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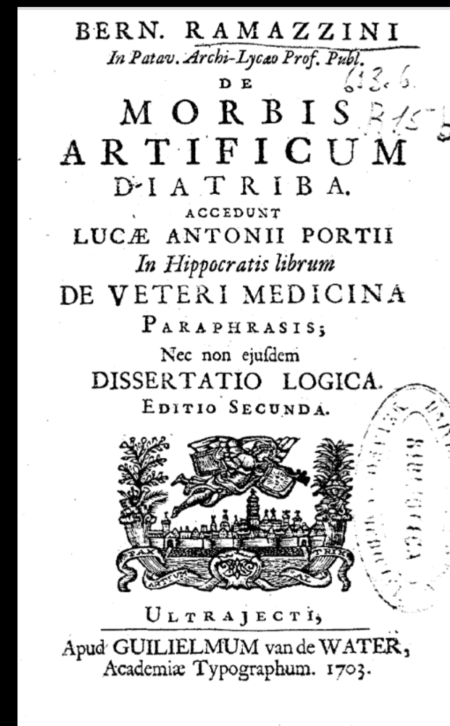
THE PERFECT POSTER LAYOUT – RAMAZZINI SEMINAR 2014


BERN. RAMAZZINI
In Patav. Archi-Lycæo Prof. Publ.
DE
MORBIS
ARTIFICUM
DIATRIBA.
ACCEDUNT
LUCÆ ANTONII PORTII
In Hippocratis librum
DE VETERI MEDICINA
PARAPHRASIS;
Nec non ejusdem
DISSERTATIO LOGICA.
EDITIO SECUNDA.

ULTRAJECTI,
Apud GUILIELMUM van de WATER,
Academiæ Typographum. 1703.

HEALTH AND EDUCATIONAL INFORMATICS, HEALTH, AARHUS UNIVERSITY

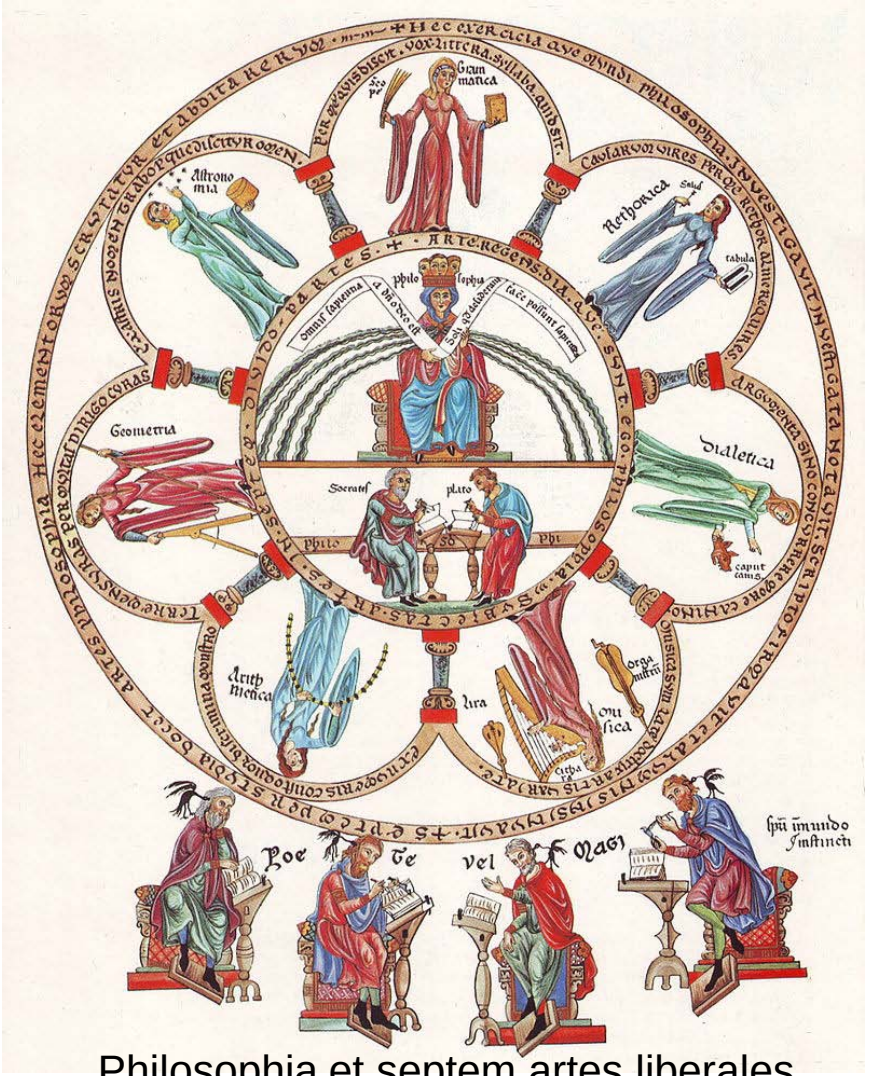
MD@MEDU.AU.DK

MAKING A POSTER

Adjunkt Ph.d, MI, Mads R. Dahl

THE SEVEN LIBERAL ARTS:

GRAMMAR,
LOGIC,
RHETORIC,
ARITHMETIC,
GEOMETRY,
MUSIC AND ASTRONOMY



Philosophia et septem artes liberales

CORE MESSAGE

- Why
- How?
- Know your audience
- Storytelling
- Arrive early – Test and Arrange – Leave Last

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A POSTER

› Why?

MADS R DAHL

HOW: OASIS OF BOUNDARIES

WORRYING
does not take
away tomorrow's
TROUBLES,
it takes away
today's
PEACE.

