Teacher Notes for Pre-Service Module #3

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Class Schedule

The following is a proposed schedule for the project and accompanying timeline for interim assignment completion. Following the schedule is the project narrative which contains a description of the process. The narrative is to be handed out to the students on the initial day.

Day 1: Assignment presented; students choose groups and data to be used.

Day 2: Students have their three written questions in class and trade with another group for revision.

Day 3: Peer Revision group returns the questions (see peer revision sheet#1) to the owners and the owners set up a meeting with coordinator to discuss which question works best. Groups revise, reflect on their questions and create activity.

Day 4: Groups bring in their developed performance based assessment activity to be traded with another group for revision (see peer revision sheet#2).

Day 6: Activities are returned to original groups for final revisions and reflection.

Day 7: Groups turn in their final project in their portfolio.

Project Narrative

So, now you have learned about Performance Based Assessments and the five E style of planning. Now, let's see if you can create your own PBA!

As you have been learning about data analysis and graphing, eighth graders at Thurmont Middle School have been doing the same. Your task is to work in groups of 2-3 people to create a Performance Based Assessment for these eighth graders. Remember to work with others that you know you can get along with and you know will work on this assignment with you.

We will discuss the project and our expectations for your performance based assessment.

Once your group has been formed, go to the US Census site (www.census.gov). To find the data you will want to use for your question, click on "Statistical Abstract" under the "Special Topics" title. Then click on Adobe Acrobat PDF Files. Scroll down to Section 31 20th Century Statistics and click on the numbers to the right of this title. This will take you to the different sets of data you have to choose from to base your question on. When choosing the data you want to use, keep in mind the following:

1. Choose a set of data that is consistent over a long period of time
2. Make sure the data you choose is appropriate for eighth graders, but also interesting for them.
3. While looking through the data, you might want to think about the types of questions that you could ask students.

Choose the set of data that you will base your activity on and post your choice on Blackboard.com. No two groups can use the same set of data, so find 2 or 3 sets of data that you might like to use just in case the one you want is already taken. Once you have posted your topic, go to the server and retrieve the spreadsheet that contains your data. Now you are ready to begin.

You will begin by creating three different questions. One question will have students using one of the following graphs to analyze the data: bar graph, circle graph, stem leaf plot, or histogram. Another question will ask students to use a line graph to analyze data. Finally, the last question will ask students to use a box and whisker plot to analyze the data.

Now your group's three questions will be given to another group to be revised. Each group will revise (see peer revision sheet#1) and attempt to answer another group's three questions. The revision group will decide which graph works best with the data chosen for your question. After your questions have been revised, the revision group will return the questions and your group will then make an appointment with the coordinator to discuss which graph is the best one to use for the data. The question we decide on will be the one you use for your performance based assessment.

Each time you revise your assessment, you will write a reflection explaining why you may have changed something in your question or why you did not change something in your question, depending on what the other group had to say about your question. The second time questions are switched and revised (see peer revision sheet#2), you will actually be switching your activities.

Now your group is ready to create your activity. Using the Five-E format, create your performance-based assessment using your question. The activity should be engaging and guide students to make conclusions about the data that you are using.

Your group will again trade your activities with another group to have your activity revised once more. Your group will make more changes, if necessary, to your activity and write up another reflection for this revision. You will then turn in your final project to me.

The final project will include the following parts in a portfolio:

- Province of the 3 questions/prompts
- Evidence of testing process
- Original data set with table reference number
- All peer view comments
- Reflections on Peer Review Comments
- Final copy of prompt and exemplar response…hard copy and on disk
- Copy of data for students use: hard copy and disk

Peer Revision Sheet #1

Group Members' Names:

Topic of Question:

Data Set for Question:

1. What do you like about this group's question?

2. Is the question appropriate for middle school students?

3. Is there enough data for the question? Will students be able to draw logical conclusions from an analysis of the data set?

4. How is the question worded? Is it easy to understand what you are expected to do for the question?

5. After completing the question, what are your thoughts on the problem? Were you able to answer the question?

6. Is there anything you would change about the question?

Any additional comments you have can be written on the back of this sheet.

Peer Revision Sheet #2

Group Members' Names:

Title of Activity:

1. What do you like about this group's question and activity?

2. How does the activity go about catching the students' attention? (Cite reasons for your answer)

3. Does the group use the Five E's Method of planning the activity? If not, make suggestions as to how the activity can use all five E's.

