

»BLENDED LEARNING – DIGITAL KNOWLEDGE COMMUNICATION«

CTI Workshop, September 8th 2016, Zurich
Presentation: Jeanine Reutemann

„Let’s face it: MOOCs promise disruption, and yet most of them to date deliver an extremely traditional learning experience. Basically, it’s the big-lecture-hall format, with an internet-sized lecture hall.“

David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science, Harvard University, 2014

rotein basics

Outline:

- Polymers of amino acids
- Order specified by bases in mRNA
- Fold spontaneously into catalytic structures, driven by hydrophobic effects and hydrogen bonds

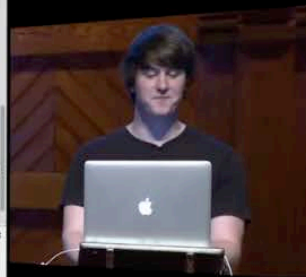
Learning Objectives:

- Describe protein 1° and 2° structure
- Relate to gene structure



2

```
ages.c (-jsrc3m) - gedit
27 // declare array in which to store everyone's age
28 int ages[n];
29 // get everyone's age
30 for (int i = 0; i < n; i++)
31 {
32     printf("Age of person #i: ", i + 1);
33     ages[i] = GetInt();
34 }
35 // report everyone's age a year hence
36 printf("Time passes...\n");
37 for (int i = 0; i < n; i++)
38 {
39     printf("A year from now, person #i will be %i years old.\n", i + 1, ages[i] + 1);
40 }
41
42 }
```



11/20/11

UNIVERSITY of WASHINGTON

What Does Scalable Mean?

- Operationally:
 - In the past: "Works even if data doesn't fit in main memory"
 - Now: "Can make use of 1000s of cheap computers"
- Algorithmically:
 - In the past: If you have N data items, you must do no more than N^n operations -- "polynomial time algorithms"
 - Now: If you have N data items, you must do no more than $N^{m/k}$ operations, for some large k
 - Polynomial-time algorithms must be parallelized
 - Soon: If you have N data items, you should do no more than $N \cdot \log(N)$ operations
 - As data sizes go up, you may only get one pass at the data
 - The data is streaming -- you better make that one pass count
 - Ex: Large Synoptic Survey Telescope (30TB / night)



Week 3 – Lecture Video

Overall 448 Videos

| | |
|-------------------------------------|-----|
| Classroom with students | 7% |
| Classroom without students | 6% |
| Presentation slides with speaker | 33% |
| Presentation slides without speaker | 38% |
| Computer screen, high-lightening | 29% |
| Green-screen | 26% |
| Talking Head (summary) | 74% |
| - Talking Head / Monochrome | 27% |
| - Talking Head / Book Shelf | 10% |
| Animation | 20% |
| Split-screen | 10% |
| Outdoor | 10% |
| Webcam Capture | 8% |
| Several speakers | 15% |
| Off-voice speaker | 16% |

2 RESULTS VIDEO STYLES
Research Study



Research Video: »Video Styles in MOOCs –
A journey into the world of digital education«
<https://youtu.be/5VEHBuuRKXI>



