HARVARD UNIVERSITY EXTENSION SCHOOL (UNIVERSITY NAME)

The Neuroscience of Learning: An Introduction to Mind, Brain, Health and Education (Course Title)

Title: Subtitle

Author Name

Date

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NOTE: THIS IS NOT A COMPLETE LAYOUT OF A RESEARCH PAPER, IT IS ONLY MEANT TO GUIDE STUDENTS IN UNDERSTANDING APA STYLE.

PLEASE ASK YOUR COURSE INSTRUCTOR FOR DETAILS ABOUT ASSIGNMENT REQUIREMENTS.

Introduction (Level 1)

Introduce the topic in general terms. (APA Body text) There are literally thousands of topics you can write about in this class, so you need to help your reader focus.

Background (Level 2)

Set the stage. Tell your reader what we already know, and what we don’t yet know.

A brief history of … (Level 3)

Use this space to offer information that provides a backdrop for your topic. (APA Body text)

The Problem (Level 2)

Summarize the gap in the literature or the personal/professional problem that justifies the research you will be doing in this paper.

Research Question(s) (Level 2)

Based on the hypothetical cause and solution to the problem, state the research question which will be the focus of this paper. Until you clearly define whether or not this will be a qualitative or quantitative study, use the following format:

How and to what extent does X \_\_\_\_\_\_\_\_\_\_\_\_\_ Y in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?

(verb) (population)

This format limits the research to how one variable (X) influences, changes, impacts, improves (verb) another variable (Y). This is a key step in refining the focus of your paper and one of the most difficult. Many research papers fail because they sets their sites far too broadly (“How can teachers teach better?” “What influences learning?”) or they think answers to complex problems are easier they really are (“What is the best way to motivate students” “Why don’t some girls like science?”). Take the time to think of the problem you want to tackle. Ask yourself, what you want to know about this problem? Then think about the multiple variable that should be considered and the most likely candidates for problem resolution. Then, craft a research question that fits the format above which limits the question to the impact of one variable on another.

Theoretical Framework (Level 2)

There are often multiple perspective from which to approach topics. In this section one perspective is adopted over others in order to focus the research in a more limited way. This means choosing one major theorist, school of thought, author, research perspective or angle from which to approach the topic. If there is more than one level of analysis, a theoretical framework for each element should be indicated. If, for example, *intelligence* is the main topic, the author could clarify the theoretical framework as being based on a major thinker or theorist on this topic (such as Gardner, Perkins, Sternberg, or Thurstone).

Remember that quotes longer than 40 words must be indented. APA Style sets off long quotes by indenting them, as exemplified below:

The International Mind, Brain, and Education Society has launched Mind, Brain, and Education to promote the integration of the diverse disciplines that investigate human learning and development — to bring together education, biology, and cognitive science to form the new field of mind, brain, and education. Human beings are unique in their ability to learn through schooling and diverse kinds of cultural instruction. (Fischer, Daniel, Immordino-Yang, Stern, Battro, & Koizumi, 2007, p.1) (APA long indented quote. NOTE, original punctuation is maintained at end of quote, unlike in-text citations in APA)

Remember that long quotes should be used very sparingly. The author’s own voice is much more important than a long list of quotes from other people.

Definitions (Level 2)

Papers that include specific technical terms or words that have multiple definitions should be defined in the Introduction. This section is not obligatory, however, it can save a lot of explanations later in the Literature Review if defined here. For example, the word “bilingualism” might seems straightforward but the focus of the paper changes drastically if you are considering both spoken and written language versus just spoken. It also changes if you consider a person bilingual if they can speak a handful of words versus if they you think bilingual means perfect, balanced fluency between languages.

Word 1. (Level 3)

Definition. (APA In-Text Citation) Remember, definitions are strongest when they come from a reputable source, such as a dictionary, society, or other authority in the field. You can offer multiple options of definitions and then say, “for the purposes of this paper, X will be defined as….”

Word 2. (Level 3)

Definition. (APA In-Text Citation)

Word 3. (Level 3)

Definition. (APA In-Text Citation)

Word 4. (Level 3)

Definition. (APA In-Text Citation)

Literature Review (Level 1)

Remember to start each new section (or thesis chapter) on a new page. Also remember that paragraphs represent concepts, and concepts are usually made up of multiple ideas (sentences). This is why, generally, there are no paragraphs less than three sentences.

