

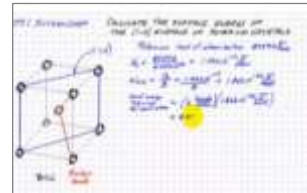
Educational Video Styles



Classroom lecture



Talking head



Digital tablet drawing



PowerPoint presentations

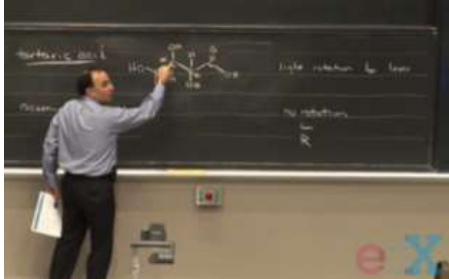


Presentation



Interview

Classroom Lecture



We record a regular class.

Uses just a single camera, with a fixed frame.

Teacher & work area (chalkboard) must be inside the frame.

Microphone

Preferably a lapel microphone, connected to the camera (it syncs the audio and image) or to the computer



If we have more than one camera

Camera 1: wide shot

Camera 2: close shot of the teacher (movable object)

Problems we may encounter

- Teacher moves appart the filming frame
 - Teacher is dinamyc, he usualy forgets!!!!
- Cameras may record in diferente formats and sizes
- Microphone may record:
 - the sound of clothes
 - The sound of chalk
- Chalk color matters! (problema with chalkboard or whiteboard)
- Students doubts are not heard

Solutions

Visual indicators on the floor that the teacher must not cross (duct tape)



Sound

- Lapel Microphone may record the sound of clothes
- Students doubts are not heard
 - Second microfone + a person next to you

Nowadays, students usually want “micro content”; they do not engage in an one hour vídeo

They just want to know something specific (to answer a doubt)

“Vantage”: it has the presence of a teacher (someone), although the student sees that the lesson was not for him/her specifically .



If the teacher uses a multimedia projector

We will have a problem with the lights!
(the camera focuses on the object with more light).

To fight this:

- In the video aquisition phase: we zoom with the camera
- In the editing phase: we crop and use zoom (using software)



Talking head



(Guo et al., 2013)

Style: “Talking head” shot of an instructor at a desk.

Main advantages

Recorded specifically for a video lesson, many factors can be controlled.

- Room without sound: Turn off mobile phones
Knocking on door
Close windows (sounds of nature & traffic)
- Move the furniture to put the teacher in an angle to take advantage of the light (natural or artificial light)
- Clothes: preferably uniform clothes, different from the background (we may want to isolate the person from the background when editing)



- Some teachers will like this format as it won't ask them to stand; most don't know what to do with the hands, the body position, etc.
- In other words, if the teacher wants to be behind a desk, let him!

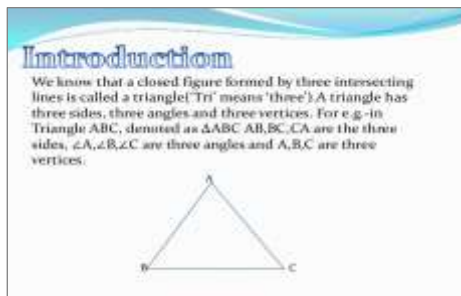
Example



(Chorianopoulos & Giannakos, 2013)

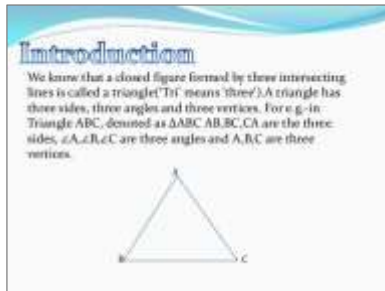
- A “talking head”
- Rule of thirds
- Is the board content visible? What are the main problems?
- Tilted angles do not work!
- Problems regarding differences in construct
- Caligraphy! (in a presential lesson the student can ask what is written, but not a online student)
- Space layout, sequence, hierarchy, of the content

PowerPoint slide presentations



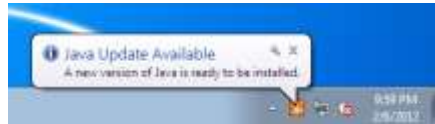
A Screencast.

