Computing Research Association

Conference at Snowbird 2000

Slides from a workshop

on the topic of

"Distance Education/Learning"

presented by

Gordon Davies,
The Open University, UK

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1:30 pm

http://www.cra.org/Activities/snowbird/00/wk4-5.html

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Distance learning, the web and the United States Open University

Gordon Davies

Open University

g.davies@open.ac.uk

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Why distance Learning?

‘The United States will always do the right thing having exhausted all other possibilities’

Winston Churchill

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Total number of students in 1999 (worldwide):

- undergraduate 130,000
- postgraduate 32,000

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- 300+ courses
- average cost of a degree £3500
- 66% of students between 25 - 45
- half of the courses use IT to enhance teaching

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How do you measure quality?

- Curriculum
- Teaching and learning
- Student progression
- Student support
- Learning resources
- Quality assurance

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General Engineering

• Curriculum	4/4
• Teaching and learning	4/4
• Student progression	4/4
• Student support	4/4
• Learning resources	4/4
• Quality assurance	4/4

Total 24/24

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Percentage of departments rated 'excellent' or scoring at least 22 points out of 24.

Premier League	First Division
Cambridge 94.7	St Andrews 57.9
York 84.6	Open University 58.3
Imperial 83.3	-
Oxford 80.0	-
LSE 77.8	-
Nottingham 64.0	-
Durham 65.2	
University College, London 63.6	
Warwick 62.5	
Lancaster 60.0	
Loughborough 60.0	

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OU Research

- 1500 PhD students
- 10,000 Masters students
- ranked 29th in UK universities for research

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Distance learning works

- OU education costs significantly less than its equivalent in full-time higher education elsewhere. Typical OU funding costs are 45% to 60% of full-time higher education.

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Why is the OU Successful?

- political commitment
- high quality teaching materials
- student support
- academic credibility
- research
- infrastructure

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High Quality Teaching Materials

- courses created by course teams
- assessment created annually by course teams
- may include:
  - text
  - books
  - video
  - TV broadcast
  - audio
  - radio broadcast
  - home experiment kits
  - software
  - conferencing
  - CD-ROM

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High Quality Teaching Materials

The Internet is
a delivery medium for
some components.

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Student Support

- 7,500 associate faculty
- comment on and mark assignments
- tutorials at 235 study centres
- phone and e-mail support
- electronic assignments
- on-screen marking

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Use of the Web

- consider the roles the student plays
- web site as a learning assistant, but:
- learning is best done away from a screen

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Web based courses three examples

- M206: Computing: an Object oriented approach
  - 4,500 students in 1999
- M301:Software Systems and their Development
  - 2000 students in 2000
- T171 You, your computer and the net
  - 12,000 students in 2000

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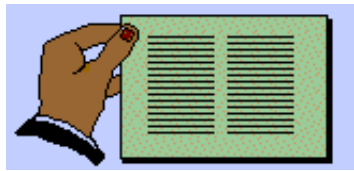
M206:
Media used in this course



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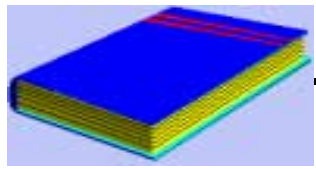
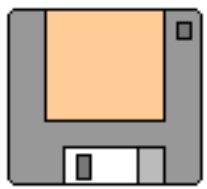
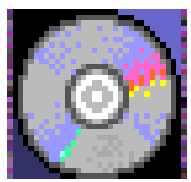


—course book (1)

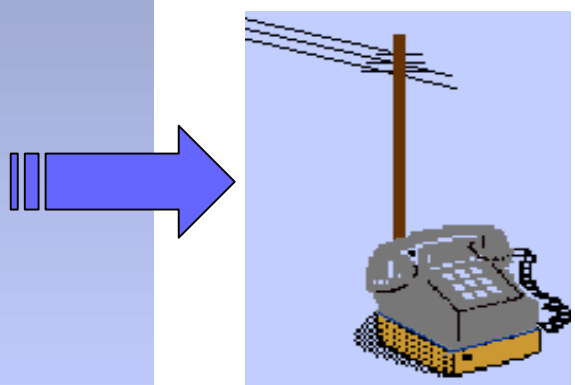
—broadcast television (11)



—Smalltalk Learning Book (1000)



—interactive CD-ROM (3)



—Network technology:
the Web (1000) +
conferencing (>1500)

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Use of media

- if it moves, use the web site
- if it doesn't…….

