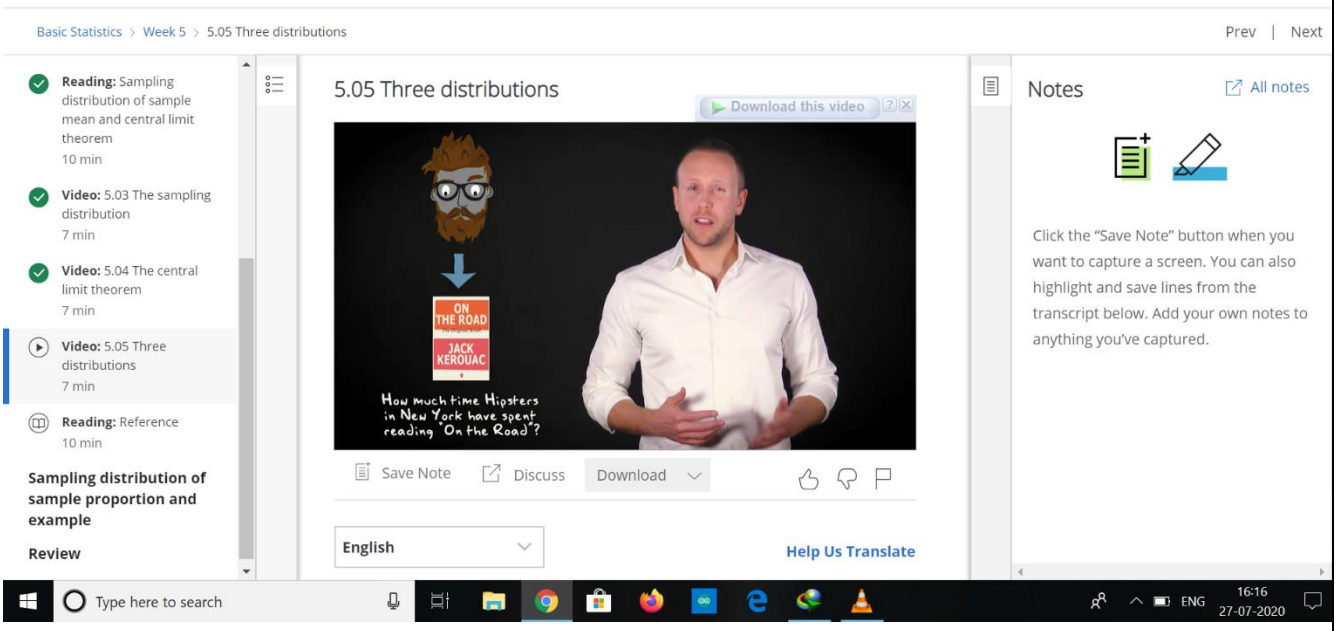
DAILY ASSESSMENT FORMAT

Date:	**28/07/2020**	**Name:**	**K B KUSHI**
Course:	**Coursera**	**USN:**	**4AL17EC107**
Topic:	• **Basic Statics**	**Semester & Section:**	**6 & B**
Github Repository:	**https://github.com/alvas-education-foundation/KUSHI-COURSES.git**		

SESSION DETAILS

Session images



Report:

Almost all statistical studies are based on samples. Imagine you want to know to what extent students in London identify themselves as hipsters. It's almost impossible to ask all students. So you decide to draw a sample of say, 200 respondents, and to assess to what extent they see themselves as hipsters. The great thing about statistics, is that it can help you to draw conclusions about all students in London, which is the population, based on the analysis of only these 200 respondents, which is the sample.

If you measure a couple of variables, like gender, age, attended university, etc., you can do all kinds of computations. You can do univariate analysis and compute modes, means, and standard deviations. You could also do bivariate analyses and compute Pearson's r correlation coefficients

or do regression analysis. All numerical summaries resulting from this computation are fully based on your sample and they're called statistics. In general, the methods for summarizing sample data are called descriptive statistics. However, in the actual research practice, we are often not so much interested in summaries of a specific sample, in our case the 200 selected students, but our real goal is to make statements about the entire underlying population. So in our case, all 300,000 students in London.

The central question now is, what the mean hipsterness score in the wider population is? You know the relevant statistic in your example, x-bar equals 3.12, but what you actually want to know is what the mean hipsterness score in the wider population is. You want to know, in other words, the value of population parameter mu. Methods of inferential statistics can help us to answer such questions. So if you want to know more about that or about hipsters, watch the videos in this module very carefully.

The central limit theorem says that, provided that the sample size is sufficiently large, the sampling distribution of the sample mean has an approximately normal distribution. The mean of the sampling distribution equals the population mean, and the standard deviation of the sampling distribution equals the standard deviation in the population divided by the square root of the sample size.

They can look at these possible shapes of population distributions. This is what the sampling distributions of the sample mean would look like if you drew samples of n = 30. Remember, this means that you draw an infinite number of simple random samples of 30 respondents from the population and display all the resulting sample means in a distribution

If sigma becomes 3, sigma x bar becomes 0.55, etc., etc. So if the standard deviation of the population distribution increases, the standard deviation of the sampling distribution increases as well. In other words, the larger the variability and the population, the larger the variability of the sample means.

The mean of the sampling distribution, mu x bar equals the population mean, mu. And the standard deviation of the sampling distribution, sigma x bar, equals the standard deviation of the population distribution, sigma, divided by the square root of the sample size, n.