



Leids Universitair
Medisch Centrum

Using videos and other media for guidance

ROeS meeting 10 Sept 2021

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STRATOS
INITIATIVE

STRATOS objective

“To provide accessible and accurate guidance in the design and analysis of observational studies. The guidance is intended for applied statisticians and other data analysts with varying levels of statistical education, experience and interests.”

Knowledge translation

“It is important to reduce the severe gap between knowledge available in statistical literature and methods used in practice. This panel (TP) will help making knowledge derived in the initiative generally available to a broader audience of analysts with varying levels of statistical education, experience and interests (see [varying levels of statistical education, experience and interests](#)) and propose creative approaches to increase efficiency and timeliness of dissemination of the STRATOS results.”

- Papers
- Workshops
- Social media
- Online tools
- ...

The logo for the STRATOS Initiative. The word "STRATOS" is written in a large, bold, dark blue font. The letter "A" is stylized with a green bar chart graphic integrated into its shape. Below "STRATOS", the word "INITIATIVE" is written in a smaller, green, all-caps font, with each letter spaced out.

Some experience



Nederlands Tijdschrift voor Geneeskunde (1856)



Rembrandt's Nightwatch (1642)

How things started

- Short message (70 secs = ~250 words)
- Aimed at clinicians
- Animated powerpoint + voice-over
- Approx. 25 different topics
 - P-value
 - Confidence intervals
 - Publication bias
 - Confounding
 - Regression to the mean
 - Missing data
 - etc



How things started

Views:

P-value: >56K

Confidence interval: >32K

Confounding: >17K

(note, videos are in Dutch)

The screenshot shows a YouTube video player for the video "Wat is een p-waarde?" by the channel ntv. The video title is "Wat is een p-waarde?" and it has 37,369 views and was uploaded on April 21, 2016. The video player shows a progress bar at 0:03 / 2:40. The video content includes the ntv logo (Nederlands Tijdschrift voor Geneeskunde) and the text "Betrouwbaar onderzoek herkennen" and "WAT IS EEN P-WAARDE?". The video player interface includes a search bar with "p-waarde ntv", a play button, a volume icon, and a progress bar. The video player also shows a sidebar with recommended videos, including "Wat is de P-waarde?", "Intro to Hypothesis Testing in Statistics - Hypothesis Testing...", "Wat is verificatiebias?", "Uitleg over correlaties", and "NTVg methodologie: is het artikel relevant en juist?".

STRATOS videos ?



Youtube search

The screenshot shows a search for 'statistics' on YouTube. The search bar contains 'statistics' and the results are filtered. The top results are:

- Teach me STATISTICS in half an hour!** by **zedstatistics**. 876K views · 2 years ago. Description: "THE CHALLENGE: 'teach me statistics in half an hour with no mathematical formula' The RESULT: an intuitive overview of ...". Duration: 42:09.
- Statistics made easy !!! Learn about the t-test, the chi square test, the p value and more** by **Global Health with Greg Martin**. 966K views · 2 years ago. Description: "Learning statistics doesn't need to be difficult. This introduction to stats will give you an understanding of how to apply statistical ...". Duration: 12:50.
- Statistics** by **Khan Academy**. Description: "Statistics: The average | Descriptive statistics | Probability and Statistics | Khan Academy · 12:35". Duration: 67.
- STATISTICS in One Shot (Complete Chapter) CBSE Class 9 Math Chapter 14 [Term 1 Exam] NCERT Vedantu** by **Vedantu Class 9 & 10**. Scheduled for 9/4/21, 9:30 AM. Description: "This episode brings you a Statistics in One Shot (Full Chapter) on CBSE Class 9 Math Chapter 14 to revise the important ...".

The screenshot shows a video player for a video titled "Section 1.1 What is Statistics?". The video is from the channel "Statistics - A Full University Course on Data Science Basics" and has 962,586 views as of June 12, 2019. The video player shows a progress bar at 0:09 / 8:15:04. The video content displays the text "Section 1.1 What is Statistics?".

Below the video player, the video title "Statistics - A Full University Course on Data Science Basics" is visible, along with engagement metrics: 23K likes, 295 comments, and options to share and save. The video duration is 11:39:38.

- Duration (minutes – hours)
- Target audience

STRATOS videos ?



Idea:

- Short message (< 3 minutes)
- Aimed at level 1 audience

But what about...

