DAILY ASSESSMENT

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Course:	Coursera	USN:	4AL17EC070
Topic:	Basic Statics	Semester & Section:	6TH SEM & 'B' Section
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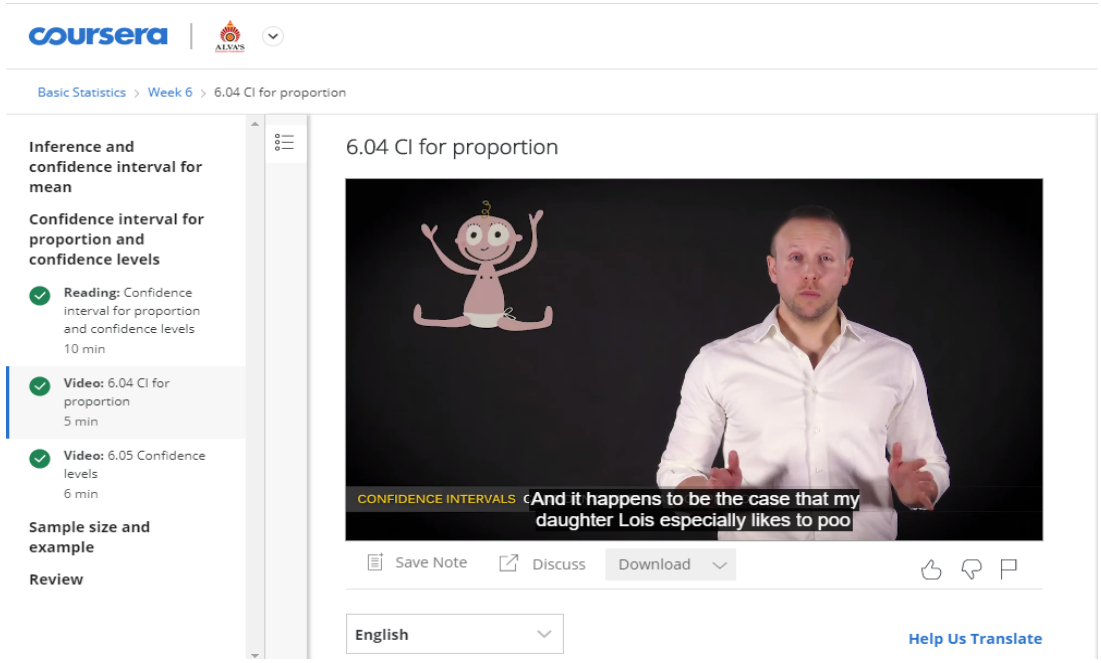
SESSION DETAILS