- use as a delivery medium

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Use of web

- Web pages to read
  - news
  - lists
  - TV notes
- Web pages to print
  - assignments
  - use pdf files
- And designed accordingly

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Creating a new university

- United States Open University opens in 2000
- uses UKOU materials
- uses electronic communication from the outset

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Target

- the Community College leaver
- professional development

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- Offer two Computing programs
- BS in Computing
- MS in Computing
- Plus Humanities, IT and Business

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Associate Faculty

- Essential contributors to quality of programs
- must be good teachers
- integrate with permanent staff
- involve in faculty business
- eventually involve in course adaptations

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Professional Development

- Master's programme in Computing
- 4 credit hour courses
- target the IT professional
- joint effort with IEEE

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Titles and numbers
(UK 1999)

- Operating Systems… 563
- Project management 1325
- Relational Databases 758
- Software Engineering 944
- Java 941
- HCI 454

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New developments

- Paperless assignments
- Exams in the home
- as part of a new electronic infrastructure
- look again at assessment

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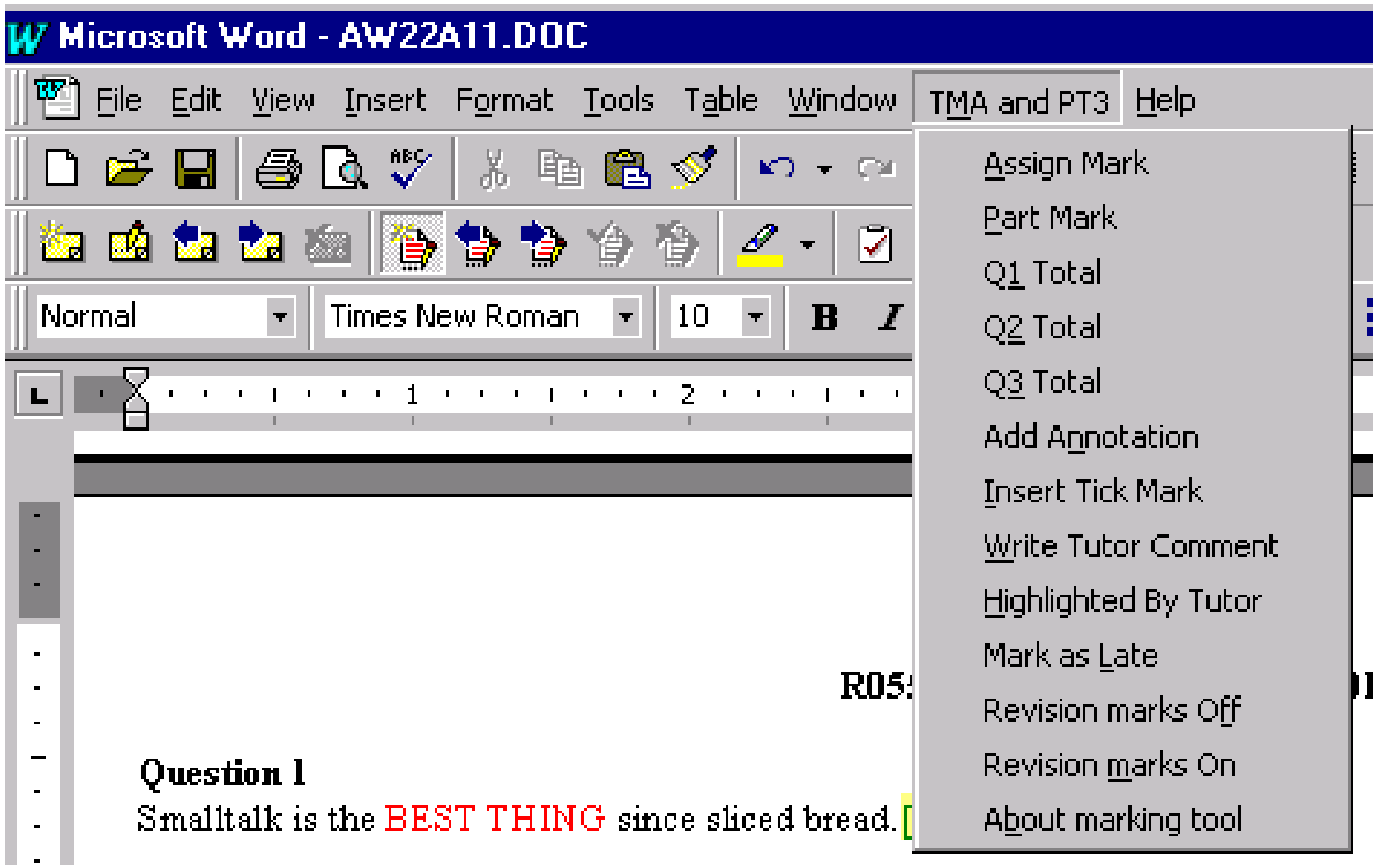
ETMA Marking Tool



