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by

Your Name (First Middle Last)

A professional paper submitted in partial fulfillment

of the requirements for the degree

of

Master of Science

in

Science Education

MONTANA STATE UNIVERSITY

Bozeman, Montana

Month and Year ETD is accepted by MSSE Program (e.g. August 2024)

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GLOSSARY or NOMENCLATURE

Delete if not using. If using, match spacing of entries to List of Tables/List of Figures where each entry is single spaced, but there is a double space between entries.

ABSTRACT

Begin abstract here. **Single spaced and no more than 350 words**. Indent first line one full tab. The abstract must contain the following elements: (1) statement of the problem, (2) procedure or methods, (3) results, and (4) conclusions. Mathematical formulas, abbreviations, diagrams, and other illustrative materials should not be included. It should be written to be understood by a person who does not have expertise in the field.

CHAPTER ONE

INTRODUCTION & BACKGROUND

Context of the Study

Paragraph text.

Focus Statement/Question

Paragraph text.

First Level Heading

**Please follow** [**standard option formatting rules**](https://www.montana.edu/etd/formatting/standard-option.html) **while using this template**. You are expected to follow all the rules laid out on the Sample Pages. This template is a reduced version of the Sample Pages for ease of use.

Second Level Heading

The Styles in the Home tab are pre-set for all titles and headings, plus table and figure captions and long quotes. See the accessibility guidelines and template video on the [standard option formatting rules webpage](https://www.montana.edu/etd/formatting/standard-option.html) for information on using these headings.

Third Level Heading.

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CHAPTER TWO

CONCEPTUAL FRAMEWORK

Style Formats

Tables and Figures

With The Graduate School’s template, you can use the format styles for the chapter titles; first, second, and third level headings; long quotes; and figure/table captions (above and below).

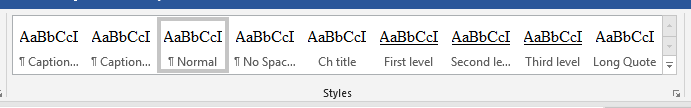


Figure 1. A screenshot of the format styles. Highlight your text and apply a style. There is a “caption above” or “caption below” format style for figure/table captions.

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More Figure/Table Examples

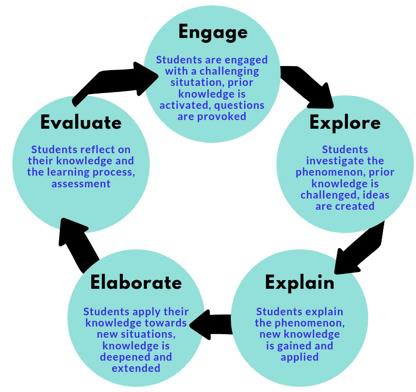


Figure 2. Overview of the 5E learning cycle model (Adapted from *Knowledge Quest*).

There should be a triple space between figure/title captions. Be sure to add Alt Text to tables and figures.

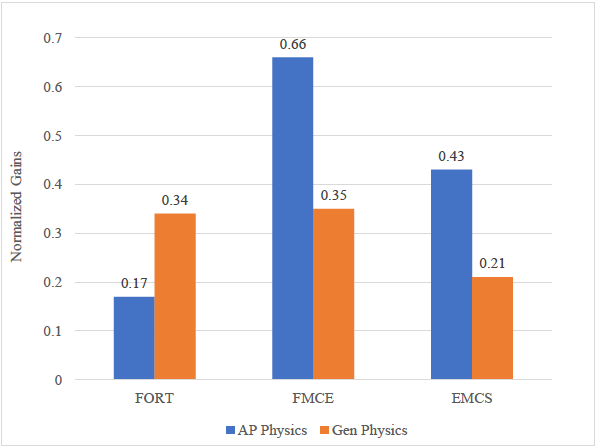


Figure 3. Normalized gains for concept mastery and scientific reasoning, (*N*=10). *Note.* FORT: Montana State University formal reasoning test. FMCE: Force and motion conceptual evaluation. EMCS: Energy and momentum conceptual survey.

Table 1. Data Triangulation Matrix.

|  |  |  |  |
| --- | --- | --- | --- |
| Watershed | Data Source #1 | Data Source #2 | Data Source #3 |
| How does the incorporation of an anchoring phenomenon to drive  instruction via the 5E Learning Cycle affect student growth | Pre- and Post- Tests | Lab Quiz Results | Formative Assessments via CATs |
| What affect does the incorporation of an anchoring phenomenon to drive  instruction via the 5E Learning Cycle have on student engagement? | Engagement Tally Sheet | Student Surveys and Interviews |  |
| How does the incorporation of an anchoring phenomenon to drive instruction via the 5E Learning Cycle affect students’ attitudes toward  science? | TOSRA Survey | Student Surveys and Interviews |  |

CHAPTER THREE

METHODOLOGY

Demographics

Paragraph text.

Treatment

Paragraph text.

Data Collection and Analysis Strategies

Paragraph text.

CHAPTER FOUR

DATA ANALYSIS

Results

Paragraph text.

CHAPTER FIVE

CLAIM, EVIDENCE, AND REASONING

Claims From the Study

Paragraph text.

Value of the Study and Consideration for Future Research

Paragraph text.

Impact of Action Research on the Author

Paragraph text.

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References begin here. References are single-spaced with a double-space in between citations. Students choose their citation style, typically in discussion with their advisor. All references must follow the same, consistent citation style.

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National Institute of Example Studies. (2022). Climate change and its impacts. <https://www.example.gov/climate-change-impacts>

NGSS Lead States. (2013). Next Generation Science Standards: For states, by states. Washington, DC: The National Academies Press.

NGSS Lead States. (2013). Next Generation Science Standards: For States, By States (insert specific section title(s) being used if not referring to entirety of the NGSS). Retrieved from <https://www.nextgenscience.org/>

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APPENDICES

APPENDIX A

APPENDIX A TITLE

Appendix A content begins here.

Continue to follow ETD formatting in the Appendices where applicable. For example, original writing like a paragraph of text and a few figures should be formatted according to Graduate School guidelines. A copy of a letter that was sent as part of a student’s research should be formatted exactly as it was sent.

Table A1. Any tables or figures in the Appendices need to have titles and captions like they do in the body text.

|  |  |  |
| --- | --- | --- |
| Fruit | Quantity (per day) | Color |
| Apple | 2 | Red |
| Banana | 1 | Yellow |
| Orange | 3 | Orange |
| Strawberry | 10 | Red |
| Kiwi | 2 | Green |

Tables and figures in the appendices can be numbered in several different ways. They can continue numbering from the body text; they can restart numbering at 1; they can restart numbering but be proceeded by the letter of the appendix such as in this example. Pick one way of numbering and be consistent.

APPENDIX B

APPENDIX B TITLE

Appendix B content begins here.

APPENDIX

APPENDIX TITLE

Appendix content begins here.

This is an example of how to format an appendix if you only have ONE appendix.