

Name: _____ Hour: _____ Date: _____

Does Memory Training Help?



Does memory training help? You will be given a list of words. You will be given 3 minutes to memorize as many as possible by just rereading the words. You will record as many words as you can remember. You will then be given another list of words to memorize for 3 minutes using a memorization strategy. You will record as many words as you can remember.

1. How many words did you get correct using strategy 1 (rereading)?
2. How many words did you get correct using the strategy 2 (story)?
3. Add your data to the table on the board. Copy the data below and calculate the difference in each pair.

| | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|
| Strategy 1 | | | | | | | | | |
| Strategy 2 | | | | | | | | | |
| Difference (S2 – S1) | | | | | | | | | |

| | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|
| Strategy 1 | | | | | | | | | |
| Strategy 2 | | | | | | | | | |
| Difference (S2 – S1) | | | | | | | | | |

| | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|
| Strategy 1 | | | | | | | | | |
| Strategy 2 | | | | | | | | | |
| Difference (S2 – S1) | | | | | | | | | |

4. Use the 1 Quantitative Variable (single group) applet at stapplet.com to enter the **Differences** only. Make a dotplot of the differences below:

What does the dotplot suggest about the memory training?

Mean: _____ Interpret:

SD: _____

Name: _____ Hour: _____ Date: _____

5. Construct a 95% confidence interval for the true mean difference in words remembered by students using story rather than rereading.

STATE: State the parameter you want to estimate and the confidence level.

Parameter:

Statistic:

Confidence level:

PLAN: Identify the appropriate inference method and check conditions.

Name of procedure:

Check conditions:

DO: If the conditions are met, perform the calculations.

General Formula:

Specific Formula:

Work:

Answer:

CONCLUDE: Interpret your interval in the context of the problem.

Interpret:

6. Do we have convincing evidence that there is more words remembered using a story instead of rereading?

Name: _____ Hour: _____ Date: _____

Confidence Interval for Paired Data

Important ideas:

Check Your Understanding

Teenagers spend, on average, approximately 5 hours online every day. Do parents realize how many hours their children are spending online? A family psychologist conducted a study to find out. A random sample of 10 teenagers were selected. Each teenager was given a Chromebook and free internet for 6 months. During this time their internet usage was measured (in hours per day). At the end of the 6 months, the parents of each teenager were asked how many hours per day they think their child spent online during this time frame. Here are the results.

| Teenager | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Actual time spent online (hours/day) | 5.9 | 6.2 | 4.7 | 8.2 | 6.4 | 3.8 | 2.9 | 7.1 | 5.2 | 5.8 |
| Parent perception (hours/day) | 2.5 | 3 | 3 | 3.5 | 1.5 | 2 | 2 | 3 | 2.5 | 3 |
| Difference (A – P) | 3.4 | 3.2 | 1.7 | 4.7 | 4.9 | 1.8 | 0.9 | 4.1 | 2.7 | 2.8 |

- Make a dotplot of the difference (A – P) in time spent online (hours/day) for each teenager. What does the dotplot reveal?
- Find the mean and standard deviation of the difference (A – P) in time spent online. Interpret the mean difference in context.
- Construct and interpret a 90% confidence interval for the true mean difference (A – P) in time spent online.