The literature review establishes what is known about the topic in order to build upon the wisdom of earlier works. What has already been established about a topic helps you narrow in on a specific theoretical framework. This means it is usually necessary to review the literature before choosing a specific theoretical framework.

The literature review can be divided by themes, by authors, or chronologically. The most common division is by topic as this shows a more complex understanding of the literature. Children learn to do book reports around fifth grade. A literature review by authors is a compilation of short book reports. This means that literature reviews divided by authors normally lack the global understanding provided by a topical overview and are, therefore, not considered as sophisticated as topical reviews. Chronological reviews are often most helpful when the focus of the paper is historical in nature. The choice of organization depends on the objective of the paper.

Literature Genres (Level 2)

Introduce the genres of literature that have been used to study the topic (journal articles, conferences popular press, books, television documentaries, interviews, and so on). Explain whether or not your review was time-sensitive (you only used literature within a certain timeframe, such as 2000-2020), limited by language (only sources in English, for example), and if specific key words were used in your search. Also indicate if you were limited by specific databases as determined by your university, or multiple databases (EBSCO, ProQuest, HOLLIS, and so on). If you “snowballed” the literature finds (used the references from key articles to build your source list), indicate this as well. If a large number of documents came from a specific source, mention this here. For example, if you discovered that the *Journal of Molecular Psychiatry* published a significant number of the articles in your review, mention this.

Topic 1 (or Author 1 or Date 1). (Level 3).

This section should help the reader understand the state-of-the-art information in each of the sub-thematic areas. The topics in your literature review are normally determined by your research question. Make a mind-map around your research question and identify the key terms and concepts. Consider how literature from the terms and concepts will contribute to an answer to your research question and then select the most vital topics for review. Some papers have just two or three topics, other have dozens. The number of topics in your review depends on the objective of the paper. If available, this section should use a previously constructed annotated bibliography.

**Topic 1.1 (or Author 1.1 or Date 1.1).** (Level 4). Many themes have sub-elements worth mentioning. Use a Level 5 header to set off these sub-elements, if necessary.

***Topic 1.1.1*** (Level 5). If your topic merits further sub-divisions, you can use a Level 5 header to show the hierarchy among concepts.

Topic 2 (or Author 1 or Date 1). (Level 3).

Remember to give each topic a clear name or title. That is, do *not* leave “Topic 2” as a header..

**Topic 2.1 (or Author 1.1 or Date 1.1).** (Level 4). Many themes have sub-elements worth mentioning. Use a Level 5 header to set off these sub-elements, if necessary.

Topic 3 (or Author 1 or Date 1). (Level 3).

This section should help the reader understand the state-of-the-art information in each of the sub-thematic areas. If available, this section should use a previously constructed annotated bibliography.

**Topic 3.1 (or Author 1.1 or Date 1.1).** (Level 4). Many themes have sub-elements worth mentioning. Use a Level 5 header to set off these sub-elements, if necessary.

Topic 4 (or Author 1 or Date 1). (Level 3).

This section should help the reader understand the state-of-the-art information in each of the sub-thematic areas. If available, this section should use a previously constructed annotated bibliography.

**Topic 4.1 (or Author 1.1 or Date 1.1).** (Level 4). Many themes have sub-elements worth mentioning. Use a Level 5 header to set off these sub-elements, if necessary.

Methodology (Level 1)

There are three basic research designs. Some people do quantitative work which relies heavily on numbers. Others do qualitative work which includes perspective-taking. Yet others use mixed method designs, which are a combination of qualitative and quantitative methods (Neuman, 2005). (APA In-Text citation) The author should choose the methodology based on the research question (Creswell, 2003). (APA In-Text citation) That is, based on what you want to know, you should select the research methodology that best fits your needs.

Justification of Methodology (Level 2)

Traditionally, quantitative research was considered superior to qualitative designs due to the hard data it provided, but this view changed in the early 2000s. According to Bryman, “There can be little doubt that research that involves the integration of quantitative and qualitative research has become increasingly common in recent years,” (2006, p.97). (APA In-Text Direct Quote Citation)

In recent years, literature reviews, systematic reviews and meta-analyses have become popular means of looking at existing data. Depending on the inclusion and exclusion criteria for the study, these studies can be either quantitative or qualitative in nature.

