

## **Video: Presentation Expectations (9:10):**

### **(0:00):**

Today I'm going to present data on the oral presentation for CS 1173 I'm going to provide the requirements and read the expectations for success example.

### **(0:15):**

This presentation is structured where we start with the overview of the format, then talk about the expectations, and finish by giving a brief example of the technical presentation using data from a previous semester.

### **(0:30):**

For this presentation you will need to prepare 7-8 minute technical presentation similar to what you would give at a technical conference. This presentation will need to have a synchronized visual or a format which will need to be incorporated into 1 file which you will then upload to blackboard. The video should be focused on the presentation.

### **(0:54):**

This assignment will present the results of your analysis comparing either interesting or important aspects of the class sleep diary. You can use your personal diary as a comparison. The rubric for this assignment is on blackboard and is a good idea to review it before starting your presentation. First, you will need to present some background to your thesis, then you will need to present your thesis with a brief explanation of the methodology. In your presentation you will need to have at least 4 graphs all supporting or contradicting your thesis. You will be able to see examples in future slides. You also need to implement 2 different statistical techniques into your presentation. Think ahead, you will be able to see examples in future slides. The last slide of your powerpoint will need to include a minimum of at least 3 references. A short time after you uploaded your presentation, you will be assigned some presentations to grade. You will use the same rubric when grading. You will grade them and then rank them from highest to lowest and submit the grading and rankings as an assignment on blackboard. You will get the timing on this from the instructor. Now I'm going to give you a couple of minutes of what is expected in the presentation. I'll start with what should be in your second slide the outline.

### **(2:10):**

I'll present my background, thesis, and methodology and present several graphs and statistics. The sample slides will have a green background. What you see should be on your second slide.

### **(2:22)**

### **(2:28):**

Until the 1950s, sleep was considered a passive, biologically insignificant part of life. Since then, research has shown that it is very important for physical and mental health. Rats have a normal lifespan of 2-3 years, but those deprived of some sleep survive about 5 weeks and those deprived of all sleep survive 3 weeks. Lindberg analyzed the quantity and quality of sleep in 529 young adults reported by questionnaires. In this study, females reported a higher need for more sleep and reported more frequent anxiety than men. They also found that females reported a greater absence of feeling refreshed in the morning and excessive daytime sleepiness. This team analyzed a significant collection of psychological states that might affect sleep and were unable to explain gender differences on any of them. So, my thesis is does gender make a difference in sleep.

**(3:27):**

To address this lack of awareness, in the spring of 2014 in the academic semester, the data visualization class, CS 1173, at UTSA had all students maintain a sleep diary for 21 days beginning on Jan. 29th 2014. Students kept track of what times they went to bed, what times they woke up, the times to fall asleep, the amount of time they were awake during the night. Students also tracked whether they used an alarm and whether they consumed day or evening caffeine. They also had to put on a scale their overall sleepiness for that day. At the end of 21 days, students input the data into MATLAB and submitted the individual data sets for consolidated analysis. Additional data included gender and section number, 0 for instructors and teaching assistants and 1-6 for the students. MATLAB was used for the overall analysis.

**(4:20):**

A total of 248 students submitted sleep diaries of which 127 were female which is 51%. Subject 222, a female in section 0 was used as a reference point. The table lists subject 222's mean wake up time, bedtime, hours of sleep, total hours of sleep which is the total hours of sleep + naptime - time awake during the night. Notice that her wake up time was much earlier by at least an hour then both her section and her entire cohort. Her bedtime was also more than an hour earlier then her section but less than an hour earlier then the bedtime of the overall cohort. Her total hours of sleep are much lower than both her section and the overall cohort probably because of her early wake up time.

**(5:13):**

To determine if this instructor of her section is typical, the total hours of sleep by section are plotted in this figure. There are 6 sections of the class and section 0 is 2 instructors and 2 TAs. Several features of this graph should be pointed out. The first day that data was collected was a Wednesday, so the weekend days starts 3 days later. The higher hours of sleep for most sections are days 4 and 5, days 11 and 12, and days 17 and 18 which correspond to weekend days. Another observation is that Section 0 which is the red + has the lowest value for any of the sections with an overall low of 6.5 hours on 1 weekend day. All participants in section 0 are

female which raises a question of whether this low total of sleep is gender specific. I did a 2 sided t test to compare average wake times of the two genders and the results which do not reject with a p of .0035 indicate the average wake time for the males and females for the entire cohort is significantly different. Another 2 sided t test on the wake times by gender indicated that we could reject this hypothesis. Similarly, average total hours of sleep did not show a gender difference.

**(6:40):**

These figures are histograms of all days, not averages, of bedtimes and wake times by gender. If you notice on the left, the male bedtimes are tightly grouped to slightly after midnight 0.48 + or - 2.58. The females are slightly more widely distributed. Both appear to have normal distributions. On the right, wake times are not that significantly different. The wake histogram does show distinctive groupings probably based around whether the student used an alarm or not. 70% of men, 68.8% of men.

**(7:27):**

So, for the discussion, these students seem to fit the stereotype. They get less sleep during the week and try to make it up on the weekends, but based on this data we were not able to determine whether bedtime which I did report earlier as a possible gender difference was a key factor for Lindberg's results.

**(7:47):**

So in conclusion, I collected data of caffeine but not analyzed. Another limiting factor we had was that other parameters that affect sleep such as your activity during the day. If you are active in sports and activities or if you consumed alcohol, and your daily schedule can all have an effect on your sleep. If you have morning classes you would probably go to bed earlier but if you had classes at 4pm you probably might not.

**(8:19):**

These are the references that I used.

**(8:20):**

So now back to my discussion, overall the presentation that I gave was shorter than what is required for you, but provides basic and samples for what is used and how figures and statistics can be used. Many conferences record their presentations. You are free to watch several and see how others do it. You need to be smart and review the rubric for how points are distributed for your grade. Your instructor will provide a timeline for when this presentation is due and when your review of other students' presentations is due. If you have any questions, please ask the instructor.