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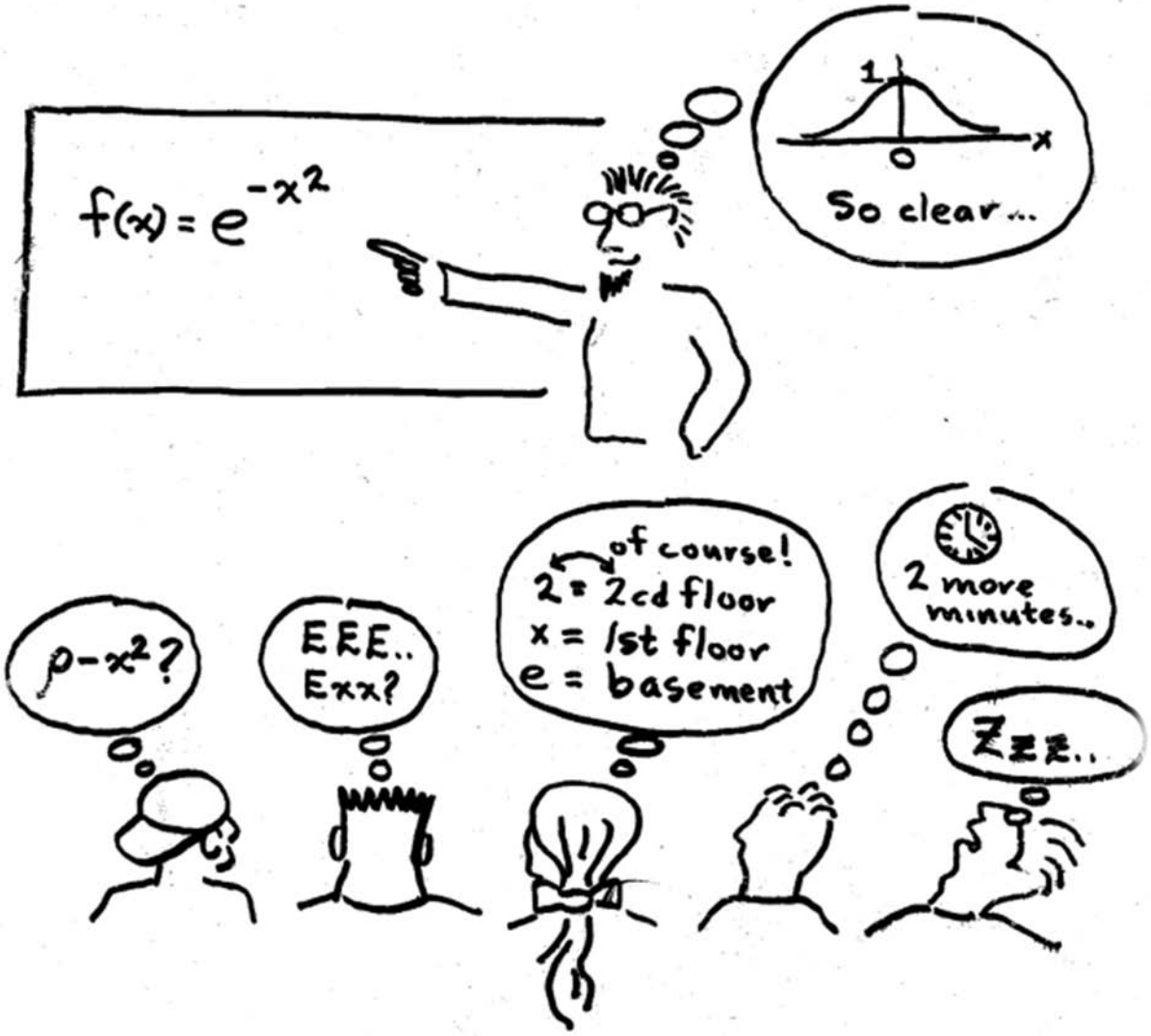
STORYTELLING

- Find out who you are talking to
- Prepare a 2 min. presentation
- Get them to ask min. one question!

- If people are interested – its good
- If people are not interested – its normal
- If a person is very interested – be careful


$f(x) = e^{-x^2}$
1
x
0
So clear...
$\rho - x^2$?
EEE..
Exx?
of course!
2 = 2cd floor
x = 1st floor
e = basement
2 more minutes..
Zzz..

NC STATE UNIVERSITY

WOOD PELLETS, A PROFITABLE SOLID BIOFUEL FOR U.S. MANUFACTURERS

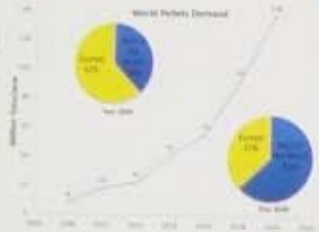
Adrian Pirraglia, Ronalds Gonzalez, and Daniel Saloni; North Carolina State University, Department of Wood and Paper Science

Why Wood pellets?: The Market!

