

Science Ed MA Scholarly Rubric December 2019

This rubric is used to evaluate all final projects, papers and presentations for the MA in Science Education.

A score of "3" must be earned on each row of criteria to be considered "successful" completion.

Criteria	Score = 4	Score = 3	Score = 2	Score = 1	Score = 0
Focus/Introduction (Chapter 1)					
Purpose	Specific and detailed purpose for the project stated.	Clear purpose for the project stated.	Purpose for the project stated but may need some clarification.	Vague purpose for the project stated.	Purpose is not explicitly stated and appears to be missing completely
Research Questions/ Problem Statement	Clear and focused research question(s) and/or problem statement presented.	Research question(s) and/or problem statement relating to the project purpose included.	Research question(s) and/or problem statement included, but too broad, narrow, or ill-defined.	Research question(s) and/or problem statement included, but vague and/or not obviously connected to the project purpose.	Research questions or problem statement are not explicitly stated
Identifying Need	Introduction is highly engaging, thoroughly sets the stage for the rest of the paper, and explains the need for the study with a foundation in the literature.	Introduction sets the stage for the rest of the paper and explains the need for the study.	Introduction describes some aspects of the project and briefly describes the need for the study but may not be grounded in the literature.	Introduction vaguely describes the scope of the project and does not ground the need for the study in the literature.	Introduction fails to identify the need for the study and does not ground the need in the context of the literature.
Connection to Existing Literature and/or Standards (Chapter 2)					
Importance of project established	Thorough and complete discussion of relevant literature is included such that insights into the importance of the study/project are clearly communicated.	Relevant literature is included such that importance of the study/project are communicated, but may be missing a few points or connections to the broader educational context.	Literature included relates to the importance of the study/project, but may not be explicitly connected or clearly communicated and may be missing relevant points or connections to the broader educational context.	Importance of the project may be mentioned but not backed up with literature or broadly contextualized in education.	Importance of project is not mentioned nor is the literature connected to the project importance.
Foundational Literature	Thorough and complete discussion of relevant foundational literature is included to a sufficient level of detail that allows a reader with no background in the topic to understand what the project entails and what is already known about that topic.	A thorough and complete discussion of most relevant foundational literature is included, however one or two key areas are absent, or the overall number of sources cited and subsequent discussion is lacking in some areas and does not provide a full and rich treatment of the project topic. An outside reader with no prior knowledge of this topic would understand most of the key issues and comprehend the main points of this project.	The relevant literature from several key areas are discussed, but a few key areas are absent, or the overall number of sources cited and subsequent discussion is minimal. An outside reader with no prior knowledge of this topic would understand some of the key issues and only comprehend some of the main points of this project.	The relevant literature from a few key areas are discussed, but multiple key areas are absent, or the overall number of sources cited and subsequent discussion is minimal. An outside reader with no prior knowledge of this topic would understand only a few of the key issues and struggle to comprehend the main points of this project.	Discussion of literature is not detailed and does not lead to an understanding of what the project entails.
Organization	Literature topics are organized into themes and connected in a logical and fluid manner	Most of the topics are organized into themes and connected in a logical and fluid manner.	The topics appear to be organized into themes but themes are not clear. Connections between themes are not clear or logical.	Few of the topics are organized into themes or themes are indiscernible and are not connected in a logical and fluid manner.	Literature topics lack discernible organization and the chapter lacks logical flow.
Relevance	Topics are relevant and connected to stated problem statement	Most topics are relevant and connected to the problem statement.	Fewer than half of topics are relevant and connected to the problem statement.	Most of the topics are not relevant and/or not connected to the problem statement.	Topics discussed are neither relevant nor connected to the problem statement
Theoretical Foundation (TF)	TF is explicitly stated and thoroughly described. It aligns with the project topic, purpose, research questions (if applicable), and methodology, and provides the reader with a clear understanding of the assumptions, or existing theories/models used.	TF is explicitly stated but not thoroughly described. It aligns with the project topic, purpose, research questions (if applicable), and methodology, but may not provide the reader with a clear understanding of the assumptions, or existing theories/models used.	TF is not explicitly stated and is only briefly described. It may not align well with the project topic, purpose, research questions (if applicable), and methodology.	TF is described but does not align well with the project topic, purpose, research questions (if applicable), and methodology.	TF is not explicitly stated nor described.
Methods/Project Design (Chapter 3)					
Appropriate methods/ project	Methodology thoroughly explores the research question(s) or problem statement.	Methodology sufficiently explores the research question(s) or problem statement.	Methodology explores part of the research question(s) or problem statement but fails to address other parts.	Methodology inadequately explores the research question(s) or problem statement.	The research questions or problem statement are not provided or the methodology fails to address the question(s) or problem statement entirely.
Description of methods/ project development	Provides complete and clear descriptions of the methods used, explicitly grounded in the literature reviewed in Chapter 2, including specific instruments and data collection procedures.	Description of methods used is complete but lacks clarity or details on connection to literature in Chapter 2, a few collection procedures or instruments.	Descriptions of methods used are deficient or not grounded in the literature from Chapter 2 or methods are missing key details on specific instruments and data collection procedures	Description of methods lacks enough detail such that it is unclear what procedures were used for data collection or project development.	Description of the specific methods used is completely absent.
Description of analysis	Analysis procedures of the data collected or project evaluation are clearly described and use methods appropriate for the type of data collected.	Data/project analysis procedures are described, but procedural details on how the analysis was conducted are lacking.	Data/project analysis only partially described, and/or lacks sufficient detail to allow the reader to understand how the data/project was analyzed.	Data analysis procedures are insufficiently described or the methods are not appropriate for the data collection.	Description of the data analysis procedures is completely absent.
Analysis/Results (Chapter 4)					
Quality of analysis	Analysis is insightful and matches what is described in the methods section. It is clearly outlined and follows an order that is easy to understand.	Analysis is accurate and follows what is described in the methods section description, but the outline/order is not similar or the analysis is somewhat difficult to understand.	Analysis is general, or the analysis, while accurate, is only loosely related to the research method, or the outline/order is confusing.	The analysis is general and is loosely related to the method so that the order/outline is weak, or non-existent.	The data is simply presented in the paper with little to no analysis.
Answers Research Questions/ Addresses Problem Statement	Analysis matches the research questions/problem statement, both in the type of analysis and the depth needed to insightfully answer the research questions/address problem statement	Analysis matches the research questions /project focus in the type of analysis used although explanation of how this analysis answers the research questions/addresses the problem statement is not rich.	Although the analysis matches the research questions asked/project focus in the type of analysis, the explanation of how this analysis answers the research questions/addresses the problem statement lacks accuracy/detail/analytical strength.	There is a mismatch between the type of analysis and the research questions/problem statement and the explanation of how this analysis answers the research questions/project focus is minimal or trivial.	There is no match between the analysis and the research question/problem statement or little to no explanation of how this analysis answers the research questions/problem statement.
Results	Results of analysis/project evaluation are well organized and communicated clearly	The results of the analysis/project evaluation are communicated but detail and richness is lacking.	The results of the analysis/project evaluation are communicated in a general way OR parts are missing or weak.	The results of the analysis/project evaluation are minimally described or are ambiguous.	The results of the analysis/project evaluation are not communicated.

