cultural biases inherited from training data.
 - Vulnerable to adversarial or ambiguous prompts.
 - Limited number of free inquiries.

Assignment Structure:

In Class Agenda

1. Introduction Article Review
 - o Instructor provides an example of well written journal article with cross cutting topic
 - o Students read article introduction section in class
 - o Individually annotate each paragraph with
 1. topic/variable discussed and
 2. how that paragraph is supporting the argument that the article research question is important to reader
 - o Discuss each paragraph as a larger group to identify and illustrate structure
2. Discuss why and how to use LLM AI in the writing process
 - o Consider ways AI could be used. Ask which would you use or not use, why?
 1. You write, revise, and submit, no AI Used
 2. Consult AI for ideas, then write and submit
 3. Write draft, then ask AI for feedback to improve
 4. Write prompt and response conversation for multiple responses, then use best parts, edit, revise and submit
 5. AI creates a response, then read, edit, adjust and submit
 6. AI creates a response, copy and submit
 - o What might AI LLM be able to support at this stage of writing an outline
 1. Headings
 2. Key points as bullets
 3. Review order of concepts for clarity or provide logical flow of ideas
 4. Provide tone considerations
 5. Consider key words and phrases for clarity
 6. Check reference format
 - o Discuss ethical considerations
 1. Structure or Response creation- AI can inform, but you should express in your own words or argument structure
 2. AI as an author, tool, or unethical partner on your paper- See what your academic journals policies are currently
 3. Citation- cite all factors or data found in AI output independently, these are often hallucinations (not real). Reliable, research-based/peer-reviewed sources preferred.
 - o Discuss what information might be helpful to include in AI prompt for outline
 1. Research topic or central theme
 2. Specific focus area or target population
 3. Research question
 4. Desired structure
 5. Level of detail
 6. Consider key words and clarity of prompts
3. Review assignment instructions and due date
 - o Each paragraph focuses on building the argument for why each variable is important to YOUR specific research question and why the reader should care. We start from

broad impact (not necessarily broad variable) and narrow down to importance/connection of this research to your specific target audience.

- You may change order, #s of sections/examples, or flow of the outline
- Be sure to include all AI prompts and responses with your final assignment for instructor review

Assignment Structure, Part 2

1. Identify and refine your research question (previous assignment)
2. Using your selected example journal article (previous assignment) as an initial guide, write an outline with bullet points/ideas/phrases that demonstrate the following components.
 - the importance/justification for your research topic,
 - consider the scope of variables related to your research topic,
 - highlight current research connections/gaps, and
 - how your research question will address those.
3. Use the chosen generative AI tool to prompt the development of a peer-reviewed journal article style introduction outline in support of your research question.
 - Document your process, including:
 1. Prompts used (OPTIONAL consider trying multiple prompts to further refine output)
 2. AI response(s)
 3. Modifications of follow-up prompts needed
4. Analyze the AI-generated content for clarity, accuracy, and consistency to your non-AI outline.
5. Revise or adapt original outline using critical consideration of AI insights.
6. Include a reflection addressing:
 - Discuss ethical considerations related to using generative AI for this assignment: Academic honesty, Privacy, Bias/limitations, Impact on your writing, Impact on your research
 - Questions you still have for your instructor and/or Major Professor.
 - Insights, changes, or confirmation to your outline after collecting and incorporating AI output.

Submission Guidelines

- Format: Word Doc or PDF
 - Bullet point outline, see potential structure example below.
 - Clear indication of what was added after AI consultation with highlights or track changes.
 - Include all AI prompts and output
 - Reflection
- Length: 1–3-page outline + AI output + 1 page reflection
- Citation Guidelines: Dependent on discipline and how AI was used.

Rubric

This assignment is mostly about completion and students are instructed to share this assignment with their Major professors for content specific feedback on their direction.

- evidence of clear argument structure= 10,
- evidence of justification, variable scope, and current research=10,
- evidence of reflective consideration= 10.

Additional Resources

- **Prompt writing resource:** [Getting started with prompts for text-based Generative AI tools | Harvard University Information Technology](#)

Example outline structure:

Introduction

- Hook paragraph, connect to BROAD area of interest/concern and
 - Remind readers why they should care about this topic
 - Briefly outline main points of argument to come
- (Broad) X Outcome matters because...
 - Definition(s) (as needed)
 - Example 1 (connect and cite)
 - Example 2 (connect and cite)
 - Example 3 (connect and cite)
 - Identify research gap as it relates to why YOUR research is important
 - Conclusion/Connection to next variable
- (Narrow a bit) Variable 1 matters because...
 - Definition(s) (as needed)
 - Example 1 (connect and cite)
 - Example 2 (connect and cite)
 - Example 3 (connect and cite)
 - Identify research gap as it relates to why YOUR research is important
 - Conclusion/Connection to next variable
- (Narrow more) Variable 2 matters because...
 - Example 1 (connect and cite)
 - Example 2 (connect and cite)
 - Example 3 (connect and cite)
 - Identify research gap as it relates to why YOUR research is important
 - Conclusion/Connection to next variable
- (Narrow more as needed) Variable 3 matters because... (target audience?)
 - Example 1 (connect and cite)
 - Example 2 (connect and cite)
 - Example 3 (connect and cite)
 - Identify research gap as it relates to why YOUR research is important
 - Conclusion
- (Theory) Theory Z might help explain how these variables connect.
 - Theoretical tenant 1 (Connect and site)
 - Theoretical tenant 2 (Connect and site)

- Identify research gap as it relates to why YOUR research is important
 - Conclusion
- (Your research proposal) I will do (study design) to understand (broad research aim) for (target audience)
 - This research will be impact/influence...
 - Specific question(s) you will explore

Notes on Model Card Intended Use

The model card provides additional insights into ethical and practical use of this tool. It may help students formulate their reflections or determine which AI tool to use for this task. OpenAI is not the only tool that can be used for this assignment, but it was the tool the instructor was most familiar with and could provide the most support or guidance on.