Design (Level 2)

This section should explain your methodological design (experimental; literature review with specific inclusion and exclusion criteria, and so on).

Research Tools (Level 3)

This section should describe each tool or instrument that will be used (survey, interview, observation, or any data analysis instruments that will be applied, such as SPSS).

Data Collection (Level 3)

Here, you should explain how you will gather the data for your research.

Participants (Level 3)

If your study involves humans, you must indicate any demographics relevant to the research question (age, gender, nationality, and so on).

Analysis (Level 1)

Details of the Analysis (Level 2)

This is the beginning of the interesting part of your research paper, and the start of your own voice on the topic. Whereas the Introduction, Literature Review and Methodology documented what others have said before you, the Analysis and Conclusions show how you have interpreted findings. This is the most creative part of the paper where you have to take all the *whats* you have found and explain *why* you think they occurred. (APA Body Text)

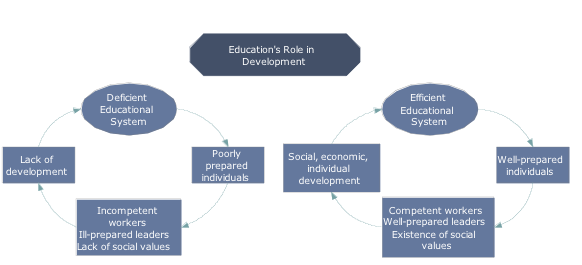
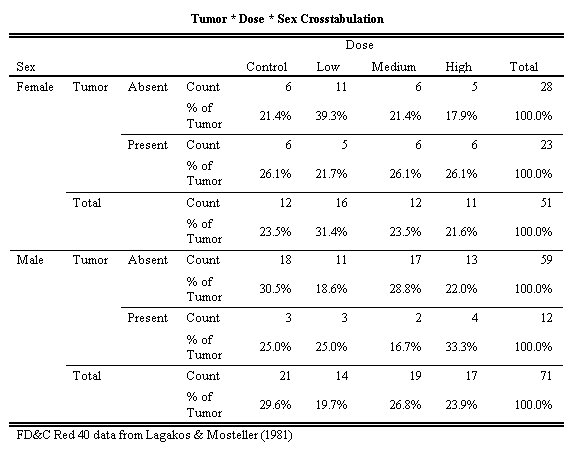


Figure 1. The Impact of Education on Society, Tokuhama-Espinosa, 2006. (APA Graph or Figure)

In APA Style Graphs and Figures are cited differently from Tables. Figures and Graphs are cited below the graph or figure, while Table citations are noted above the table. Note that tables in APA only use horizontal lines, not vertical lines.

Where possible, Graphs, Figures and Tables should not be split; if necessary, begin a new page to fit the full Graph, Figure or Table. Tables, Figures and Graphs are indicated in Ariel, whereas the rest of an APA paper is written in Times New Roman.

Table 1. Tumor, Dose, Sex, Cross tabulations (APA Table)

Source: Lagakos & Mosteller, 1981 (APA Table)

Conclusions (Level 1)

Global Overview (Level 2)

Briefly remind the reader of the overall focus of the paper (less than a half page). (APA Body Text)

Answer the Research Question(s). (APA Level 3)

Concisely answer your research question. (APA Body Text)

Expected Findings (Level 2)

Indicate what you thought you might find in the research and how it matched findings. (APA Body Text)

Unexpected Findings (Level 2)

Often the most interesting part of a research paper are the unexpected findings. Take the time to highlight the things you found that you did not expect to find. (APA Body Text)

Limitations of the Study (Level 2)

No study is perfect. Take the time to anticipate criticisms of your paper. Was your sampling too small, or did you limit it to a specific region of the world? Did you include all demographics, or did you purposely or not leave out a key group? Be your own worst critic and anticipate push back. (APA Body Text)

Recommendations for Future Studies (Level 2)

