Lesson 4: Have Data, Now What?

- **7th Grade Texas History**
- **Duration:** 45 minutes
- **History TEKS:**
  
  **(21) Social Studies Skills.** The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including electronic technology. The student is expected to:
  
  (A) Differentiate between, locate, and use valid primary and secondary sources such as computer software, databases, media and news services, biographies, interviews, and artifacts to acquire information about Texas.
  
  (B) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.
  
  (H) use appropriate mathematical skills to interpret social studies information such as maps and graphs.

- **Learning Objective(s):**
  
  o Students will analyze data to acquire information and draw conclusions to determine a viable solution to their issue.

- **Materials:**
  
  o Analysis stations (1 set, posted around the room)
  o Student Notebooks/paper for answer sheet
  o Student created data

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**Procedure:**

1. The goal of this activity is to practice analysis skills to help students understand their data to develop a plausible solution to their issue.
2. Set up the data stations around the room before students arrive.
3. In their groups students will visit each station and perform the analysis activity. Students should answer questions in their own notebooks. (set a timer for 5 minutes at each station)
4. Teacher should monitor student progress and offer guidance as needed.
5. Once finished, students will return to their desks to review answers and ask questions.

**Assessment**

1. Students will pull their own data collected through research and analyze.
2. After analysis, students will review their Root-Solution Tree handout to determine if they will keep their possible solutions the same or if they need to change direction. Students will star any solutions they are still working towards and revise the tree if needed.
3. Solutions will be used in Lesson 5: Implementing a Solution.

**Modifications:**

1. Teacher may provide packets of the documents for students to analyze in pairs v. rotating around the room.
Statistics below are from an elementary school. All students were learning the same curriculum at the same school.

<table>
<thead>
<tr>
<th>Percentage of students scoring proficient on state test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys in coed classes: 37% scored proficient</td>
</tr>
<tr>
<td>Girls in coed classes: 59% scored proficient</td>
</tr>
<tr>
<td>Girls in single-sex classes: 75% scored proficient</td>
</tr>
<tr>
<td>Boys in single-sex classes: 86% scored proficient</td>
</tr>
</tbody>
</table>

1. What is the difference in the percentage of girls whom scored proficient in the single-sex classes v. girls in the coed classes?

2. Which group of students scored the highest percentage of proficient?

3. Which group of students scored the lowest percentage of proficient?

4. Beyond same-gender classes, what else could be a contributing factor to these results?

5. What can you conclude about single-gender classes in elementary schools?
Statistics below are from an elementary school. All students were learning the same curriculum at the same school.

**Percentage of students scoring proficient on state test**

- Boys in coed classes: 37% scored proficient
- Girls in coed classes: 59% scored proficient
- Girls in single-sex classes: 75% scored proficient
- Boys in single-sex classes: 86% scored proficient.

1. What is the difference in the percentage of girls whom scored proficient in the single-sex classes v. girls in the coed classes?
   - 16%

2. Which group of students scored the highest percentage of proficient?
   - Boys in single-sex classes

3. Which group of students scored the lowest percentage of proficient?
   - Boys in coed classes

4. Beyond same-gender classes what else could be a contributing factor to these results?
   - Teacher training in best practices for gender classes.

5. What can you conclude about single-gender classes in elementary schools?
   - Based on these statistics, single-gender classes are best for student achievement, especially for boys.
2. Why would same-gender classes cause a reduction in discipline referrals and bullying within the same school?

3. Why would teacher’s need more training in how to teach same-gender classes?

4. What can you conclude about single-gender classes based on these interviews?
1. What are the benefits of a single-gender classroom according to the male student?
   The boys are not afraid to get interested in poetry, something they would be afraid of doing if girls were in the room.

2. Why would same-gender classes cause a reduction in discipline referrals and bullying within the same school?
   Students would not show off as much or bully others if they are not trying to impress the opposite gender.

3. Why would teachers need more training in how to teach same-gender classes?
   Different techniques are used if teaching a single-gender class v. a coed class. When the room is full of the same gender there are more opportunities to teach different topics and keep students’ comfort level high.

4. What can you conclude about single-gender classes based on these interviews?
   Single-gender classes seem to make students more comfortable and are supported by students, parents, principals and teachers.

Excerpt from an interview with a male student in a single-gender class.

"We don’t just read poetry in Mr. Kemp’s class, we actually do poetry and really get into it—we wouldn’t do that if there were girls around."

Excerpt from an interview with a parent of a student in all single-gender class.

"I love the single-gender classes because boys intimidate girls and girls, you know, can intimidate boys"

Excerpt from a principal that implemented the single-gender model at the middle school level.

“There has been a change, grade point averages are up, girls and boys are benefiting from our model. We have less discipline referrals and bullying incidents and more students taking advanced classes."

Excerpt from a teacher of a single-gender classroom.

“I have had to learn new techniques to teach one gender at a time but I have seen gains in students that were previously struggling academically. The biggest challenge for me was finding hands-on activities to help my all boys classes stay engaged”
1. Which gender seems to get the most attention in this teacher’s classroom?

2. Does this chart support or refute the argument in support of single-gender classrooms? Explain.

3. What do you recommend to this teacher to help reach all students?
This graph shows classroom observations in a coed setting.

1. Which gender receives more praise and acknowledgement? Explain.
   The boys seem to get the most attention. The teacher calls on them most and allows them to blurt out more.

2. Does this chart support or refute the argument in support of single-gender classrooms? Explain.
   This chart supports single-gender classrooms because of the big discrepancy between the participation of girls and boys. Girls will have more opportunities to participate in a single-gender classroom.

3. What do you recommend to this teacher to help reach all students?
   The teacher needs to be aware of the habits within the classroom; more training would help this teacher and same-gender classrooms might help this teacher reach more students.
### Statistics from multiple studies of same-sex v. coed classrooms.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Total Number of Studies</th>
<th>Pro-SS Number of Studies</th>
<th>Pro-SS Percent</th>
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<tr>
<td><strong>Concurrent Academic Accomplishment</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>1) All-Subject Achievement Test Scores</td>
<td>9</td>
<td>6</td>
<td>67%</td>
<td>1</td>
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<tr>
<td>2) Mathematics Achievement Test Scores</td>
<td>14</td>
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<tr>
<td>6) Social Studies Achievement Test Scores</td>
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<td><strong>Subtotal</strong></td>
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*Statistics from research studies from US Department of Education on www.ed.gov*

1. What is the percentage of achievement in All-Subject Achievement Test Scores for Same-gender classes?
2. What is the percentage of achievement in All-Subject Achievement Test Scores for Coed classes?
3. What does this data show you about same-gender classes?
4. What does this data lack in proving the benefits of same-gender classes?
5. What would be the next steps in providing data to support same-gender classes?
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Statistics from research studies from US Department of Education on www.ed.gov

1. What is the percentage of achievement in All-Subject Achievement Test Scores for Same-gender classes?
   67% achievement for same sex classes.

2. What is the percentage of achievement in All-Subject Achievement Test Scores for Coed classes?
   11% achievement for coed classes.

3. What does this data show you about same-gender classes?
   Same gender classes have been observed and tend to have higher achievement than coed classes.

4. What does this data lack in proving the benefits of same-gender classes?
   There aren’t many studies of coed classes to compare with the same-sex classes. There also aren't many studies for same-gender to truly show achievement.

5. What would be the next steps in providing data to support same-gender classes?
   More studies need to be completed to compare the two educational systems to make a full argument to support same-gender classes.