

**REFLECTIVE STATEMENT: PROBLEM-BASED INQUIRY LESSON PLAN**

***SLO 3: Employ leadership practices to optimize educational and institutional outcomes.***

**Relevance**

To demonstrate my understanding of SLO 3, I created my own WebQuest to fulfill the need for a problem-based inquiry lesson plan. WebQuests, which are founded upon principles of problem-based inquiry, affirm and satisfy the need learners have to be active participants in the construction of their knowledge. The implementation of this type of lesson plan is an acknowledgement of the truth that students learn more effectively when they are solving real-world problems by thinking critically and making use of the available resources. It also guides students to higher levels of thinking by requiring them to apply, analyze, evaluate, and create as they complete the WebQuest.

As a teacher-leader, this lesson allows me to assume the appropriate role of facilitator and guide, thereby giving students a reasonable measure of independence as they complete the tasks set before them. Effectively leading students involves giving them freedom to make choices and to learn through questioning, rather than simply transmitting information to them in hopes that they will remember it. This constructivist approach, which is consistent with the views of the New Learning Sciences, will guide students toward optimal educational outcomes. As a member of a faculty, in which I could assume a formal or an informal leadership role, I could set an example of creative and effective teaching by sharing lessons such as this. Assisting in an institutional culture change could yield better collective learning outcomes, and thus more ideal institutional outcomes.

**Significance**

The significance of this WebQuest lesson lies in its ability to lead students to deeper levels of learning by increasing student engagement, promoting higher-level thinking, and utilizing available resources. Professional educators must be competent in each of these areas in order to cultivate learners who are critical thinkers and effective problem-solvers. The WebQuest fosters student engagement because it presents a real-world problem that students can solve, and it presents various types of media, including captivating videos and intriguing articles. Higher-level thinking is achieved through several tasks, as students must apply the new information to their own personal habits; analyze the articles by breaking them down into their key points; evaluate their own perceptions and participation; and synthesize their discoveries into a single, collectively-made product. Finally, they learn to solve problems by engaging in inquiry, studying the available resources, and synthesizing their learning into practical applications.

This lesson also contributes to students' test-taking skills in the following ways. Students will engage in "problem to solution thinking, which is the ability to see a problem in terms of its potential solution," because the entire lesson centers on identifying a problem, seeking its solution(s), and articulating an understanding of those solutions. It also implicitly addresses "test-taking skills, particularly the ability to eliminate distracting foils from the choices given," because students must sift through the information they have gathered to find the information that will be most helpful, while discarding irrelevant information. (Estes, Mintz, & Gunter, 2011, p. 16)

This problem-centered inquiry lesson could be useful at any point in the curriculum, but would be ideally used at certain junctures. Because of its reliance on technology, it would be

most effective after students have had some practice using the computers appropriately so that the only learning task they are focusing on is the WebQuest. Also, since elementary school classrooms share computer lab hours, it would have to be carefully scheduled in order for students to have sufficient time to complete the tasks. Some teachers may argue that such a lesson should be completed after the testing season, since it does not directly address test-related material. However, because the lesson addresses mental and physical wellness and equips students with strategies to improve their condition in both areas, it would actually put them in optimal condition for performing well on tests. Furthermore, because problem-based inquiry lessons focus on teaching students how to learn more than how to get the answers (Estes, Mintz, & Gunter, 2011), it will better serve them as they acquire and discover knowledge that will be tested. Depending on where the school is located, it could also benefit students prior to the summer so that they learn to keep hydrated in the heat. All of these factors make this lesson worthwhile during the majority of the school year.

Adaptations/Accommodations for Advanced, ELD and IEP learners:

- **Advanced:** Explore the validity of the “8 glasses of water a day” axiom. Find and evaluate available web resources, and write a paragraph justifying or debunking the belief. Present findings to the class.
- **ELD:** Present English Learners with a simpler alternative version of “hook” from WebQuest so that students can grasp the main idea of the activity. With that foundation in place, they will better understand the visuals the WebQuest provides and will have a more informed response to the material.
- **IEP:** Provide sentence starters or frames for students who may struggle with the reading and writing aspects of the lesson. Allow for collaboration in the writing of the report, and emphasize the inclusion of main ideas.

### Link to Theory

#### ***How does this lesson support the constructivist learning theory?***

Problem-based inquiry is an example of a constructivist learning activity because of its emphasis on student participation, and on their active role in problem solving and meaning making. The overarching purpose of the problem-based inquiry approach to learning is to teach students how to learn. Students can be guided through this process, but they cannot simply be told how to learn in order to become more effective learners. Learning is a skill that demands practice, and effective learners are those who have practiced gathering information, evaluating it, and using it to deepen their understanding. This lesson provides students with several opportunities to peruse and interpret information, and then to derive meaning from it in the form of a tangible product. This makes them active participants in the construction of their knowledge.

#### ***To which Big Ideas can this lesson be linked?***

The clearest link to Ormrod’s Big Ideas in this lesson is #1: *Learners do not passively absorb information from the environment; rather, they actively work to make sense of their environment and construct their own, unique understandings of the world.* Students are the driving force behind this lesson, as they investigate the available resources and draw conclusions based on what they discover while the teacher facilitates and guides. Each student, though they will reach conclusions similar to those of their classmates, will find unique connections to their daily lives and will produce different artifacts based on their own understandings. The lesson also links to Big Idea #10: *Learning is best assessed by using an assessment instrument that reflects the goals of instruction (i.e., an instrument that has content validity).* The main tasks of this lesson serve as an authentic assessment, in that they ask students to perform a task with real-world applications and are evaluated using a rubric.

***How does this lesson connect with the New Learning Sciences?***

An important finding of the New Learning Sciences was that computers, as a form of educational technology, had largely been misused in classrooms. Rather than supporting or supplementing learning, they were simply assuming the role of the teacher and perpetuating the instructionist approach. Now, to the delight of learning scientists, computers are being recognized and used for their ability to visually and audibly render abstract knowledge in a concrete way, and to allow learners to articulate their understanding both visually and verbally (Sawyer, 2006). This WebQuest takes advantages of computers by making them part of the learning process; they become facilitators of learning that is applied in non-digital contexts.

***What curricular or technological resources have been useful in designing this lesson?***

The WebQuest creation tool found at [www.zunal.com](http://www.zunal.com) was the most useful resource in the production of this lesson plan. It was a very user-friendly program, as it was simple to navigate and highly instructive on how it ought to be assembled. Other helpful resources included YouTube, from which I incorporated three videos, and Google, which I used to locate informative and age-appropriate articles. Google and Wikimedia Commons supplied the images I used on each page of the WebQuest.

**Resources/Technology**

- **Interactive web programs**
  - WebQuest maker/provider: <http://zunal.com>
  - Google
- **e-books, pictures, videos etc.**
  - YouTube
  - Wikimedia Commons
  - Google Images

**Professional Actions/Areas for Growth**

As suggested at the beginning of this reflection, I believe that the use of WebQuests presents an opportunity not only to increase student achievement, but also to inspire leadership among colleagues. Leadership in the area of educational technology is steadily growing in importance in classrooms worldwide, as is collaboration and the effective operation of professional learning communities. Assisting fellow teachers in the creation and/or implementation of WebQuests is a viable way to increase technological awareness and competence in the classroom, and to promote a spirit of collaboration among the faculty.

Although I have only created one WebQuest at this point in my career, I believe they a highly effective teaching tool and I hope to discover strategies for using them in every subject area. Online articles and books on educational technology will certainly provide more insight on the topic of web-based inquiry activities. As I come across them, I will be proactive in sharing them with my colleagues.