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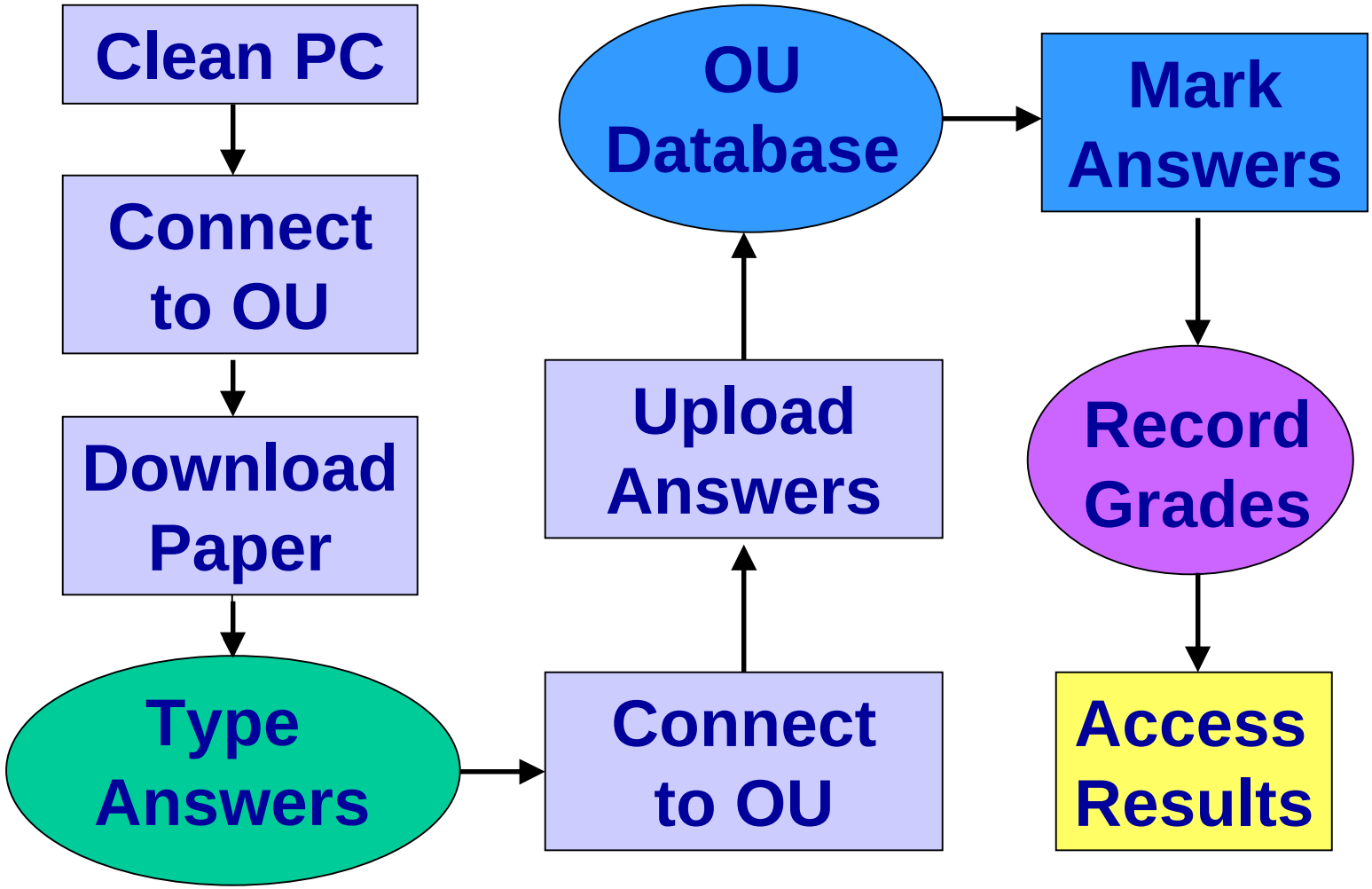
Electronic Exams



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Electronic Exams in the Home: Pros and Cons

+ comfortable surroundings
+ take at any time
+ of any duration (and timed)
+ open book
+ computer or tutor marked

- cheat!
  - summative : cheat others
  - formative : cheat yourself

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Cheating Control

- immediately after the exam, a random sample of students are telephoned, asked to identify themselves and asked a question related to the exam
- a random sample of students are invited to a viva-voce examination (including some of those from the previous step)

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Costs

- Quality costs
- Support is time consuming and not cheap
- Scalability matters

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Support at faculty level

- one person per course
- in addition to content specialists

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Support university level

- 500 staff
- £20 million budget
- over 200,000 potential customers

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University media output

- 1,000,000 audio cassettes
- 250,000 video cassettes
- 80,000 floppy disks
- 200,000 CD-ROMs
- 20 tons of post per week

