

Topics in Mathematics and Mathematics Education
Culminating Experience
Mini Literature Review and Research
On the Teaching and Learning of Mathematics

Guidelines & Rubrics

Guidelines

[1] Report:

1. Choose a topic: Choose a topic on which you have strong view or a view you obtained from observing your cooperating teachers' teaching critically. In particular a topic you can make strong argument either agreeing with or disagreeing with. You may review research literature on Teaching and Learning such as Journal for Research in Mathematics Education, Mathematics Teachers, Translating Research for Secondary School Teachers from which your mini literature topics are chosen from. (see below for more details). Examples of topics may target on Learning Goal/Target Skills, Target Population, Instructional Strategies, Assessment Method, but not limited to those.
2. Choose one major article preferably from JRME (Journal for Research in Mathematics Education), or from the list of research journals in the link. Read critically and analyze the major findings of each article and its implications. (See below). Choose at least four supplemental articles which agree or disagree with your main article.
 - A) Motivation/personal background why you choose this topics
 - B) Main Report : Summary of an article
 - i. Write a minimum 10 page Report in APA style (double-spaced, 1-inch margins, 12 pt. Font, etc
 - ii. Literature Review: Include the following.
 1. About the author
 2. Introduction
Include setting such as target population.
 3. Summary of authors' major findings and supporting evidence
 4. Author's Conclusion
 5. Analysis/Critique
 6. References
 - C) Analysis/Critique based on the literature review,
 - D) Reflection

For APA Style, see the following.

1. <http://www.apastyle.org/>
Video Tutorial from APA.org Video tutorial,
<http://flash1r.apa.org/apastyle/basics/index.htm>
2. http://en.wikipedia.org/wiki/APA_style

[2] PowerPoint Presentation

- a. Prepare an in-class PowerPoint presentation of your summary report.
- b. Plan for a 30-minute presentation, including audience participation.
- c. Actively engages the audience through questions and discussion.
- d. See the rubric for details.
- e. For a tutorial of Power Point see:

http://www.baycongroup.com/powerpoint/01_powerpoint.htm

For a tutorial on math equations, see <http://office.microsoft.com/en-us/powerpoint-help/insert-an-equation-HP005194680.aspx>

Short quiz for your classmates

Remark:

Bieda, K. (2010), Enacting Proof-Related Tasks in Middle School Mathematics: Challenges and Opportunities, *Journal for Research in Mathematics Education*, 41, 351-382.

Inglis M & Alcock L. (2012), Expert and Novice Approaches to Reading Mathematical Proofs, *Journal for Research in Mathematics Education*, 41, 358-390.

Evaluation

You will be evaluated based on the following components: a report, PowerPoint presentation, quiz. You as an audience, reaction paper and participation.

Rubric for Report

	Exemplary	Satisfactory	Unsatisfactory
Introduction	Articulates a clear and interesting thesis, and introduces the major findings of each article	Articulates a thesis and introduces the findings of each article	Introduction is missing or fails to introduce major findings of each article
Summaries and Supporting Examples	Accurately identifies and clearly summarizes the major findings of each article, using supporting examples	Summarizes major findings and supports main points with relevant examples	Fails to identify major findings or uses inappropriate examples
Analysis/Critique	Provides an insightful analysis of the issues raised in the conjecture and in the articles, supported with persuasive examples from literature	Provides a reasonable analysis and a few relevant examples, but fails to critically evaluate sources and/or implications	No insightful critique or analysis

	Critically evaluates sources and their implications		
Conjecture/thesis	Articulates a clear, strong and interesting conjecture/ thesis.	Conjecture is clear and well written	Conjecture is not clear and poorly written
Organization and Coherence	Is well focused and organized logically	Reasonably easy to follow	Difficult to follow due to lack of organization or coherence
Reflection Justification of Conjecture, Analysis/Critique	Provides persuasive and logical argument leading to the conjecture with supporting artifacts observed and evidence supported by literature. Provides an insightful analysis of the issues raised in the articles, conjecture supported with persuasive examples Critically evaluates sources and their implications	Provides reasonably logical argument leading to the conjecture. Arguments are not strongly supported by artifacts or by evidence supported by literature. Provides a reasonable analysis and a few relevant examples, but fails to critically evaluate sources and/or implications	Argument is not logical or not supported by artifacts observed or literature. No insightful critique or analysis
Use of APA in citations	Accurately cites articles in APA format	Accurately cited, but not in the desired APA format	Incorrectly cited or no citations

Rubric for PowerPoint Presentation

	Exemplary	Satisfactory	Unsatisfactory
Content	Effectively introduces major findings, supporting examples, and	Introduces major findings and examples, with some analysis	Introduces articles, but uses insufficient examples or analysis

	analysis		
Organization	Information is organized logically, and is presented in a way that is easy to understand	Information is reasonably presented	Disorganized or difficult to follow
Delivery	Uses the PowerPoint as a prompt, but does not rely on it Creates interest through eye contact and enthusiasm	Relies too heavily on the PowerPoint Shows some enthusiasm	Reads directly from the presentation Shows a lack of enthusiasm; little or no eye contact with the audience
Participation of audience	Engages the audience through questions and stimulates a vibrant discussion	Asks questions to the audience; able to foster discussion	Does not engage the audience sufficiently
Presentation as Visual Aid	Layout, pictures and graphics are pleasing, and helps the overall delivery of the presentation Text is appropriate in length	Layout, pictures and graphics are pleasing, but do not enhance the presentation	Layout, pictures, and graphics are not pleasing or detract from the presentation Text is too long