Reflection/Conclusions (Chapter 4 - CC /Chapter 5-Thesis)					
Impact on Science Education	Professional significance and/or implications of study to the field of science education is explained with a focus that goes beyond an individual teacher's classroom, school, or district.	Professional significance and/or implications of study to the field of science education is explained and goes beyond a teacher's classroom, school, or district but lacks some detail or is too narrowly or broadly focused.	Professional significance and/or implications of study to the field of science education is explained but limits the focus to the teacher's classroom, school, or district.	Professional significance and/or implications of study to the field of science education is only briefly addressed, lacks detail and includes a narrow focus.	Professional significance and implications to the field of science education are not addressed.
Implications for Classroom Practice (when appropriate)	Implications to classroom practice are thoroughly explained and are significant.	Implications to classroom practice are explained but more detail or significance could be provided.	Implications to classroom practice are explained broadly but lacks needed detail and significance.	Implications to classroom practice are only briefly mentioned and are not significant.	Implications to classroom practice are not addressed.
Future Work	Areas of further study are thoroughly described.	Areas of further study are described but more detail could be provided.	Areas of further study are somewhat described but lack sufficient detail.	Areas of further study mentioned but not described.	Areas of further study not mentioned.
Written Communication					
Mechanics	Writing is clear, organized, and grammatically correct with no spelling errors. Writing style follows an order which is logical and fluid	Writing is clear, organized and grammatically correct with few spelling errors. The writing style follows an order but may be somewhat disjointed, lacking in fluency.	The writing is grammatically correct with some spelling errors. Although there is some organization to the paper, the author often includes material only tangentially related to the focus of the paper. The order is minimal or the writing lacks fluidity.	The writing contains several grammar inconsistencies and/or spelling errors which begin to interfere with communicating the content of the paper. The order of the paper may be confusing, the focus unclear, or the paper lacks fluency.	The grammar inconsistencies, spelling errors, organization, or lack of fluency interfere with communicating the content of the paper.
APA/Thesis Formatting	APA formatting of references, headings, tables, and figures is followed completely and consistently throughout the document	The majority of references, heading, tables and figures follow the APA format but several (2-3) may not follow this format.	Many of references, heading, tables and figures follow the APA format but there may several that may not follow this format OR several of the APA in-text references do not match the bibliography.	The references and headings seem to follow a myriad of formats or there are numerous in-text references that cannot be found in the bibliography.	APA style and/or thesis formatting rules are not followed in any way.
Oral Communication (based on final paper presentation)					
Understandability	The purpose of the study, the data analysis and conclusions were supported by accurate and appropriate detail with a clear focus.	The purpose of the study, the data analysis and conclusions were mutually supported but at times lacked focus.	The purpose of the study is clear and matches the conclusions but the presentation/discussion of data analysis is simplistic or not representative of the overall project.	One or more of the following are unclear from the presentation: the purpose of the study, the data analysis, and/or conclusions. OR the connections between either the purpose of the study, the data analysis, or the conclusion is simplistic/inappropriate.	The presentation was completely unclear and unintelligible. Audience members left with no understanding of the project presented.
Presentation Flow	Presentation had logical flow with clear transitions and appropriate emphasis, pacing, and timing.	Presentation had a logical flow with sensible transitions, but the pacing or timing are less effective, leaving little time for questions OR inappropriate emphasis is placed in numerous areas such that it is difficult to understand the point of the project.	The presentation may have had a logical flow but the transitions were minimal, trivial points were emphasized, and/or the pacing/timing was non-existent. Much of the presentation slides/materials were read.	The presentation lacked a logical flow with weak transitions, weak focus/emphasis, and/or the presentation slides/materials were read verbatim and not used as an outline.	The presentation lacked a logical flow, contained no transitions and no apparent focus/emphasis. The presentation slides/materials were read verbatim and not used as an outline.
Verbal Competency	Questions were answered competently and fluently.	Questions were addressed, but the answers may have lacked in detail.	Little time after the presentation was left for questions or the questions were incompletely answered.	Few if any questions were answered or the questions were answered in a general manner.	Questions are not answered and deferred to others present at the presentation.