Lesson Plan

**Name**: 403 **Course**: Statistics **Grade**: Mixed (12 & 11)

**Unit**: Part II – Gathering Data

**Big Idea (Key concept):** When gathering data, there are good ways and poor ways to create a survey.

**Literacy Strategy**: silent discussion; reflect on learning; review

**Lesson**: Chap. 12 – Sample Surveys

**Date Taught**: 12/2/10 and 12/3/10

**Learning Objectives**:

Students will be able to determine whether or not a question is properly phrased and a sampling technique is appropriate.

**Idaho Standards**: none

**Lesson in Context**: Random selection of samples was discussed prior to the activity. After this lesson, Experiments and Observational Studies were discussed.

**Instructional Materials, Resources:** Four sheets of poster paper for each class posted on the boards around the room.

**Procedures:**

**Engage/Introduction (~3 minutes):** The students were told that they were going to be able to create their own posters with examples of good and bad survey questions and good and poor sampling techniques. The students would be allowed to wander around the room, albeit silently, during the creation of the posters.

**Explore/Learning Activities (~5-10 minutes,twice):** Students were asked to silently go around the room to each of the posters and add examples of the four topics: Good Sampling, Poor Sampling, Good Survey Questions and Bad Survey Questions. The titles for the four topics were already written on the posters. After everyone had a chance to make an entry, the students were asked to go back to the poster and add comments to the previous entries.

**Explanation/Closure (~5-10 minutes minutes):** Discussion of the various examples and subsequent comments followed.

**Elements of Effective instruction:**

1. Intrinsic motivation to learn was fostered by this being a no-credit activity and useful for review prior to the quiz.
2. This activity does not really involve prior knowledge
3. The lesson intellectually engages the students by asking them to review and reflect on their learning and then critically evaluate the suggested examples.
4. The follow-up discussion helps the students justify their reasoning.
5. Same as 4.

**Reflection:**

**Literacy Emphasis:** This lesson asks students to reflect on the knowledge that they acquired during the lesson and review for the chapter quiz. It also asks them to critically review suggestions and examples made by others in the class. Subsequent critiques will help to correct any misconceptions. This (hopefully) corrected knowledge base was used to review for the chapter quiz.

**Students Response to the lesson:** Unfortunately, my plans to guide this activity personally were changed at the last minute when I had to leave school to travel to the State Drama Competition. The activity was implemented by my substitute. Most of the posters had good examples and good comments but it was evident that not all of the students participated equally.

**Lesson Reflection:** Generally, I felt that this activity was successful. The challenge that seemed unmet was to have all students participate equally. Based on handwriting, some students seemed to dominate the discussion. Next year, I will try to make sure that everyone makes at least one suggestion and one critique.

**Relationship to Previous Instruction:** I have not taught this lesson prior to LIMSST.

The weakest poster:

1. It appears that one person wrote most of the examples.
2. The example of Stratified sampling is probably incorrect – this is actually most likely Cluster sampling.
3. Very few additional comments were made.

Average Poster:

1. A variety of participants.
2. Some good comments added.

Higher Quality:

1. Multiple participants.
2. Pretty good examples.
3. Good comments added.