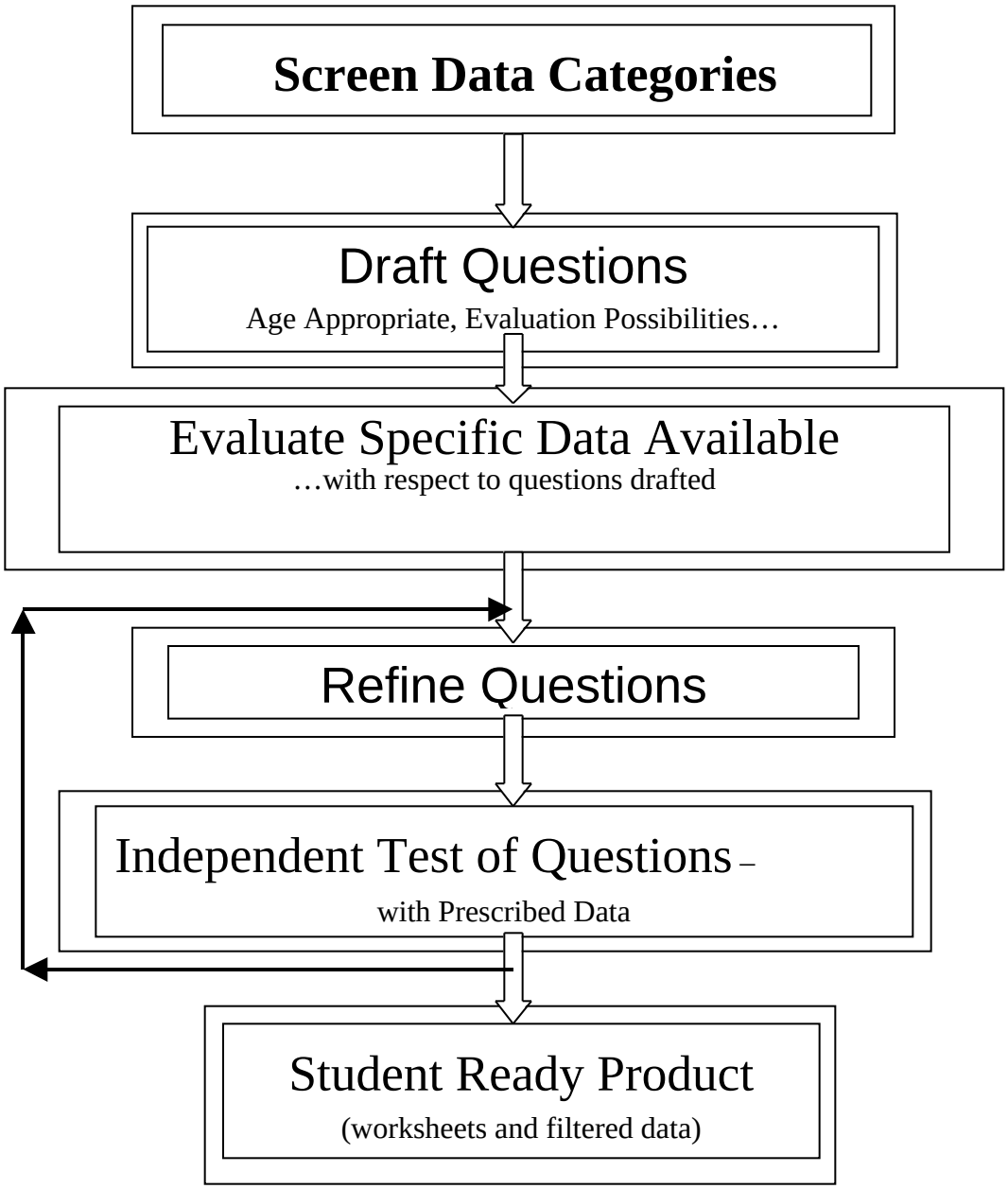
4. Is there a logical order of questioning that leads students to conclusions and understanding of the data? Explain why.

5. How does the activity effectively assess students' skills in data analysis and graphing? Give specific examples.

6. Would you recommend any other changes to this activity?

Additional Comments: (If more room is needed, please use the back of this sheet.)

PBA Development Process



History of the Performance Assessment Question:

Original:

1. Study the age brackets for mothers and fathers in spreadsheet #94 in Vital Folder. What was the average age for a mother and father in 1960? What was it in 1990? Create a line graph for each of the age brackets, showing the change in numbers in each for both the mother and father for the years 1960, 1970, 1975, 1980, 1985, and 1990. Are you surprised by the outcomes? Why? Why do you think the ages for mothers and fathers have or have not changed from 1960-1990?

2. Study spreadsheet #14 in the Population Folder. Make pie graphs representing the distribution of the population according to age brackets for men and women for the years 1970, 1980, and 1990. Which age brackets have changed the most? Which age brackets have hardly changed? Using the data and your pie graphs, make a prediction as to what you think the distribution will look like in the year 2100. Depending on the age bracket that you predict and support for being the largest in 2100, what might this mean for the United States? What might have to change or improve to accommodate an increase in this age bracket? Remember to justify your predictions with the data and your pie graphs.

