

Assignment 3. Learning analytics planning paper

Learning Analytics: Process and Theory

Spring 2016

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

Post due 5/6

Response to other students' posts due 5/10

This assignment is the development of a detailed plan for the implementation or research in learning analytics. This assignment builds on the literature review from Assignment 1, and the problem formulated and developed in Assignment 2.

Students will write a paper of 2,500 words which will constitute 80% of the assignment weighting. Students will provide constructive feedback to their peers about their proposed research, the quality of which will be assessed and contribute 20% of the assessment weighting for assignment 3.

Elements of the Research/Implementation Plan

With the proposal defined in Assignment 2, you are expected to start developing a detailed plan for your research or implementation project. If you intend to switch topics in a significant fashion, you must provide a brief description of your new proposal along with your Assignment 3 hand-in.

The following components must be included to fully address the problem under study.

1. Define the implementation/research approach proposed. This approach should explain what the main implementation/research challenges are in the problem under study. Having those

issues precisely defined, you need to explain in detail the research approach you are going to take, including:

a) A set of methodological steps that are going to be taken in your project. For each step, explain why it is needed, how it contributes to the proposed solution by addressing the defined problem, what alternatives are possible for that particular step, and why it was selected.

b) An evaluation framework to be used in your approach, and why that evaluation is suitable for your problem.

2. Describe the activities you plan to undertake in each of the steps in Part 1 (1.a and 1.b). This means that you are expected to explain each of those steps in detail, and completely explain your approach. Include the following elements, for each component of your research approach.

a) A complete definition of each of the components of the proposed approach to the studied problem.

b) Describe the framework, instruments, and sources used for data collection.

c) Describe the evaluation framework along with measures planned to be used for evaluation, and an explanation of the processing strategy for the collected data in 2b. Explain the proposed approach in detail your evaluation approach (e.g., using diagrams), critically analyse its pros and cons, and formulate implementation and/or research questions for future work.

3. Compare your implementation/research plans to other relevant results in the area. This should build on your literature review from Assignments 1 and 2, and compare the research contributions of your proposal to the results available in the literature. This could, for example, be a tabular comparison of your work with other results (e.g., rows are different approaches and columns are features/characteristics of the problem being studied for each of the features analysed). This needs to be done in a methodical way.

4. Conclude with a summary of your methodology, an explanation of how your plan can be applied, and a description of open implementation or research challenges and activities to be done in future work (e.g., by comparing your work to the literature, and evaluating the results).

Deliverables

Project paper (80% of the assignment weighting). Papers should be approximately 2,500 words (author information, title, abstract, and the list of references are excluded from the 2,500

word limit). No penalty will be given so long as the paper is *approximately* 2,500 words (i.e. don't turn in a 1,100 or 9,000 word paper).

Please state the word count somewhere in your assignment.

A note on (self-)plagiarism: As the assignments build up, you may find you want to build on your own earlier work. For the purposes of this assignment, you are welcome to fully self-plagiarize yourself. Do not plagiarize anyone else, and do not assume that this practice is safe in every setting outside this class!

Late Submissions and Technical Problems. Given the collaborative nature of the course, late submissions are not permitted. A timely submission will give your peers the opportunity to participate in the discussion of your presentation. Extensions will be made in exceptional circumstances only (e.g., health related problems).

Paper. Papers should be submitted both to the instructor via email, and should be posted to the Assignment 3 forum as an attachment to your post about the presentation. This will help your peers obtain more details about your research project, better articulate their questions, and better substantiate their feedback.

Participation. Once you have submitted your presentation, you are responsible for promptly responding to the questions your peers will post to the thread related to your presentation. You are also expected to participate in the discussions related to the presentations submitted by other students, as this will be part of your final grade.

Grading criteria

Paper (80% of the Assignment 3 grade)

The plan will be graded according to the three grading criteria provided in Assignment 1.

Discuss your peers' submissions (20% of the Assignment 3 grade).

All students are expected to provide prompt answers to posts from their peers, and to moderate the discussions initiated by their presentations and papers.

Each student is expected to contribute to the discussions of **at least five of your peer assignments, after hand-in**. Participation in a peer's presentations will not be considered just by posting a general comment (e.g., "That paper was really great!"). Your participation is expected

to be about the content presenting with the following four levels (from the lowest to the highest quality):

1. *clarification question* – asking about some uncertain parts of the presentation or paper submitted or sense of puzzlement about more general ideas associated with the topic of the paper or presentation;
2. *exploration post*– brainstorming about some possible ideas or sharing information about the topic of a presentation/paper at hand, your and some other peer’s presentation/paper, another peer-reviewed paper for the course readings, or discussion post of another peer;
3. *integration post*–proposing a novel research topic by making use of the results presented in the previous discussions to generate new ideas that are formulating a hypothesis or an approach how to solve a problem. Preferably, the result of a discussion triggered by such a post might result even in the problem formulation of the research to be done in the future or help to resolve some issues in your or your peers’ implementation/research plans.
4. *resolution post* – exploring conditions under which certain hypothesis may way, identification of the limitations in proposed solutions and methods, and justification based on the literature and professional experience and practice supported with reliable citations. Typically, resolution posts build on the integration posts.

In the discussions about your peers’ proposals, each student is expected to have at least one post in category 2, one post in category 3, and one post in category 4. The rest of the questions can fit into category 1. In responding to the posts of the peers to your own questions, each student is expected to have all their posts in at least category 2, but also at least one in category 3 and one in category 4.