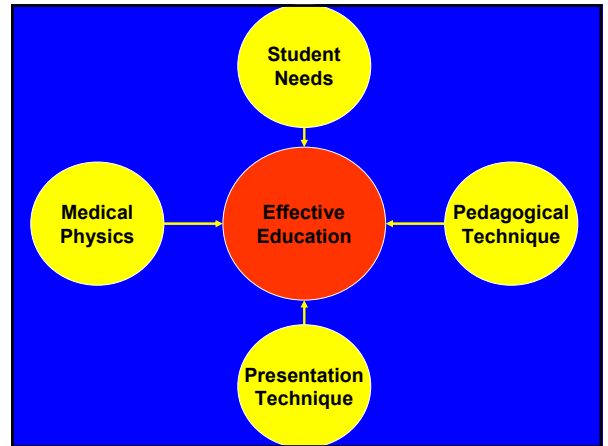


WEB Based Education

Current & Future Resources

G. Donald Frey, Ph.D.
Department of Radiology
Medical University of South Carolina
Charleston, SC



Today's Session

- GD Frey
 - Introduction and Educational Resources
- M Martin
 - The AAPM Virtual Library
- M Yester
 - On-line Continuing Education
- P Sprawls
 - Radiology Resident Education: Resources for Integrated Learning

Resources

- Pedagogical Resources
- Search Engines & Databases
- Organizational Resources

Pedagogical Resources

- Teaching
- Physics Teaching
- Presenting
- Graphical Materials

Teaching

- Students are used to modern pedagogical methods
- The traditional lecture has been shown to be less effective than other methods
- The medical physics teacher needs to integrate modern methods into educating students

150 Teaching Methods

Lecture by teacher (and what else can you do!)

Class discussion conducted by teacher (and what else!)

Recitation oral questions by teacher answered orally by students (then what!)

Discussion groups conducted by selected student chairpersons (yes, and what else!)

Lecture-demonstration by teacher (and then what 145 other techniques!)

Lecture-demonstration by another instructor(s) from a special field (guest speaker)

Presentation by a panel of instructors or students

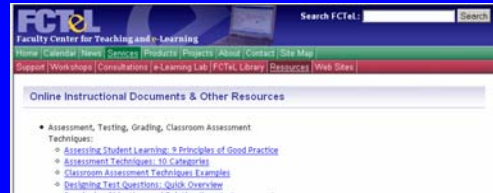
Presentations by student panels from the class: class invited to participate

Student reports by individuals

Student-group reports by committees from the class

Debate (informal) on current issues by students from class

Class discussions conducted by a student or student committee



<http://www.fctl.uncc.edu/services/resources.html>



<http://www.edutopia.org/index.php>

Physics Teaching

- Physics Teaching is a specialized skill
- Even though much of what is taught in medical physics is taught at the descriptive level physics teaching techniques are important



- Resources for physics teachers
 - Example – How to use java to write physics simulations

<http://psrc.aapt.org/>

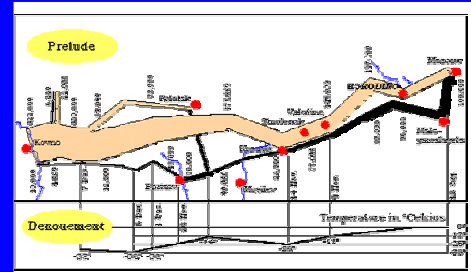


- Resources for teachers

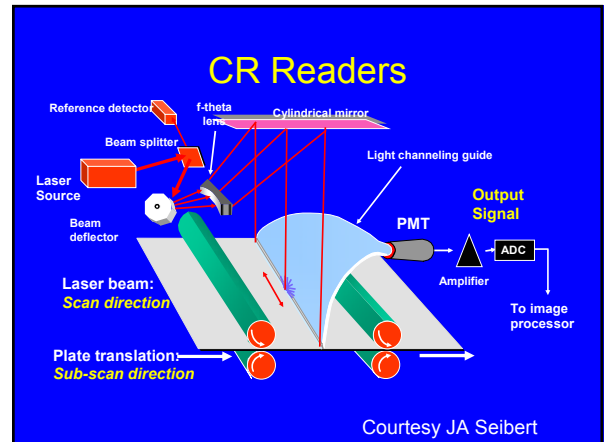
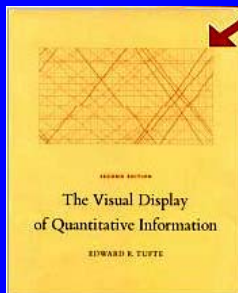
http://home.messiah.edu/~barrett/phy_ind.htm

Graphical Techniques

- Images are usually a more powerful way to present ideas than the words
- Students are “image oriented”
- Images help show relations that are difficult to present verbally

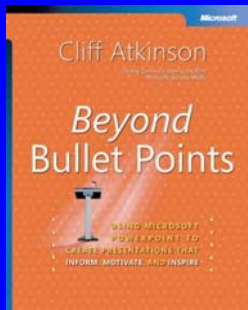


1869 chart by Minard



Courtesy JA Seibert

PowerPoint Effective Techniques



Medical Physics Materials

- Databases and Search Engines
- Organizations

Databases & Search Engines

- Entrez PubMed
- Lexus-Nexus Academic
- Google Scholar
- Google
- Aunt Minnie

Entrez PubMed



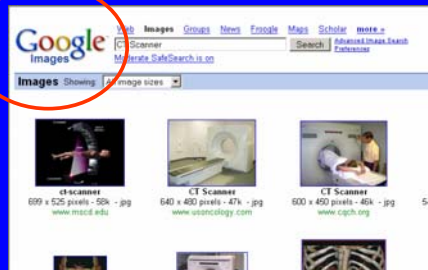
PubMed

- The National Library of Medicine Publication Database (Medline)
- PubMed is the search engine



Principles of MRI: Image Formation

Allen W. Song
Brain Imaging and Analysis Center
Duke University



Aunt Minnie



Organizations

- AAPM
- ACMP
- ACR
- RSNA
- IAEA