Take everything you mentioned in the limitations and turn it into a recommendation for a future study. What do you recommend people do in the future? What new research questions emerged? How can others build off of your work to take the next step on tackling the problems or addressing the topics of this paper? (APA Body Text)

General Summary (Level 2)

Stand back and consider the whole. Tell the entire research story in a brief paragraph. What was the problem you addressed (research question)? What was known and unknow about the topic when you started (Literature Review)? What did you do (Methodology)? What did you find (Analysis)? What new questions emerged? What do you now want to know now? How can we move forward (Conclusions)? (APA Body Text)

References (Level 1)

[BOOK WITH ONE AUTHOR]

Tokuhama-Espinosa, T. (2019). Five pillars of the mind: Redesigning education to suit the brain. WW Norton & Company.

[BOOK WITH MULTIPLE AUTHORS]

Parsons, T. D., Lin, L., & Cockerham, D. (Eds.). (2018). Mind, brain and technology: Learning in the age of emerging technologies. Springer.

[DIGITAL JOURNAL ARTICLE]

Featherston, R. J., Shlonsky, A., Lewis, C., Luong, M. L., Downie, L. E., Vogel, A. P., ... & Galvin, K. (2018). Interventions to mitigate bias in social work decision-making: A systematic review. *Research on Social Work Practice*, *29*(7), 741-752, <https://doi.org/10.1177/1049731518819160>

Hobbiss, M. H., Massonnié, J., Tokuhama‐Espinosa, T., Gittner, A., de Sousa Lemos, M. A., Tovazzi, A., ... & Gous, I. (2019). “UNIFIED”: Bridging the Researcher–Practitioner Divide in Mind, Brain, and Education. *Mind, Brain, and Education*, *13*(4), 298- 312, https://doi.org/10.1111/mbe.12223

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Begley, S. (2005). Beware of the cognitive brain paparazzi lurking in brain science labs. *Wall Street Journal, Science section*, (Mar 18). Downloaded 14 de September 2009 from http://agelessmarketing.typepad.com/ageless\_marketing/2005/03/beware\_of\_cogni.html

[DISSERTATION OR THESIS]

Amato, V. (2005). *An exploration of teacher understanding and use of brain research in the instruction of young adolescents*. Dissertation (M.S.), Texas Woman's University, Texas. AAT 1425943.

[DOCUMENTS FROM THE INTERNET: Blogs, Videos, Webpages]

Freakonomics. (2010, October 29). E-ZPass is a life-saver (literally) [Blog post]. Retrieved from http://freakonomics.blogs.nytimes.com/2010/10/29/e-zpass-is-a-life-saver-literally/

Stanford University. (2019). *Stanford Social Learning Lab* [webpage]. <http://sll.stanford.edu/>

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Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2019). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 1-44.

van Atteveldt, N., Tijsma, G., Janssen, T., & Kupper, F. (2019). Responsible research and innovation as a novel approach to guide educational impact of Mind, Brain, and Education research. *Mind, Brain, and Education*, *13*(4), 279-287.

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Coch, D. (2018). Reading from a mind, brain, and education perspective. In M.S. Schwartz & E.J. Paré-Blagoev (Eds.) *Research in mind, brain, and education* (pp. 97-132). Routledge.

Hamilton, R. B., & Newman, J. P. (2018). The response modulation hypothesis: Formulation, development, and implications for psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (2nd ed., pp. 80–93). Guilford Press.

**NOTE:** The APA 7th Edition is active as of Spring 2019. For the most notable changes, see:

Scribbr. (2019). APA *Manual 7th edition: The most notable changes*. Retrieved 10 Nov 2019 from <https://www.scribbr.com/apa-style/apa-seventh-edition-changes/>

Appendix A: APA Header Levels (Level 1)

|  |  |
| --- | --- |
| Level | Format APA 7th edition |
| 1 | Centered, Boldface, Uppercase and Lowercase Heading |
| 2 | Flush Left, Boldface and Lowercase Heading |
| 3 | Indented, boldface, lowercase paragraph heading |
| 4 | Indented, boldface, lowercase paragraph heading ending with a period. Texts follows immediately afterwards on same line. |
| 5 | Indented, bold, italicized, lowercase paragraph heading ending with a period. Texts follows immediately afterwards on same line. |