A screencast is a video made by recording the activity in the computer screen with a screen recording software (audio is recorded as well)



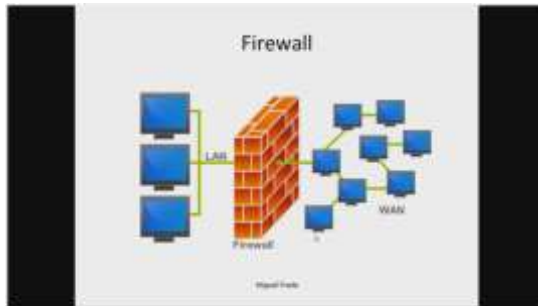
Some Good practices

- Don't move the mouse, unless for a didactic reason (ex: highlight something)
 - Students follow the mouse cursor on the screen: "cat effect"
- Shut down all apps (Skype, Outlook, Antivirus update)
- Don't film what is not necessary (ex: Windows desktop bar)



- Two types of screencasts:
 - Write on screen
 - Write on an interface
- If you have to write on an interface:
 - Print the exercises!

Case study 1

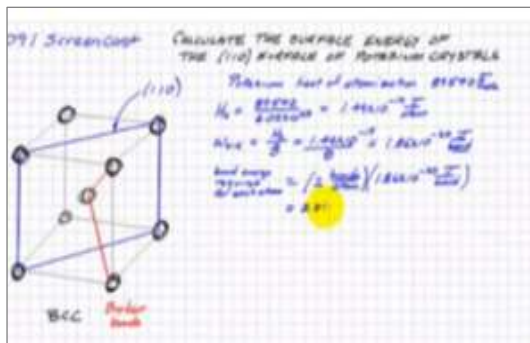


Firewall IPTABLES (parte 1) - Introdução

Miguel Frade's ICT lessons:

<https://www.youtube.com/watch?v=yoCME057t-0>

Digital tablet drawing



A format popularized by Khan Academy

The same rules for screencasts apply.



A wacom table & pen

Case Study: a Khan Academy video

understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language - without which one wanders in vain through a dark labyrinth."

-Galileo Galilei

30% off \$10

$$\text{Discount} = 30\% * \$10 = 0.30 * \$10$$

Let x be price of product

$$\text{Discount} = 30\% * x = 0.30 * x$$

let me define a variable.

The beauty of algebra | Introduction to algebra | Algebra | Khan Academy

2 496 908 visualizações

<https://www.youtube.com/watch?v=kpCJyQ2usJ4>

Case study 2

Distribuição Binomial / B.N. / Hipótese / Poisson

Exemplo: lançamento de um papel amarelado por um certo número de vezes

Distribuição Binomial: n tentativas e probabilidade de sucesso p em cada tentativa

Exemplo: qual é a probabilidade de acertar 8 vezes em 10 lançamentos?

$X \sim B(n, p) = B(10, 0.9)$

$P(X=8) = 0.9^8 * 0.1^2 * C(10, 8) = \dots$

Distribuição Binomial negativa: n tentativas e probabilidade de sucesso p em cada tentativa

Exemplo: qual é a probabilidade de acertar 8 vezes em 10 tentativas?

Distribuição Hipergeométrica: n tentativas e probabilidade de sucesso p em cada tentativa

Exemplo: num grupo com 10 homens e 15 mulheres, qual é a probabilidade de escolher uma comissão de 5 pessoas?

Diferenças entre as distribuições binomial, hipergeométrica, binomial negativa e Poisson

Hybrid solution.

Rui Paiva's Math lessons: <https://www.youtube.com/watch?v=zfoc8hUUo04>

Interview



(Ozan & Ozarslan, 2016)

This is a recording of dialog with a lecturer or domain expert.

It has a similar approach to bringing a guest speaker into the classroom to provide further discussion.

Just one camera doesn't bring added value
(we could just be listening to the audio)



Example: Coursera's Course on the Scientific Method
(University of Amsterdam)

Best practices

Use close shots (one per person)

This demands the use of several cameras.

Use the "thirds rule" when framing each person

This gives the idea that we are "seeing" the perspective of the person who is listening.

Create "change" by showing "related content"

Ex 1: person talking about childhood, his photos appear.

Ex 2: Film the interviewer "Nodding his head" in approval, while the person interviewed is talking.

Presentation Style



(Ozan & Ozarslan, 2016)

Recording of a lecture in which the lecture uses PowerPoint presentation, visuals, or audio to organize ideas to facilitate information processing.



Best practices

Ideally filmed in a studio with Chroma key.

This would make it easy to remove background (distracting element).

Note: we must have "situational awareness" if we plan to "point at something" (ex: like the weather girl on TV)

Film the teacher in a way that leaves some space for the additional visuals.

Case study

Reprodução de cor

- **Sistemas Ativos (ou aditivos), que emitem luz própria**
 - TV, monitor, etc.
 - Emitem luz com diferentes comprimentos de onda, de forma a obter a cor desejada.
- **Sistemas Passivos (ou subtrativos), que alteram a reflexão da luz**
 - Impressão
 - Adicionam pigmentos a uma superfície, de forma a filtrar a luz que é reflectida.