Pellets: compressed wood particles used as burning fuel, with sizes from ¼-½ inch diameter and 1-1.5 inch length, with bulk density around 40 lbs/ft³ (2-3 times the wood density of softwoods)

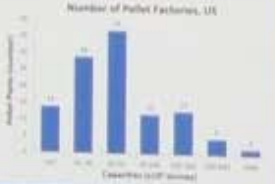
Advantages: enhanced heating value per unit of volume, low moisture content, more efficient burning, low ash content and particulate emissions, optimized transportation, price stability, and variety of applications from residential heating to co-firing in coal power plants

- Wood Pellets: one of the most successfully Biomass traded forms
- Global production: 8 MM tons in 2007 to 18 MM tons in 2010
- U.S. pellets market is behind in demand and internal utilization as compared to mature markets (Canada & Europe)



Transformation: from classic small manufacturers to world-class facilities

- 80+ plants produce wood pellets in the U.S., a 33 % increase in manufacturers from 2006-2010
- Internal market switching from small producers using residues as raw material, to large-scale factories relying on roundwood as raw material



Is wood pellets an economically sustainable market for U.S. Manufacturers?

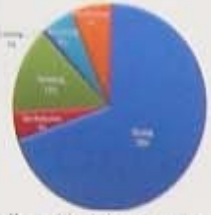
To understand the feasibility and profitability of producing pellets, a techno-economical model was developed and validated, which estimates production costs and performs financial and sensitivity analyses for pellets production in the U.S. internal market

The pellet production process is fairly simple

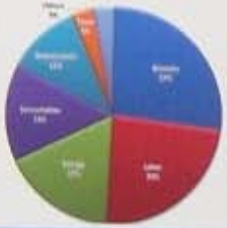
Three main areas with the associated variables identified for the model

Profitability determined by modeling production variables

Case Study: pellet plant producing 75,000 ton/year (common size for the U.S.)



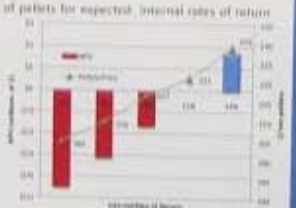
- Mass balance calculations indicate production rates of 8.93 ton/hour to meet 75,000 metric tons/year
- Energy Balance calculations indicate requirements of 4,932.15 kWh (41,430,066.24 kW/year)
- The model calculates capacities, number of machines, infrastructure, capital and installation costs (CAPEX)
- Calculations include additional 24% of CAPEX for indirect costs, 10% for contingency, and 7.6% of total building cost for short- term storage



- Production costs segmentation helps to understand its influence on total pellets costs
- Most important cost driver: biomass (27%)
- "Others" is represented by marketing fees, incentives, and maintenance costs, being the smallest cost fraction

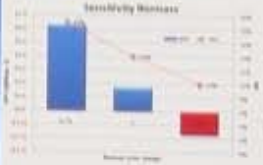
Pellets are profitable for the internal market

- Total production costs: $203.7/ton for case study, assuming no inflation, MACRS-7 depreciation, and CAPEX spending schedule of 20%, 40%, and 40% from 2009-2011
- Add-in functions back calculates selling prices of pellets for expected internal rates of return (IRR, discount rate at 12%)
- Figure: Changes in NPV and price of pellets when the model is adjusted to 6%, 8%, 10%, 12%, and 14% IRR using the add-in function
- To obtain a positive NPV, the price of pellets at factory gate must be higher than $221/tons

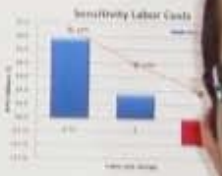


- Assuming a price of $220/ton (14% IRR), and production costs of $203.7/ton, producers obtain a revenue margin of $25.3/ton
- Transportation costs added to the price for 14% IRR ($220/ton) totals $244.3/ton at retailers gate (fixed cost of $15/ton, and variable cost of $0.12/mile, giving a total of $15.3/ton)
- Comparing this price vs. $276/ton average retail price, retailers can obtain a revenue of $32/ ton

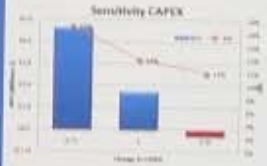
How sensitive is the business to critical variables?



- High sensitivity: Increasing biomass costs greatly affects the IRR, with a NPV of -$1.68 MM(10% IRR). Reductions in biomass cost highly increases the NPV and IRR (19%)
- Sensitivity offset: long-term supply agreements



- Medium Sensitivity: Labor cost cause a variation from $5.6 MM (19% IRR) to -$1.8 MM (10% IRR in the NPV for 25% decreases/increases
- Sensitivity offset: adequately dimension plant, and monitor personnel needs



- Medium sensitivity: the IRR is sensitive to decreases in CAPEX (14% vs. 19%), while CAPEX increases reduce the IRR by 2% (14% vs. 12%)
- Sensitivity Offset: higher capacities, reduction of unit operations (drying, grinding, etc)

- Low sensitivity: Energy costs
- Sensitivity Offset: energy self-generation, drying not required (represents 70% of total energy consumption). Warning: pre-dried raw material costs are higher

Conclusions

- Critical production variables: biomass type (sh… delivered), plant & equipment prices, energy costs
- Pellets are profitable in the U.S. market for pr… prices higher than $241.3/ton
- Sensitivity analyses indicate that biomass and la… drivers for wood pellets.
- Energy is a low sensitivity cost factor, but rema… factor if drying is not considered
- CAPEX is a low sensitivity cost factor. A CAPEX … sensitivity (higher capacities, reduction of unit …

HOW TO MAKE A GREAT POSTER

Keep it simple
20-40-40
Tell a clear story
Use high quality illustrations and pictures
Check alignment and spelling
Print a test print
Design viewers take-home message
Make a handout

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SCIENCE POSTER

- You may be creative
- You may be original
- You may be unusual

- But you must be a scientist!

