

Assignment 1. Critical literature review paper

Learning Analytics: Process and Theory

Spring 2016

This assignment developed in collaboration between Baker and Gasevic
Teachers College, Columbia University version

Topic Proposal due 2/3 9am

Final Paper due 2/26 9am

The goal in this assignment is to write a literature review paper (of approximately 1,500 words) on a learning analytics topic. This assignment will help you define a research problem you will be pursuing in assignments 2 and 3.

a) Purpose

It is important to note that the purpose of this assignment is to review the current literature on a selected topic. You are expected to describe the major trends in a selected area, elaborate on several important solutions to past challenges, and identify the major challenges to be addressed in the future. When describing the challenges that researchers and practitioners will face, you need to critically analyse the current theories, processes, and methodologies, and identify promising directions that future research could take.

b) Selecting your Topic

Each student is responsible for selecting their own topic, and submitting a proposal to the course instructor by 2/3 at 9am. The research paper should focus solely on the topics covered in the course. There is no required length for the topic proposal – anywhere from one sentence to one page will do. (More information will help the instructor to give you useful advice).

c) Format

Papers should be approximately 1,500 words (author information, title, abstract, and the list of references are excluded from the 1,500 word limit). Citations and references can be in any common format (Harvard, APA, Chicago, or ACM are acceptable, for instance).

d) Writing your Review Paper

Each paper also needs to include a number of sections between the Introduction and Research Problem Formulation, where you will analyze the topic of your review. Use the following list as a guide to writing this part of your paper.

- An overview of the major challenge(s) faced in this area of research and/or practice;
- A review of the approaches and studies used in the past to overcome these challenges;
 - o For each approach: discuss the problem(s) it addresses, methods used, theoretical foundation, the results of this approach, and any unresolved issues and study limitations.
- A summary of the status of the field;
- A description of the challenges for future research.

e) The Literature Reviewed

Your review should usually cite 6-10 peer-reviewed articles. Every article you use needs to appear in the reference section. A paper cannot appear in the reference section if it is not explicitly cited in the main

body of the paper. Remember that citations are not usually cited in the abstract. Depending on the topic of your paper, you may need to refer to other publications (journals and conference proceedings) that are not listed in the course readings.

f) Submitting your Paper

Completed papers should be submitted in PDF format before the deadline, emailed directly to the instructor (Baker). Also, share the assignment submission with your peers via the Moodle discussion board specifically created for sharing and discussing Assignment 1 (look at Week 7). Provide feedback to at least two of your peers on their assignments.

g) Grading criteria

1. Factual correctness, completeness of the answer, and accurate formatting and style of writing: 30%

All comments and statements in the papers need to be factually sound, backed up by research and implementation results from reliable sources, and provide an adequate review of the domain under study. This criterion also includes clear explanations of ideas and analyses from the literature. Personal interpretations of definitions can be used, but only if they are proven through a methodological research process. Ungrounded definitions of well-defined concepts will lead to significant mark deduction. Most importantly, students need to demonstrate a level of mastery of the concepts of the state-of-the-art in learning analytics process and theory; precisely define the problems under study; accurately connect them to possible solutions from the literature; and demonstrate an accurate and critical use of the research literature. Weaknesses observed in factual soundness have direct negative implications on synthesis/critical analysis and methodology criteria listed below.

2. Synthesis and critical analysis of the topic: 40%.

A synthesis of the topics discovered and learned from the literature is expected. Only short quotes of the definitions are acceptable. Long quotes of someone else's analysis are not considered to be an indication of synthesis and critical discussion of the topics analysed, as they do not demonstrate the knowledge and understanding of the students of this course. The ability to find a relevant source is an important auxiliary step toward one's own synthesis of the knowledge learned from different sources, which is the primary objective of this course. Each paper needs to discuss limitations of phenomena under study; relevance of the phenomena, with respect to related work from the literature; a discussion of the alternatives to the proposed approach; and the reasons for selecting that approach. Students are also expected to draw conclusions from the synthesis of the various topics learned from the literature review; to show how these conclusions are innovative and have not been specified in the literature; and to prove that they are scientifically and/or methodologically valid.

3. Methodological explanation of the concepts: 30%

Students are expected to present explicit and sound justifications for the decisions to include certain concepts in the discussion, as otherwise the report will be methodologically unsound. A strong justification for the organization of the paper, and a methodologically grounded explanation of the steps taken in the process of the literature review (e.g., what sources were used, why those sources were selected, and what selection criteria were followed), needs to be seen very explicitly in the paper.

Late Submissions. Late submissions are not permitted and extensions will be made in exceptional circumstances only (e.g., health related problems).