### Estimating the Median P-T Ratio

To estimate the median P-T ratio for each group of states, we can follow these steps:

1. \*\*Identify the Total Number of States\*\*: For the West group, there are 24 states; for the East group, there are 26 states.

2. \*\*Determine the Position of the Median\*\*:

- For the West group, the median will be the average of the 12th and 13th values (since 24 is even).

- For the East group, the median will be the average of the 13th and 14th values (since 26 is even).

3. \*\*Locate the Median in the Histogram\*\*:

- \*\*West Group\*\*:

- Count the cumulative frequency until reaching the 12th and 13th states.

- From the histogram, the counts are: 14-16 (3 states), 16-18 (6 states), 18-20 (8 states), 20-22 (4 states), 22-24 (3 states).

- Cumulative: 3, 9, 17, 21, 24.

- The 12th and 13th states fall within the 18-20 range.

- Therefore, the estimated median for the West group is approximately the midpoint of 18-20, which is \*\*19\*\*.

- \*\*East Group\*\*:

- Count the cumulative frequency until reaching the 13th and 14th states.

- From the histogram, the counts are: 14-16 (2 states), 16-18 (8 states), 18-20 (10 states), 20-22 (4 states), 22-24 (2 states).

- Cumulative: 2, 10, 20, 24, 26.

- The 13th and 14th states fall within the 18-20 range.

- Therefore, the estimated median for the East group is approximately the midpoint of 18-20, which is \*\*19\*\*.

### Comparison of Distributions

- The distribution of P-T ratios for the West group appears to be more spread out with a noticeable peak in the 18-20 range, but with significant counts in the 16-18 and 20-22 ranges as well.

- The distribution for the East group is more concentrated, with a pronounced peak in the 18-20 range, indicating a higher concentration of states around this ratio.

- Both groups show a similar central tendency (median), but the West group has a broader distribution, suggesting more variability in P-T ratios compared to the East group.

### Comparison of Mean P-T Ratios

Given that the median P-T ratio for both groups is estimated to be 19, and considering the shape of the distributions:

- The West group has a broader distribution with more states having lower (16-18) and higher (20-22) ratios, which suggests that the mean might be slightly influenced by these outliers.

- The East group, being more concentrated around the 18-20 range, likely has a mean closer to the median.

Thus, I would expect the mean P-T ratio for the West group to be slightly higher than the median due to the broader spread, while for the East group, the mean would be very close to the median due to the concentration of data points around the median. Therefore, the mean P-T ratio for the West group might be slightly higher than that for the East group during the 2001–2002 school year.