MADS R DAHL

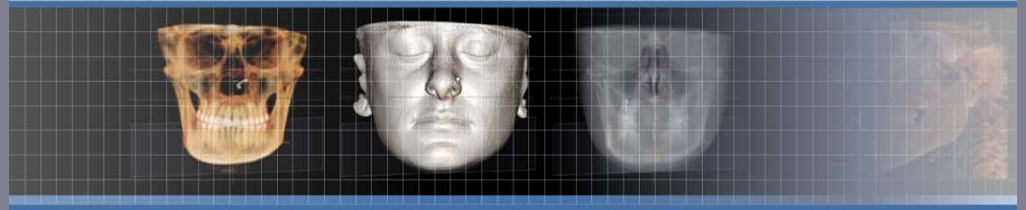
RULE OF THUMB

- 20 % Text
- 40 % Graphics
- 40 % background

Faculty development
Digital Anatomy Teaching Tools

Mads R. Dahl, Mathias Rokkjær & Eivind O. Simonsen

Center for Medical Education, Aarhus University, Denmark



3. Prescription

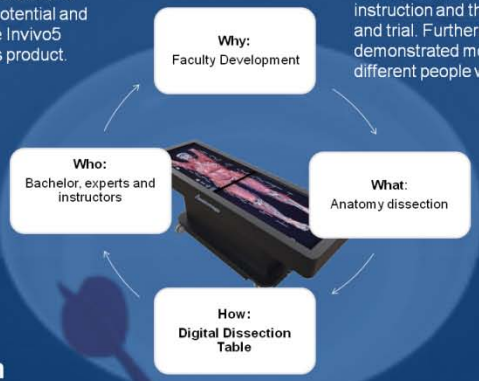
A High end technology, developed and used at similar universities. A system with a didactic potential and The Anatomage and the Invivo5 software was chosen as product.

4. Tests

The system was tested in four settings: Students, Instructors, Teachers and Experts. All were given a 20 min instruction and thereafter a 45 min test and trial. Furthermore the system were demonstrated more than 20 times to different people with interrest.

2. Remedies

Interviews and dialog with the Institute and key teachers/instructurs to facilitate and qualify specifications on the technology.



5. Reception

The system was appreciated by 90 % of the useres. 10 % of useres could not see the learning potential or would be reluctant to invest time in converting analog or PowerPoint material into the new format.

PROCESS

1. Observation

Anatomy teaching missed a digital and virtual dimension. Thus the medical students and the faculty administration demanded a more modern approach and usage of technology.

6. Implementation and future Iteration

The system was implemented over 6 months together with the relevant personel and primary user group. After a period with presentations and demonstrations the technology was anticipated by students. Student instructures and teachershas has begun developing materials and experts are considering the usage potential. After introducing the 3D virtual dissection table the institute has requested a trial on other digital learning tools.

RESULTS

CONCLUSION

The Anatomage Table provides high quality 3D visualizations of real patient anatomy. The system is complementing cadaveric dissection and radiology integration into the classroom and self study.
The operating table form factor facilitates both independent and group studies. Instructors and students can virtually dissect skeletal tissues, muscles, and organs. The system gives a better understanding of the interrelation and three dimensional placement of structures.
One major fault is the sensitiveness to sunlight and time consuming development of manuals, guides and instructions.

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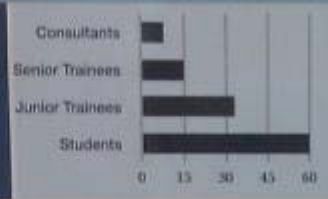
FIGUREDWORLDS

| Elspeth Hill | Renée Stalmeijer | Suzanne Vaughan | Tim Dornan | Yvette Solomon |

Maastricht University, NL & The University of Manchester, UK

HOW DO FEMALE SURGEONS SELF-NARRATE THEIR IDENTITIES?

Percentage of women in surgical careers in the UK



Interviews: female surgeons

- 5 consultants
- 5 trainees
- 5 students

FIGURED WORLDS: HOW DO FEMALE SURGEONS SELF-NARRATE THEIR IDENTITIES?

Theoretical lens to examine

- identity
- agency
- relationships & positioning
- imagination
- culture & society