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Customer Service & Operational Support

- student helpdesk
  - 09:00 - 23:30 hrs, seven days a week
  - support for 60,000 students and tutors
  - 59,000 queries in 1999 (46,000 by telephone)

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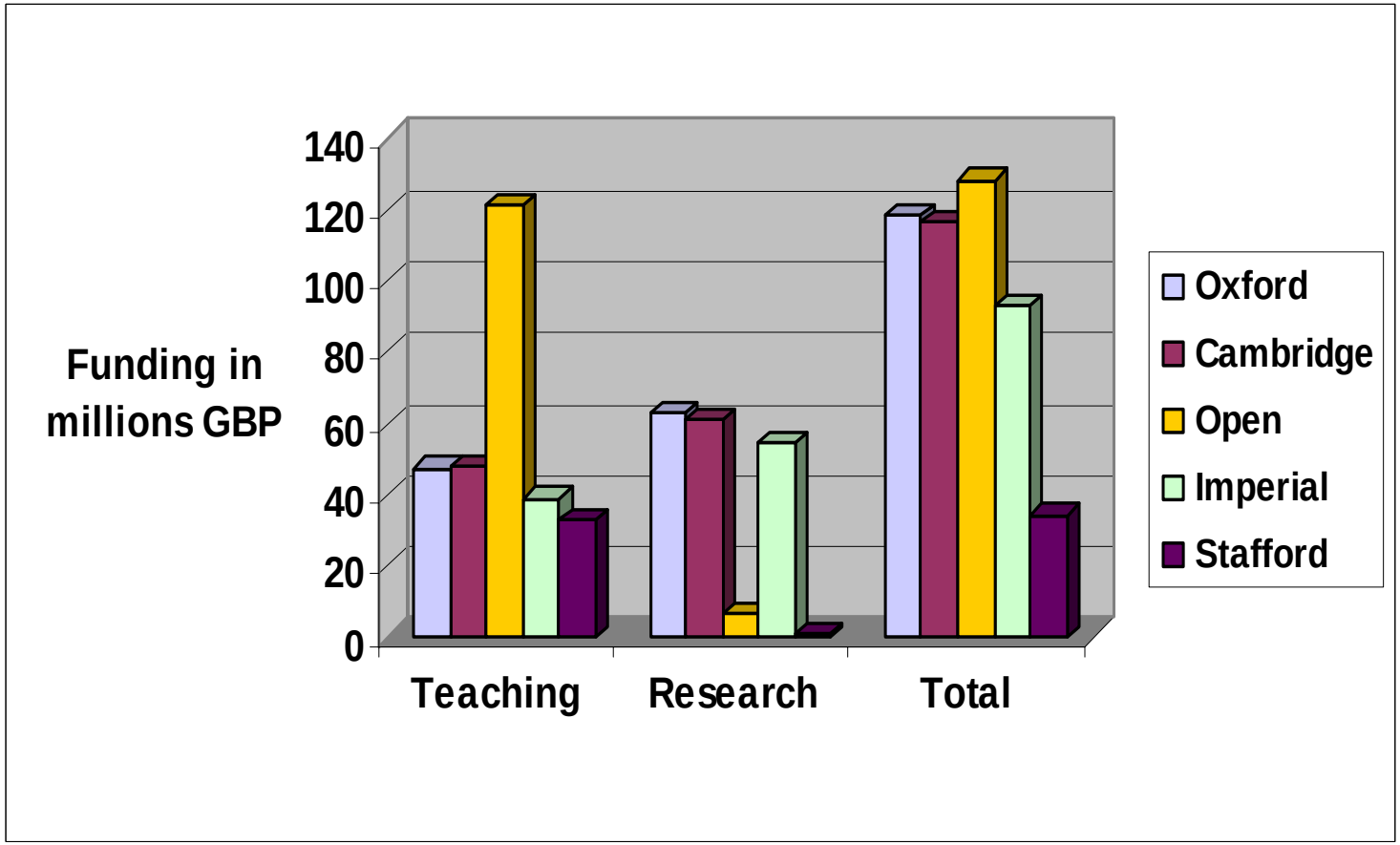
Funding 1999



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Conclusion

I.

The Internet, as a communications medium, can support and enhance all aspects of the educational process, particularly for study at home.

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Conclusion

II.

Pick the media for pedagogic reasons.

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Conclusion

III.

- Quality is not cheap
- Support is time consuming and not cheap
- Distance learning is not cheap

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Conclusion

IV.

Meet student expectations

V.

Scalability matters

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Thank you for your attention.

Gordon Davies

g.davies@open.ac.uk

www.open.ac.uk

www.open.edu