

ELED 4044  
Problem/Project Based Learning Assignment  
Signature Assessment  
Directions

For the Signature Assessment for this course, you will create a Project-Based or Problem-Based Assignment that requires student engagement over several days in an inquiry-based project or product creation that responds to authentic and complex problems, challenges or questions. The following elements must be included:

1. Title: must succinctly and thoroughly describe the assignment.
  
2. Driving Question/ Challenge: Present a challenging problem or driving question that aligns to Louisiana Elementary Science Standards, Next Generation Science Standards, or both. The problem or driving question must be open-ended, objective, and refer to a real-world problem or challenge authentic to the students. Use the Tubric to help you. Make sure the driving question/problem includes the following elements: Initial words, person or entity, action or challenge, and audience/purpose. The driving question should be related to a real-world problem or challenge.
  
3. Standards: Include either LA state standards or NGSS or both that align to the assignment. Include all language and coded numbers/letters.
  
4. Correctly explain how the PBL Cycle of Instruction aligns to two or more other subjects.
  
5. Contextual Factors/Demographics: Go to [Louisianabelieves.com](http://Louisianabelieves.com) and click on “student attributes”. Select one school system and one school. For the school you selected you will create a demographic profile that includes actual school wide demographics. Class, teacher and principal demographics will be fictional. These statistics may be presented in tabular or narrative format.
  - (A) Provide a detailed description of the contextual factors of the school’s student body by including the following:
    - latest total school enrollment
    - % students who are male
    - % students who are female
    - % ethnicity of students (American Indian, Asian, Black, Hispanic, Hawaiian/Pacific Islander, White, multiple races)
    - % minority students
    - % English language proficient
    - % English language limited
    - % Economically disadvantaged

(B) Provide a detailed description of the same contextual factors from A above for one class. These demographics will be fictional.

(C) For the teacher, include his/her gender, ethnicity, English language proficiency level, and whether or not he or she is economically disadvantaged.

(D) For the principal, include his/her gender, ethnicity, English language proficiency level, and whether or not he or she is economically disadvantaged.

(E) Taking into account all of the demographic information supplied above, narratively answer the following questions:

- Does the ethnicity of the teacher match that of the majority of the students in his/her class? What are the advantages/disadvantages for students who have a teacher of the same ethnicity? What are the advantages/disadvantages for students who have a teacher of a different ethnicity?
- Is the teacher economically disadvantaged (ED)? What percentage of his or her students are ED? Discuss the impact of non-ED teachers teaching ED students.
- What is the ethnicity of the principal? Does the ethnicity of the principal match that of the majority of the students in the school he/she leads? What are the advantages/disadvantages for students who have a principal of the same ethnicity? What are the advantages/disadvantages for students who have a principal of a different ethnicity?

6. Student Learning Goals: Identify at least one learning goal for the unit. Learning goals are broader than objectives and delineate the intended purposes and desired outcomes of a unit or lesson.

7. Objectives: Objectives are more specific than learning goals, are measurable, and contain specific actions.

A. Include at least two learning objectives written in the correct format (ABCD-Audience, Behavior, Criteria, Degree) that align with all appropriate local, state (Louisiana), or national standards (NGSS) in learning.

B. Classify each objective according to Bloom. Do not include objectives that classify as remembering or understanding. Objectives should reflect learning that occurs through direct instruction AND discovery.

8. Purpose: Write 1-2 pages about the purpose of the assignment. Include an explanation of the assignment's appropriateness to content and developmental levels of all students. Include student learning goals and objectives in your purpose section.

9. Motivation:

(A) Include a section that addresses specific ideas that would serve to motivate students to engage in the assignment's activities, and

(B) Provide a thoughtful rationale for why the ideas you presented to motivate students would indeed serve to improve student learning related to today's real-world problems/projects.

10. Organization/Presentation of Instructional Strategies: In this section you will

(A) Identify at least two instructional strategies you would use if you taught the lesson. Identified instructional strategies must meet the given objectives and must provide opportunities for student reflection.

(B) Provide a rationale for WHY the particular instructional strategies were selected.

11. Materials: List and describe the instructional materials needed for appropriate content related strategies clearly aligned to the stated objectives for real-world problems/projects that are the focus of the lesson. Materials can include texts, websites, assessments, videos, objects, etc. Include a link to all handouts, assessments, etc.

For all handouts and assessments, provide a copy or a link to a copy for each.

12. Safety: List two precautions and two safety rules that will be applied to the lesson.

13. Grouping/Cooperative Learning:

(A) Identify multiple (3 or more) strategies and activities incorporating individual, small and whole group opportunities.

(B) Describe each strategy in detail and provide a rationale for each strategy based upon theory or research related to student success.

14. Accommodating for Differentiation: Provide a clear and logical description of at least two differentiation strategies specifically designed to meet the individual needs of students you described in the contextual factors with examples of specific scaffolding techniques given.

15. Project/Problem Guidelines/Directions: Provide a clear and logical set of guidelines/directions students will follow to complete/solve their project/problem.

16. Formative and Summative Assessment Plan:

(A) Formative: List and describe at least two formative assessment measures that align to the named student learning goals, named objectives, are classified to identified levels of Bloom, and align with the named content standards (traditional tests, rubrics, etc.).

(B) Summative: List and describe at least two summative assessment measures that align to the named student learning goals, named objectives, are classified to the identified levels of Bloom, and align with the named content standards (entrance and exit tickets, concept map, draft paper, etc.). For one of these two measures, create a pre- and post-assessment.

(C) Provide at least two opportunities for students to self-assess. Be sure they are clearly identified in your paper and be sure to identify where and when they occur.

#### 17. Data Analysis:

(A) Make a fictional list of student grades/performance levels for one of your summative assessments that consist of pre- and post- measures.

(B) From the data (pre-/-post scores) create one graph (line or bar) illustrating student performance (grades) for at least 25 students on the pre- assessment versus the post-assessment. Give your graph a title and label the axes appropriately. Be sure data points are correctly plotted and spread across the graphing field to present a clear picture of performance. Color code the graph and provide a key.

(C) Create a table in which you report the following for ONE of the summative assessments (it can be the same one you created the graph for): mean, median, mode, minimum score, maximum score. Title your table and use column names for items (N [number of assessments] mean, median, mode, minimum, maximum).

(D) Select one individual fictional student and report his or her performance pre- versus post assessment for the one summative assessment that you selected to include pre- and post- data. Do this in a narrative format. No graph required.

(E) Provide a narrative explanation of student performance across both summative assessments, both formative assessments, and the self-assessment measure. State whether or not the students as a whole met the stated learning goals and the named objectives and whether or not the single student met the stated learning goals and the named objectives.

#### 18. Technology:

(A) Identify at least two technology resources used during planning and/or instruction (technology refers to use of computers and software applications), at least one use by

teachers and one use by students involving higher level thinking activities and real-world application(s) for displaying 21<sup>st</sup> century information skills.

(B) For each type of technology utilized, thoroughly describe HOW it was used and WHEN it was used in the lesson or in planning for the lesson.

19. Student Reflection:

(A) Identify and describe what reflection opportunities are provided.

(B) Create a reflection assignment for students and attach/include it.

20. Candidate Reflection: The final part of your paper will consist of your own reflection of the assignment and PBL in general. Answer the following questions in your reflection:

(A) Did the work the students completed help them answer the driving question or solve the problem?

(B) How might you change the PBL task to make it more interesting/challenging/successful?

(C) Where in the process did students seem to have the most difficulties? Why do you think they had trouble at that point? What could you do to help them through or what could you change so they experience greater success at that point?