A socio-cultural theory by Holland *et al.*

Identity and Agency in Cultural Worlds, Harvard University Press, 1998

For video scan barcode

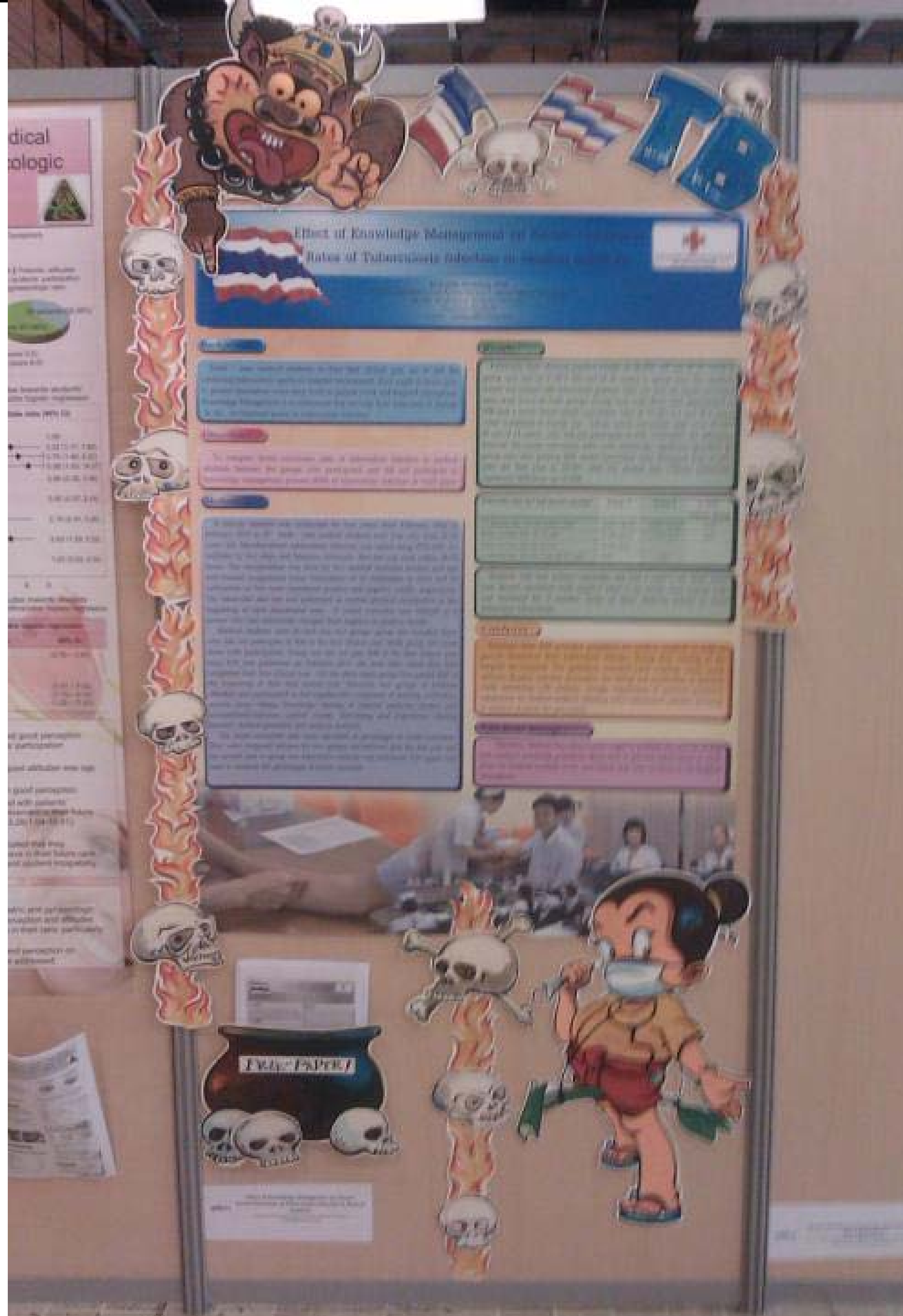
MANCHESTER 1824

UHSM ACADEMY

Difficulty identifying with the surgical world may explain the under-representation of women in surgical careers.

Maastricht University & University of Manchester

mail@elspethill.com @hussedgeth


TB
FREE PAPER!

Students Do It Their Way

Understanding How Students View Video Lectures to Form Effective Learning Strategies

M A Baker, M Mian, A Khidir, T Arayssi, & A A Sultan
WEILL CORNELL MEDICAL COLLEGE IN QATAR

RESEARCH OBJECTIVE

Increase understanding of use of unlimited access to video-recordings of all course lectures and attendance by medical students at Weill Cornell Medical College in Qatar.

SUMMARY OF WORK

Provided 1st-year medical students computer access to video-recorded class in a basic science course.

Conducted focus groups and a survey to learn more about their opinions and recommendations about the usefulness of video-recordings.

RESULTS

40 of 43 (93%) students used the video lecture recordings.

Number of logons ranged from 0 to 123.

Figure 1 shows number of logons by week for each lecture.

Figure 2 shows students report of number of lectures attended during class sessions.

TAKE-HOME MESSAGE

Students vary in their use of lecture video recordings, while also frequently attending in-class lectures.

We need to understand the importance of technology and differences in student learning styles as we transform delivery of 21st century medical education.

Information: Mary Anne Baker, PhD, mab2074@qatar-med.cornell.edu
Weill Cornell Medical College in Qatar, Education City, P. O. Box 24144, Doha, Qatar

Using plasticine to simulate skin lesions. Evaluation of a novel teaching technique for medical students.

Dr Sally Sadasivam – County Durham and Darlington NHS Foundation Trust, UK

A fun interactive method of teaching medical students about skin lesion terminology was rated useful by 96.6% of medical students and could be used by others to help teach students about dermatology description

Existing work
Simulation methods with plasticine – Biology teaching – robots[1]
Simulation in dermatology – Temporary tattooing[2] silicone modelling (latex)[3] and 3D virtual reality[4]

Method – 29 Medical Students

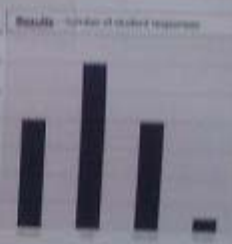
Dermatology history and examination lecture

Plasticine skin lesion session Make the lesions using the directions provided

Evaluation - feel word Likert scale How useful was the session in meeting the learning outcomes? Very useful / useful / fairly useful / not useful

Advantages of the session compared to lecture format
- Rated more useful by students
- Fun
- Interactive
- Allowed for informal assessment by tutor

Limitations
It is not possible to test whether the plasticine session resulted in enhanced learning compared to didactic teaching and further research should be designed to test this on a group of students who are new to clinical dermatology.