Principles of Electrical Circuits

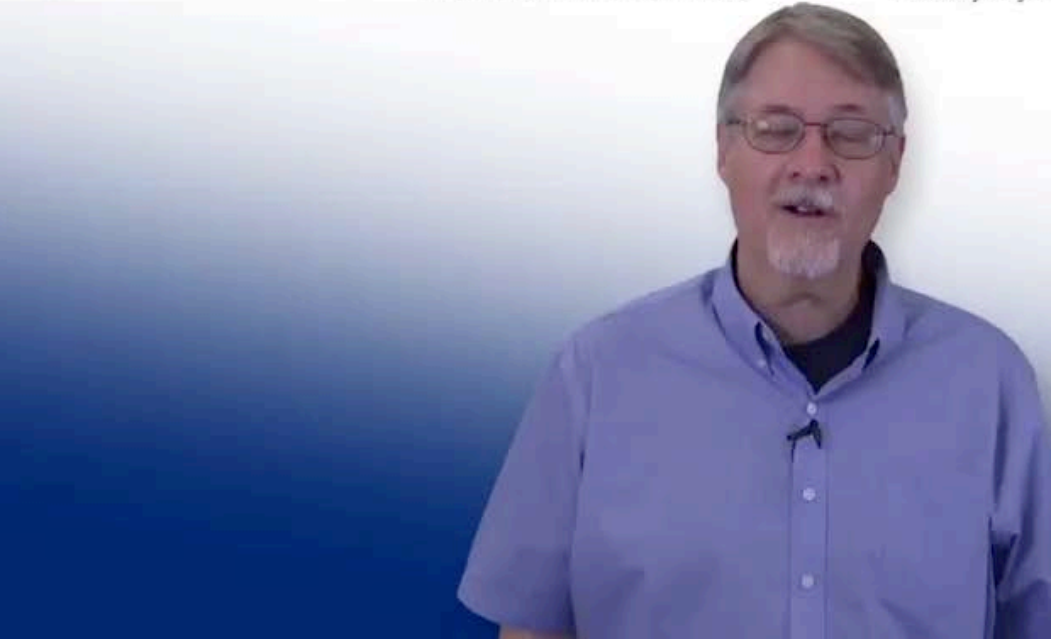
L18 Operational Amplifier

Operational Amplifier Op Amp

A woman with short dark hair, wearing a pink and white striped polo shirt, stands in front of a white background. She has her hands clasped in front of her.

Principles of Electric Circuits by Tsinghua University

presented by Guijie
dubbed by Xinjie



Short inputs for experts, trainers, educators for Talking Head formats

(1) Be the master of the topic: speak & think at the same time – deeply understand the content that you’re talking about. Practice to read from tele prompter or let it be. Reflect on your use of gestures, facial expressions > HD towards 4K

(2) Expertise: What is your ‘unique selling point’ in educational training?

(3) Don’t try to be perfect. If you have a role model of a speaker (e.g. moderator, other educator, scientist) analyze step by step and with accuracy on how they perform in front of the camera. Adapt strategies, but avoid copying.

(4) Design an audiovisual narration with didactical elements for the content (preferably in collaboration with experts).

(5) Never forget: This videos will be out there in the world - and stays there; coloring the perception about you as an expert as you’re publications or work results do.

Short inputs on video design for blended learning

(1) Avoid 1:1 translations and copy-paste; use the 'affordances' of the media. There is no 'one-style-fits-all' approach to video design for blended learning. Decision on design implementation includes criterias such as 'stability of content', 'high demand', 'flexibility - reuse in different contexts'.

(2) Don't spam the e-world (market spoilers). Look for the e-component and non-e-component for multimedia communication, sociocultural: recognizing of media quality > create a 'learning experience'

(3) General rule to frame speaker types: The perfect setting for one expert might be miserable for another. The closer the framing the bigger the facial expressions and bodily movements – design the range and surrounding space for different speaker types: authenticity - authorship - authority

(4) Create a friendly atmosphere: Almost every person freaks out when standing in an empty studio room. Create security with (power pose) mobilier, thematic objects, different light settings. Give honest feedback on the performance of experts > avoid hierarchical structures in the production team (e.g. PhD Student - Professor), create inter- & transdisciplinary teams include audiovisual expert.



Sunrise Semester / New York University / 1957 -1982

**THANK YOU FOR
YOUR ATTENTION**

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DESIGN THINKING PROCESS OF CONTENT

Please keep in mind:

- (1) target group
- (2) investement (time, ressource, money): should depend on reuse, static or dynamic topics (e.g. a course about digital CRM is static, whereas design for AR in buisness communication is dynamic)
- (3) e-components / non-e-components

Each of those tools has properties – matching the tool to the purpose & content is key to successful blended learning design

Movinge Images:

- on-location / on-site
- animation (2-3d, Stop-Motion)
- hyper-video (in-video-quizzes)
- interactive storytelling
- expert talks
- documentary
- statements and project descriptions
- infographics
- VR-Desktop 360° Video (passiv or active)
- VR Animation
- screencapture
- greenscreen
- webcam
- video-in-Video
- splitscreen
- ...

Multimedia platform:

- quizzes
- photo story
- live working groups
- Q & A discussions
- moderated forum (synchron, asynchron)
- cartoon
- graphic novel
- digital lab experiments
- gamification
- playification
- sonification (atmospheres, sound design)
- ...