After First Revision:

A local news station reported that women are enjoying longer lives than men in society today. Do you think this has always been true since the early 1900's for the United States? Why? Study the adobe acrobat file "sec31". Make a table for the average lifespans for men and women for every ten years, starting with 1930 and ending with 1990. Find the difference in ages for each year. Graph the difference in ages on a line graph. On the x-axis, put each year and on the y-axis put the ages.

- What do you notice about the difference in ages for each year as we get closer to 1990?
- What might have caused the increase in the difference between the average lifespan for a man and the average lifespan for a woman? (Think about what happened in United States History)
- The difference between the ages of men and women is now gradually decreasing. Do you think this will continue to fall? Why or why not?

Final Version: See the Student ready exemplar Performance Based Assessment that follows.

A local radio station recently reported that women are enjoying longer lives than men in society today. Think about what you know about older men and women in your family. Is there anyone that you think is *really* old?

If you came in with some family information about how long some of your great grandparents or other generations lived, you could get some bonus points on this assignment.

After the class discussion and hearing other students talk about older people they know, The Math Curse quickly attacks you because of the life expectancies spreadsheets that you made in pre-algebra class. You decide that setting up a chart and graph would help people look at data and make a decision for themselves about women living longer. You ask Mrs. Lewis if you can search for some data….lucky you! She just happens to have the Statistical Abstract of the United States stored on the school's server…and she recommends the section about 20th Century Statistics to you. Off to the computer lab!

(She just HAPPENS to have these exploratory questions for you, too):

Once you are logged into the computer network, follow the path: EXCEL spreadsheet, open file on public (S) drive, go into in "Mrs. Lewis Geo folder" and find and open the spreadsheet named Life Expectancies.

Look at the table. It shows you the average lifespans for men and women in the United States for every ten years from 1930 to 1990.

1) What kind of graph do you think would best display this data? _____

   Why do you think this is the best choice?

2) Construct and then print out your graph.

3) In the space below, construct a table to show the differences in years of life expectancy between the genders for all the years given.

4) Construct an Excel spreadsheet of your data table in #3.

5) Construct a line graph of the data in the spreadsheet. Why is a line graph the most appropriate style to display the data?

6) What do you notice about the differences in the ages for each year as time progresses from 1930 to 1990?

7) What might be a reason for the differences you noted in #6?

8) Do you think the pattern you observed in #6 will continue to be the same or change? _____ Justify your opinion, citing information from the chart or graph. What would predict the difference will be when the 2000 Census data is released? _____

Task Specific Rubric for Designing a Performance Based Assessment

Mount Saint Mary's College, MA109, Fall, 2000

Elements / Scale	Understanding of Problem (Question)	Organization of Data (Math Content)	PBA Questioning Process (Activity Sheet)	Participation in Revisions (Pedagogy)	Appearance of Final Product (Overall Work)
Weight					
4	-Clear question -Prompt Appropriate (audience and goal) -Is effective use for problem solving	-Filtered data complete and well organized for student use -Data on disc and hard copy	-Data charts and graph(s) required -Follows 5E's -Uses higher level thinking skills in the sequencing of questions	-Makes timely appts. With mentors -Follows timeline for peer reviews -Portfolio complete	-Uses 12 point, Arial font; provision for student name -Adequate room for student responses -No spelling or grammar errors
3	-Prompt is appropriate, but not clear in its expected outcome	-Data available, but not easily usable by students	-Follows 5 E's -Requires display -little evidence of higher level skills -Sequencing needs revisions	-One Inadequate review -Misses >1 timeline deadline -Portfolio is complete	-Not in correct font/point
2	-Not an effective use of problem solving strategies	-Data not in usable form or not on disc	-Develops an approach strategy, but it impedes student responses -Missing data display or 5 E's	-Portfolio incomplete in one component -Misses >2 timelines/deadlines	- Inadequate room for student responses (replies or student info)
1	-Question attempted, but not reflective of task	-No copy of data	-Numerous inaccuracies that interfere with problem solving process -Missing Data display and 5 E's	-Portfolio missing >1 component	Inadequate response room and incorrect font.

PORTFOLIO CONTENTS CHECK LIST

_____ Province of question/prompt

___ Evidence of testing process

_____ Original data set with table reference number

_____ All peer view comments

_____ Reflections on Peer Review Comments

_____ Final copy of prompt and exemplar response…hard copy and on disk

_____ Copy of data for students use….hard copy and disk