What do you think?
Please use one of the sticky notes to provide feedback about the teaching method, the visibility of the poster
Contact me: sally.sadasivam@dbhft.nhs.uk

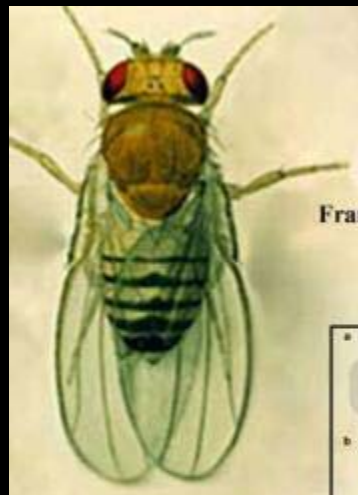
AMEE 2012 25-29 August Lyon, France

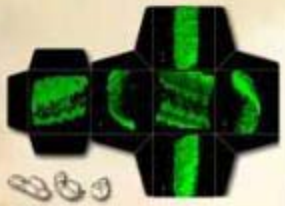
County Durham and

Synaptogenesis requires postsynaptic PSD-95/Dlg

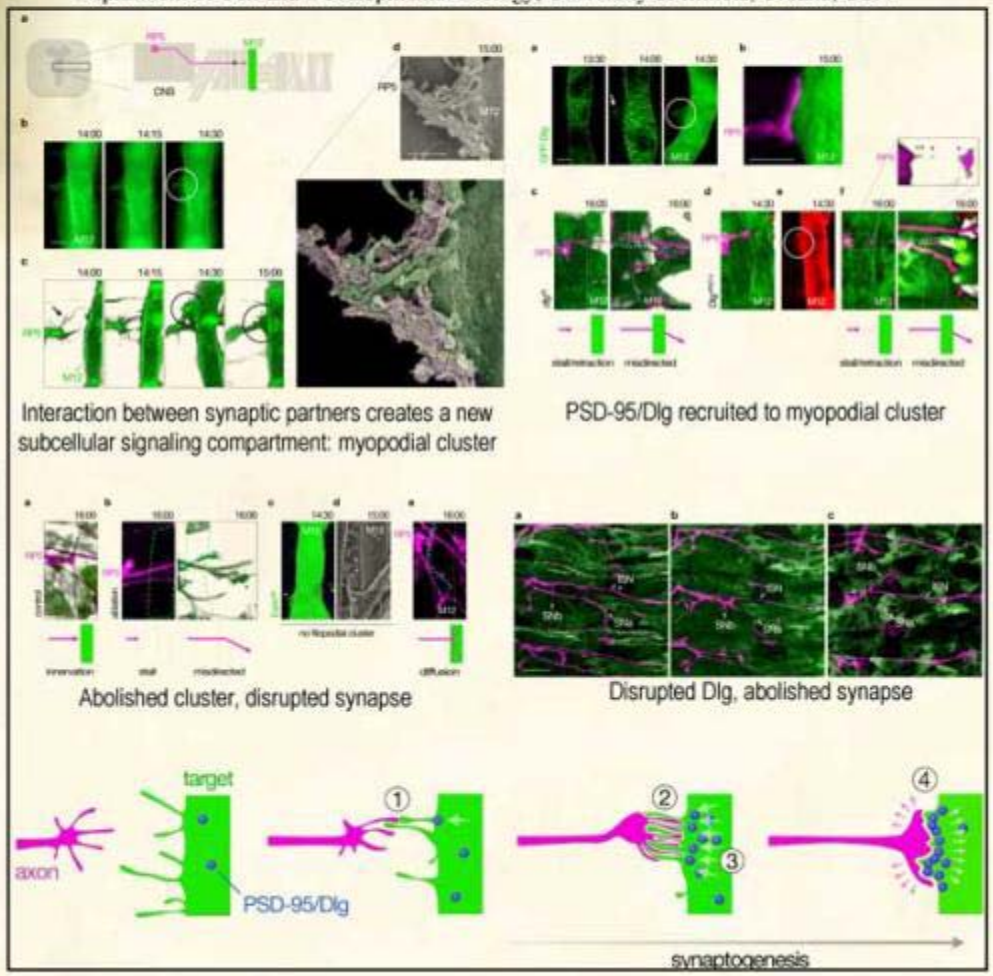
Franklin A. Carrero-Martínez[§ ζ *], Marie-Pierre Furrer[*], Emiko Suzuki[ζ] and Akira Chiba[*]

[§] Biology Department, University of Puerto Rico, Mayagüez, Puerto Rico;
[ζ] National Institute of Genetics, Mishima, Shizuoka, Japan
[*] Department of Cell and Developmental Biology, University of Illinois, Urbana, USA