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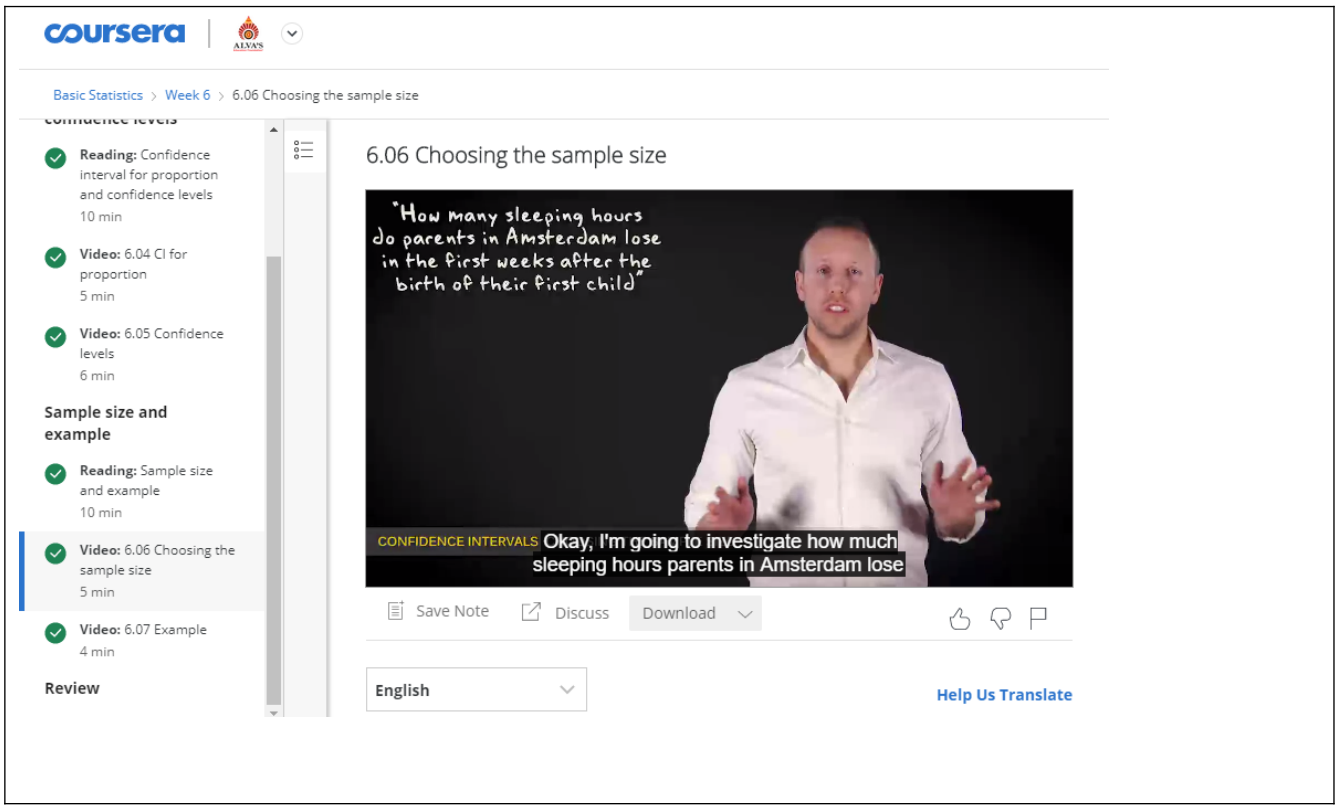

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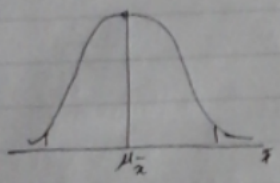
Statistical Inference

Statistical inference

- Estimation
  - Point estimation
  - Interval estimation
- Hypothesis testing

Confidence interval



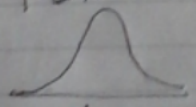
$\mu_{\bar{x}} = \mu$

$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

Confidence interval
↓
estimate a population mean
↓
in 95% of the samples the population value will fall within the confidence interval $\bar{x} \pm 1.96\sigma_{\bar{x}}$

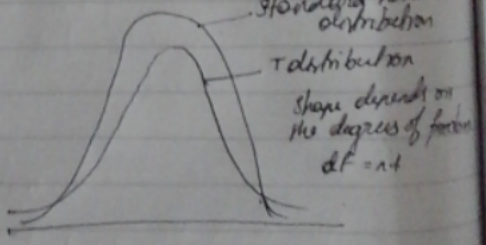
where $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

T distribution



↓

Bell shaped symmetric
@ mean of zero
takes into account



Assumption

1. Randomization
2. approximately normal population distribution

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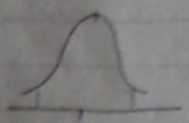
6.1 for proportion

confidence interval for a proportion

sampling distribution of the sample proportion



$\mu_p = \pi$

$\sigma_p = \sqrt{\frac{\pi(1-\pi)}{n}}$

$p \pm 1.96\sigma_p \quad \sigma_p = \sqrt{\frac{\pi(1-\pi)}{n}}$

$p \pm Z_{95\%}(se)$

$se = \sqrt{\frac{p(1-p)}{n}}$

Using the Sample Size

Sample size means

1 magnitude of desired margin of error

2 confidence level

3 variability

$n = \frac{\sigma^2 Z^2}{m^2}$

Sample size proportion

$n = \frac{p(1-p)Z^2}{m^2}$