



1

Distance Learning MSc Courses: What are Lectures For?

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What are lectures for?

2



- **Outline**
 - ◆ **Introduction**
 - Alternatives to traditional lectures
 - ◆ **Background**
 - Motivation for considering abandoning lectures now
 - Needs of Distant Learning course
 - Problems of Distant Learning students
 - Problems of providing Distant learning course
 - ◆ **What students say**
 - Survey elsewhere & anecdotal comments
 - ◆ **My Conclusions**

What are lectures for?

3



- **Introduction**
 - ◆ Why do we still give lectures when we have so much technology that might do better?
 - Printed notes more accurate
 - Fewer spelling mistakes
 - Fewer mistakes in equations
 - Can give more details
 - » (extra steps in the mathematics etc)
 - Good diagrams (and more of them)
 - Especially important in applied statistics
 - ◆ **But**
 - Any errors are preserved
 - Cannot be denied!

What are lectures for?

4



- **If placed on web then**
 - ◆ Hyperlinks for extras such as
 - Cross-references to related material
 - Definitions, extra explanations etc
 - ◆ Can be supplemented / corrected / updated
 - e.g. in response to queries or discovery of mistypes
 - ◆ + other web facilities
 - discussion boards
 - chat sessions
 - constant availability
 -
- **Clearly many advantages but can these substitute for face-to-face lectures?**

What are lectures for?

5



- **Background**
 - ◆ Or why have I been thinking about this?
 - ◆ We now have available a direct comparison
 - In 2000-2001 University of Sheffield decided to set up a Distance Learning version of its long-established & highly regarded MSc course which would:-
 - ◆ Run in parallel with existing full-time residential MSc course but part-time over 2 or 3 years
 - ◆ Be **identical** to existing MSc course
 - Same course material run at the same pace during the year
 - Same exercises & examinations
 - Same deadlines

What are lectures for?

6

- **Why Distance Learning?**
 - ◆ New Government scheme of funding prompted a forward look
 - ◆ Patterns of training changing
 - Career moves into Statistics
 - Skills updates
 - ◆ Student priorities changing
 - Indebtedness
 - Need to be in work to pay student debts

What are lectures for?



7

- **Why constraint of being identical to current MSc?**
 - ◆ will be of high quality –
 - **fully equivalent to existing MSc**
 - cannot afford to devalue our current MSc
 - ◆ can be developed & sustained with available resources




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8

- **Typical DL Student:-**
 - ◆ Maths/stats graduate ~3-7 years ago
 - In full-time employment but wants advancement
 - Is funding themselves personally
 - ◆ However increasing number (including new graduates) sponsored by companies for :-
 - Fees
 - Travel to Sheffield for residential weeks
 - 1 per year (examinations)
 - Study time
 - ◆ (reflection of increasing awareness of Sheffield's DL MSc course)




What are lectures for?




9

- **Needs of Distant Learners**
 - ◆ Time, determination, equipment
 - ◆ Encouragement
 - contact with department
 - contact with other students
 - weekly reports to DL Course Tutor
 - ◆ Route map
 - ◆ Supplements to lecture material
 - amplification
 - reinforcement:- five-finger exercises
 - ◆ Feedback




What are lectures for?




10

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11

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What are lectures for?




12

- Obligated to extend this good teaching practice to all MSc students including residents
- **Why had we not been doing this already?**





What are lectures for?




13

■ **Introduced problems**

- ◆ Danger of **over-teaching**
- ◆ Too much expected by students
 - e.g. formal solutions expected for Task Sheets such as **verify result 2.3** ('easy to shew that..')
 - ⇒ **refuse** firmly & resolutely
- ◆ Students less tolerant of slips & misprints
 - & they can be detected!
 - no avoidance of public apologies



What are lectures for?

14

■ **Introduced problems**

- ◆ **What are lectures for??**
 - if web material is self-contained?
 - ⇒ Demonstrate more examples
 - ⇒ Provide summary notes for lecture display
 - *very substantial task*
- ◆ Must keep students occupied in the lecture
 - Study guide gives advice [ignored??]
 - Displaying copies of printed notes is **disaster**
 - PowerPoint slides must **add value**
 - Computer demonstrations must be **extra**

However...






What are lectures for?

15

■ **However**

- ◆ Must not be **too valuable** since DLs are not at lectures
- ◆ In lectures students will annotate notes from slides
- ◆ Put copies of slides on web for DLs
 - but not distributed in advance






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16

■ **Extra teaching features: Discussion Lists**

- ◆ more open discussion available to all
 - necessary to discourage direct emails & personal queries
 - reply **only** to discussion lists
- ◆ weekly news summaries for each course
 - material covered, queries raised
 - sometimes repeated verbally in lectures






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17

■ **Consequence**

- ◆ For past 7 years we have run a web-based distance learning course in parallel with an **identical** full-time residential course, except that:-
 - Residential students attend lectures
 - DLs do not attend lectures
 - Both sets have access to same web-based material
 - i.e. copies of all lecture note, problems, solutions, discussion boards, background material, &c., &c.
 - Residential are given printed copies
 - DLs can print their own (most do so)
- ◆ [Most] residents attend [most] lectures
 - & can see lecturer face to face
- ◆ DLs do not (and cannot)
- ◆ So far >100 residents and > 50 DLs graduated in past 7 years

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18

■ **However**

- ◆ Analysis indicates that the residential students & the DLs perform equally well
- ◆ Residents who attend lectures have no significant advantage

⇒ So why do we continue with lectures??

- ◆ What **added value** do the lectures give to the students?

What are lectures for?






19

What do students say?
Partly relevant survey:-

- ◆ Ruth Hubbard
 - School of Maths, Queensland University of Technology
- ◆ "What use are lectures now that everything can be found online?"
 - MSOR Connections, No1, Feb-April 2007, 23-25.
- ◆ Survey of Engineering students taking 3rd unit of mathematics

Results:-




20

I attend lectures because:		% (n=150)
1	I meet my friends	19
2	I am supposed to attend	39
3	I can make notes to study later	75
4	It gives me an idea what the course is about	73
5	That is how I find out when tests and assignments are dues	46
6	I enjoy listening to lectures	15
7	It helps me find out what the lecturer thinks is important	83

Survey of Maths Students in Queensland Univ of Technology, Australia

Full web access to **lecture notes**, tutorial problems and solutions, Assessment materials etc




Source: Ruth Hubbard, MSOR Connection (2007)

21

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← !!!
Students don't come because they like them
No surprise?

22

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← not from course notes??
← So we need better signals in course notes & web material

23

Comment from Distant Learning Student




- ◆ (after exam when she obtained a Distinction)
- ◆ "I have never felt so prepared for an exam before — I could never begin the next topic before I felt I had understood the current one"
- ◆ How many 'ordinary students' understand the previous lecture before going to the next???

24

My Conclusions

- ◆ DL students perform as just as well as residential **even though they do not have the advantage of lectures** because they are more committed, more motivated & more nature
- ◆ Residential students (typically fresh graduates) still have a need for lectures to maintain contact with the course and find them useful
 - But is this because 'they are provided' — if they were not available would they change work practices to be more like a DL?????







25


- Questions
 - ◆ or come and talk later
 - ◆ or email

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Web page at <http://nickfieller.staff.shef.ac.uk/> with examples of teaching material



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26



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27



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28



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29



What are lectures for?



30



What are lectures for?