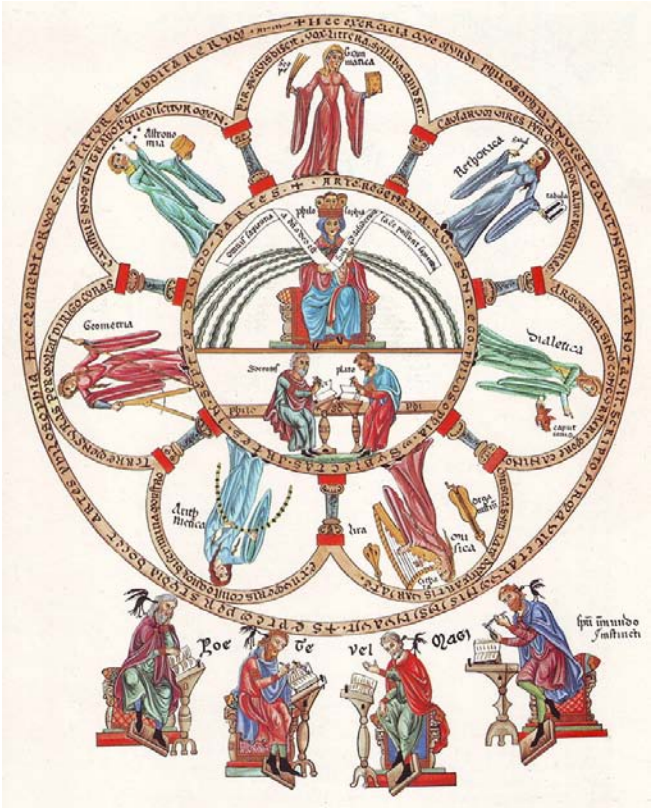


Synaptogenesis is a reproducible process that ensues when an axonal growth cone contacts its target. **Results:** The response of RP5 axon to various experimental manipulations, assessed at 16:00: wildtype control, muscle12 (target) ablation, postsynaptic over-expression of EphrinCN (note: filopodial clustering is absent in 100% of the cases), *dlg75* at 29 °C (note: PSD-95/Dlg is eliminated from whole embryo), wildtype at 29 °C (a negative control), postsynaptic over-expression of Dlg-LPCE1-2 (note: PSD-95/Dlg function is disrupted specifically in muscle12). RP5 axon displays one of the four patterns of response: (1) innervate muscle12 (target) normally (e.g., Fig. 2a), (2) extend abnormally thin processes diffusely over the surface of muscle12 (e.g., Fig. 2e), (3) either stall at the "signpost" (e.g., Fig. 2b left, Fig. 3c left) or retract through local degradation of its terminal that is still in contact with muscle12 (e.g., Fig. 3f left), (4) extend abnormally by either bypassing muscle12 towards more distally located non-target muscles (e.g., Fig. 2b right, Fig. 3c right, Fig. 3f right) or being misdirecting anteriorly (not shown). Note that, with target ablation, "innervation" and "diffusion" are not applicable. **Conclusion:** These results support essential role of postsynaptic PSD-95/Dlg and its reliance on myopodial cluster at the onset of synaptogenesis *in vivo*. Thus, precise matching between synaptic partners requires not only their molecular compatibility but also orchestrated changes in their subcellular morphology. With PSD-95/Dlg as the entry point, the postsynaptic assembly pathway can be characterized as collaborative cellular and molecular dynamics. It is now possible to compare the mechanisms of initial synaptogenesis to those controlling the maintenance and plasticity of a synapse.



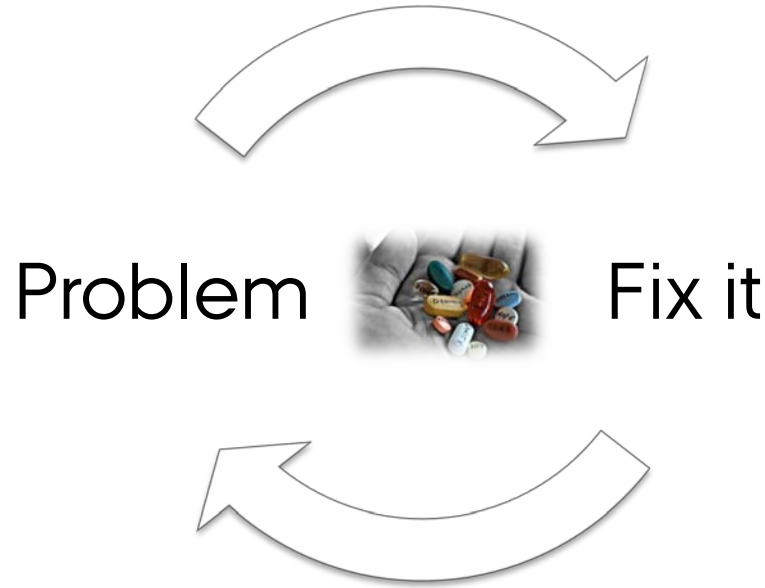

MULTIPLEX SNP ANALYSIS ON WHOLE GENOME AMPLIFIED DNA FROM ARCHIVED DRIED BLOODSPOTS, A VALIDATION STUDY

THE SEVEN LIBERAL ARTS: GRAMMAR, LOGIC, RHETORIC, ARITHMETIC, GEOMETRY, MUSIC AND ASTRONOMY



Philosophia et septem artes liberales

Quick Fix Model



- [illegible] font
- Simple font (Arial, Verdana, Tahoma ..)
- Good contrast to background
- Rather readable than small
- Aligned text, Figure and structure
- N o d o u b l e s p a c i n g
- *No italic*
- Use bulleted points


