

KIN 377 - Motor Learning

Lab Activity - Chapter 14

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Student Lab Activity: One-Hand Toss and Catch Above the Head

Objective:

The primary objective of this lab activity is to investigate the influence of video demonstrations, along with verbal instructions, on the acquisition of a specific motor skill. This skill involves tossing a single juggling ball above the head from one hand and catching it with the opposite hand.

What You'll Need:

- One juggling ball per pair
- A timer or stopwatch
- Individual data collection sheets

Your Task:

You will collaborate with a classmate. One of you will perform the motor skill task, while the other will serve as the timekeeper and data recorder. After the first 5 trials, you will switch roles.

Groups:

You will belong to one of two groups:

1. **Group A:** You will watch a brief video demonstration before the first set of 5 trials and again before the second set of 5 trials.
2. **Group B:** You will receive verbal instructions but will not view any video demonstration.

How to Proceed:

If You're in Group A:

1. Watch the 1-2 minute video demonstration before the first set of 5 trials.
2. Perform the first 5 trials.
3. Watch the video demonstration again before the second set of 5 trials.

If You're in Group B:

1. Listen carefully to the verbal instructions outlining how to perform the motor skill.

For All Pairs:

1. Determine who will initially perform and who will be the timekeeper and data recorder.
2. The performer will complete 5 trials, after which roles will be switched for the subsequent 5 trials.
3. Each trial lasts 10 seconds.
4. A 10-second rest interval will be observed between each trial.
5. The timekeeper is responsible for timing and will record the number of successful tosses and catches for each trial on the data collection sheet.

Data Collection:

- After the completion of the 10 trials (5 as the performer and 5 as the timekeeper), both participants should fill in their respective data collection sheets.
- These data will later be transferred to a centralized form for class-wide analysis.

The addition of a second video demonstration for Group A could serve as an interesting factor for further analysis. This updated instruction set should encapsulate all the revisions.

Data Collection Sheet**Student ID:****Group (A/B):**

| <hr/> | |
|---------|--------------------------------|
| Trial | # of Successful Tosses/10 secs |
| <hr/> | |
| Trial 1 | |
| Trial 2 | |

| Trial | # of Successful Tosses/10 secs |
|--------------|--------------------------------|
| Trial 3 | |
| Trial 4 | |
| Trial 5 | |
| switch roles | |
| Trial 6 | |
| Trial 7 | |
| Trial 8 | |
| Trial 9 | |
| Trial 10 | |

Data submission

You instructor will open the submission form in class.

Data Analysis

Line Graph

1. Copy the range of relevant data (Group, Trials 1-10)
2. Log into ChatGPT (free account)
3. Choose GPT-4
4. Paste the data to the chat
5. Prompts
 1. reformat data
 1. Act as a data scientist. reformat the data into three columns = Group (A,B); Trial (1-10); Trial Mean value.
6. Copy the table created by ChatGPT and paste it to Google Sheets
7. Click on Insert > Chart
8. Under Chart editor (Setup) (right panel), choose Line chart
9. X-axis = select the range from B1:B??
10. add two time series
 1. one for Mean Values of Group A and one for Group B

Testing for significance

1. Visit the following link and click on T-Test Calculator: <https://bit.ly/3PAn3QN>
2. Copy the mean values for Group A and paste it inside the Treatment 1 Box, then for Group B and paste it inside the Treatment 2 box.
3. Choose .05 for significance level and One-tailed for the type of test.
4. After running the test, the result will display at the end of the page in the next screen.