AFFORDANCES OF THE MEDIA
CREATING AN UNIQUE AUDIOVISUAL (VIDEO) EDUCATIONAL EXPERIENCE

OEB Shaping the future of education
Jeanine Reutemann
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 1st and 2nd structure
- Relate to gene structure

What Does Scalable Mean?

- Operationally:
  - In the past: “Works even if data doesn’t fit in main memory”
  - Now: “Can make use of floods of cheap computers”

- Algorithmically:
  - In the past: If you have N data items, you must do no more than N^2 operations — “polynomial time algorithms”
  - Now: If you have N data items, you must do no more than N^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 \( \log(N) \) 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)
DATA
## WEEK 3 – LECTURE VIDEO

<table>
<thead>
<tr>
<th>Video Style</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talking Head (summary)</td>
<td>74%</td>
</tr>
<tr>
<td>Classroom with students</td>
<td>7%</td>
</tr>
<tr>
<td>Classroom without students</td>
<td>6%</td>
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<tr>
<td>Presentation slides with speaker</td>
<td>33%</td>
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<tr>
<td>Presentation slides without speaker</td>
<td>38%</td>
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<tr>
<td>Computer screen, highlight</td>
<td>29%</td>
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<tr>
<td>Green-screen</td>
<td>26%</td>
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<td>Monochrome</td>
<td>27%</td>
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<td>Book Shelf</td>
<td>10%</td>
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<td>Animation</td>
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<td>Split-screen</td>
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<td>Outdoor</td>
<td>10%</td>
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<tr>
<td>Webcam Capture</td>
<td>8%</td>
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<tr>
<td>Several speakers</td>
<td>15%</td>
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<tr>
<td>Off-voice speaker</td>
<td>16%</td>
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</tbody>
</table>

### RESEARCH VIDEO

VIDEO STYLES IN MOOCS: A JOURNEY
VIDEO STYLES IN MOOCS: A JOURNEY INTO THE WORLD OF DIGITAL EDUCATION

AFFORDANCES OF THE MEDIA
(1) create a «learning experience» rather than «teaching» (ﬁx→Adaptation) > market spoilage
(2) audiovisual didactical narratives
(3) sociocultural: recognising media quality
(4) design the video regarding the media characteristic
(5) e-components / non-e-components
(6) investment (time, resource, money): should depend on stability of content, static or dynamic topics
(7) there is no ‘one-style-fits-all’ approach to video design
(8) talking head: it’s all about the performance!
  > but media design can help
HISTORIC USE OF FILM FOR SCIENCE
- document research
- visualise phenomena invisible to the eye
- an instrument of research
- long relationship in co-design of content
  between scientist & filmmaker

TODAY
- rapid increase
- e-learning
- mostly «home cooked» low-budget
  by researchers / IT departments students
- wide variation in quality
- missing important media-specific
  characteristics

«The development of audio-visual techniques in all fields, the need to promote interdisciplinary co-operation demand the creation of a specialized training so as to permit close collaboration between scientists and audiovisual technologists in the field of scientific research.»

NOT ONLY TALK ABOUT DESIGN THINKING AND INTERDISCIPLINARY COLLABORATION BUT DO-IT

— Publication about 360° Videos, aesthetics, narration and proxemics: Reutemann, J.: »Too close to be true. VR images bring the visible speaker into your face (literally)« in: Image Embodiment. New Perspectives of the Sensory Turn, 2016.

— Publication about MOOC videos: Differences and
- Publication about MOOC videos: »Differences and commonalities – a comparative report of video styles and course descriptions on edX, Coursera, Futurelearn and Iversity«, in: European Stakeholders Summit.

- Research Video: Video Styles in MOOCs - A journey into the world of digital education (on youtube)

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Jeanine Buttermann, 2010