APPLE
COMPUTER
CO
1976
1976-1998
1998 - PRESENT

DANISH

ramazzini

CENTRE

research in occupational
and environmental medicine

LINKS

- www.Color.adobe.com/
- www.istockphoto.com/
- www.iconico.com/colorpic/

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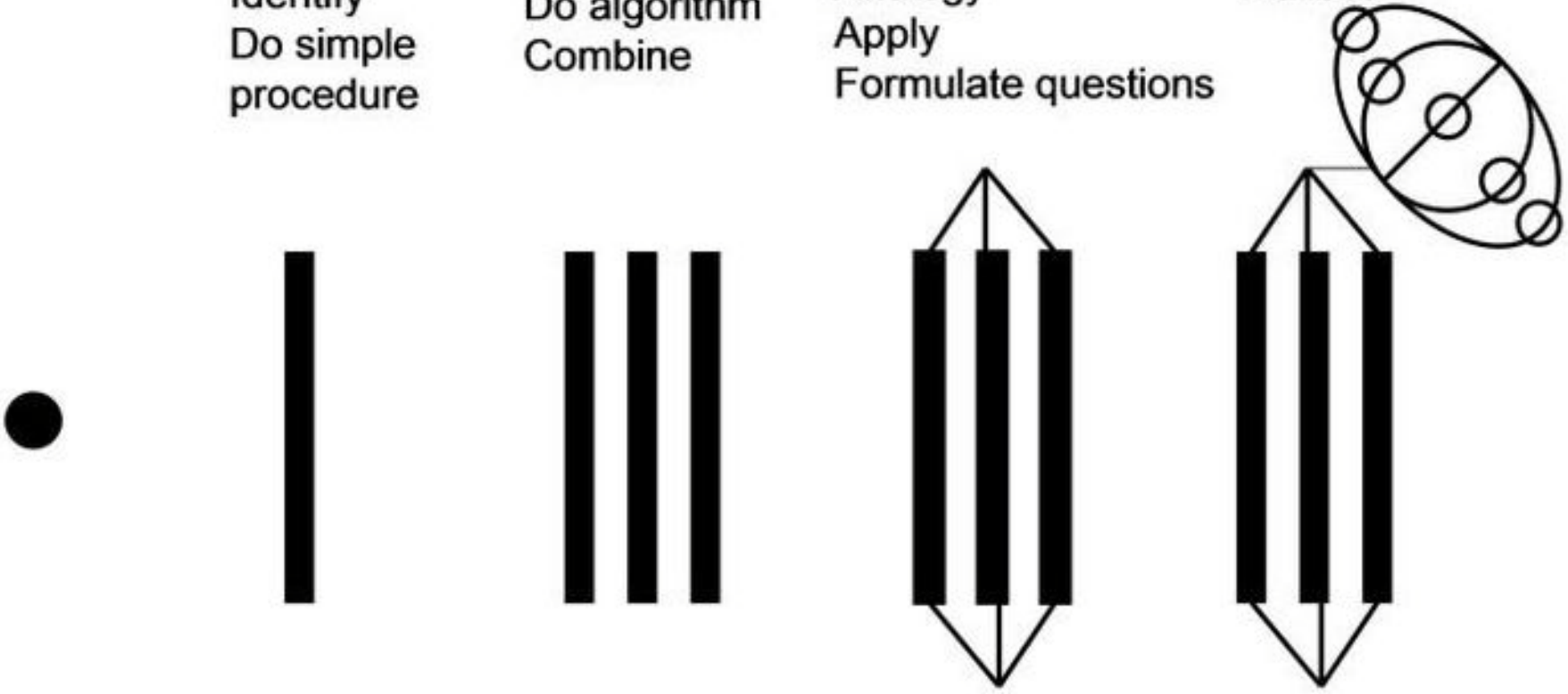
HOW TO MAKE A GREAT POSTER

- Keep it simple
- 20-40-40
- Tell a clear story
- Use high quality illustrations and pictures
- Check alignment and spelling
- Print a test print
- Design viewers take-home message
- Make a handout

MADS R DAHL

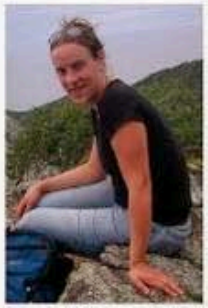
SOLO TAXONOMY
(after Biggs and Collis 1982)



The Jamie Smith Poster Award: Ecology and Evolution Retreat 2006

Judith Myers[1] and Isla Myers-Smith[2]

1. Zoology, Univ. of British Columbia, Vancouver, Canada
2. Biological Sciences, Univ. Alberta, Edmonton, Canada



Introduction

Research question:

How to make the most effective poster?

Objective

To improve communication through poster presentations.

Methods

To make a good poster...

- Plan carefully
- Few words
- Clear graphs
- Pretty pictures

Results

Poster viewers like...

1. Simplicity and flow
2. Large block font and headings
3. Text easy to read (from 2m)
4. Clear message

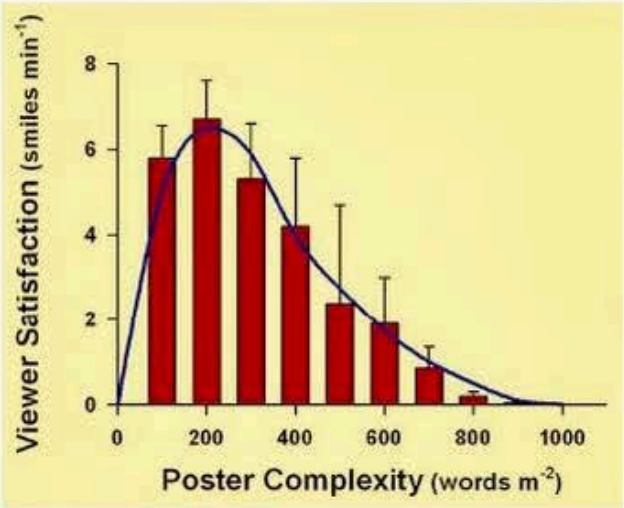


Figure 1. Hypothetical relationship between poster complexity and viewer satisfaction. Random sample of 50 posters and 500 viewers at the CSEE conference 2005 (error bars denote SD).

Discussion

- Posters are rapid communication
- Not short papers

Conclusion

The best poster is simple yet makes your work stand out!

Illustration by Jamie Smith

References

Karban, R and Huntzinger, M. 2006. How to Do Ecology. Princeton University Press

Acknowledgements NSERC CRSNG

Fig. 2. Sample poster of criteria for the Jamie Smith Poster Award, prepared for the UBC, SFU, and UVic Ecology and Evolution Retreat, 2006.