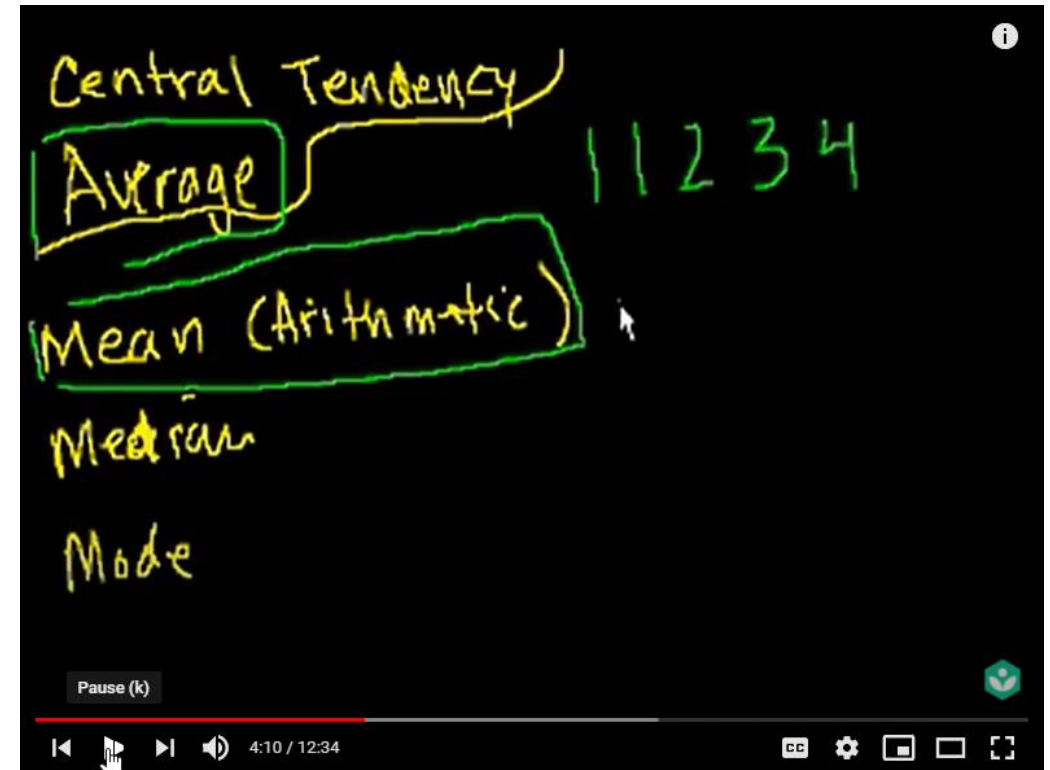
- format?
- technique?
- ...

Format?

Knowledge clips:

- Presenter only (e.g. recording of lecture)
- Share powerpoint / screen (with/without presenter)
- Animated video

- Time investment?
- Costs?
- What works best?



How Video Production Affects Student Engagement: An Empirical Study of MOOC Videos

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Analysis of ~7M watching sessions

Different courses, different modalities

Endpoint: engagement time, problem attempt

Evidence base

Finding	Recommendation
Shorter videos are much more engaging.	Invest heavily in pre-production lesson planning to segment videos into <u>chunks shorter than 6 minutes.</u>
Videos that intersperse an instructor's talking head with slides are more engaging than slides alone.	<u>Invest in post-production editing to display the instructor's head at opportune times in the video.</u>
Videos produced with a more personal feel could be more engaging than high-fidelity studio recordings.	Try <u>filming in an informal setting</u> ; it might not be necessary to invest in big-budget studio productions.
Khan-style tablet drawing tutorials are more engaging than PowerPoint slides or code screencasts.	Introduce <u>motion and continuous visual flow</u> into tutorials, <u>along with extemporaneous speaking.</u>
Even high quality pre-recorded classroom lectures are not as engaging when chopped up for a MOOC.	If instructors insist on recording classroom lectures, they should still plan with the MOOC format in mind.
Videos where instructors speak fairly fast and with high enthusiasm are more engaging.	Coach instructors to <u>bring out their enthusiasm and</u> reassure that they <u>do not need to purposely slow down.</u>
Students engage differently with lecture and tutorial videos	For lectures, focus more on the first-watch experience; for tutorials, add support for rewatching and skimming.

Table 1. Summary of the main findings and video production recommendations that we present in this paper.

STRATOS videos ?

Idea:

- Short message (< 3 minutes)
- Aimed at level 1 audience

Format:

- Short
- Informal
- Motion / continuous visual flow

First Topics:

- Categorisation of continuous predictors
- Modelling continuous predictors



Our experiences

1. Think about the audience!! (and check what you're doing)
2. Technical aspects & budget
3. Script everything
4. Don't work on the script too long (Sketch → share → feedback)
5. The shorter the better
6. Don't mind redoing your recordings (*another reason why you want to keep it short ;-)*)
7. Don't underestimate time investment
8. It's fun and rewarding and even apparently simple topics may spark a discussion



The End

