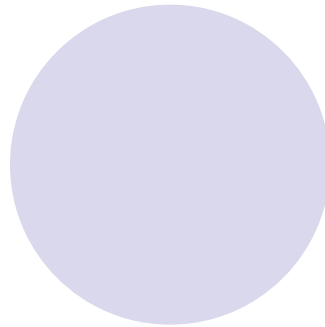
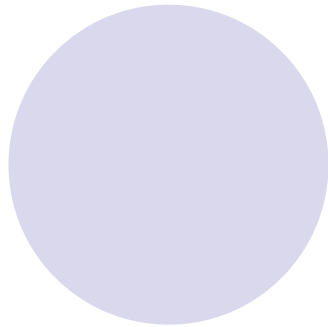


Crossing boundaries: Challenges and opportunities in  
the collaborative development and sharing of learning  
objects

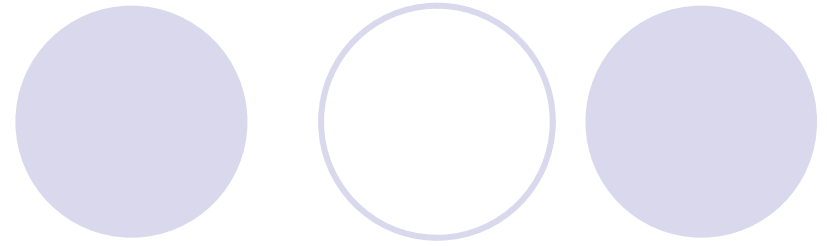


Heather Wharrad  
Senior Lecturer

University of Nottingham



# Seminar Questions



- What makes an RLO educationally valuable?
- ‘Get your RLOs here’! How can we raise awareness and improve uptake of use of RLOs by both students and lecturers in multi-agency collaborations?
- Is cross sectoral sharing of RLOs a realistic possibility?

# Outline

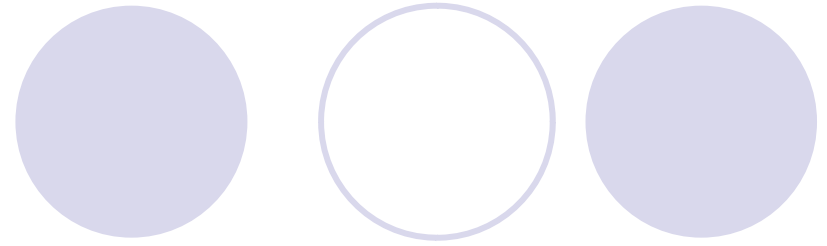
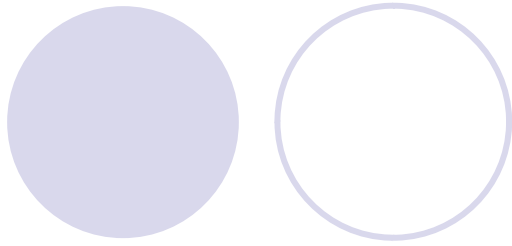


- Why share learning objects?
- A definition and a model for RLO production
- Collaborative approaches to development
  - Examples and a case study from Nottingham
  - Examples and a case study UCeL
- Eduserv cross sector collaboration

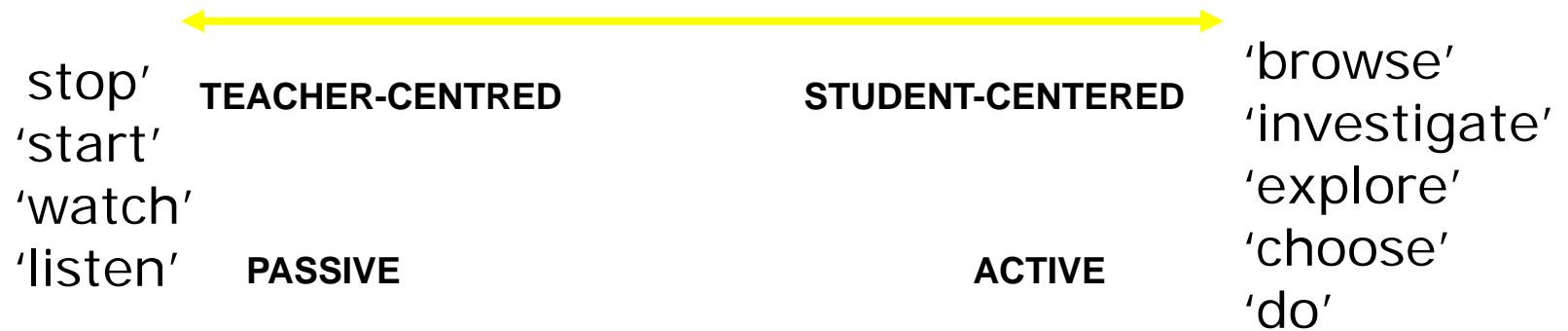
Practice based ie student/lecturer perspectives

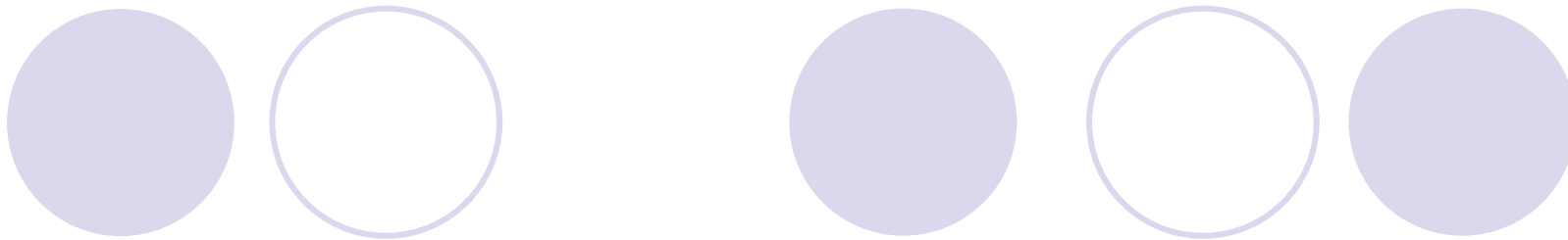
NOT

technical ie platforms, IP, compliance & metadata  
issues.....



## Interactivity engages...





**COST**



|          |                        |                        |               |
|----------|------------------------|------------------------|---------------|
| stop'    | <b>TEACHER-CENTRED</b> | <b>STUDENT-CENTRED</b> | 'browse'      |
| 'start'  |                        |                        | 'investigate' |
| 'watch'  |                        |                        | 'explore'     |
| 'listen' | <b>PASSIVE</b>         | <b>ACTIVE</b>          | 'choose'      |
|          |                        |                        | 'do'          |

# Early lessons (students).....

- *'Can do it at own pace and in your own time- can go back if unclear about anything, good for revision.'*(cohort 1997)
- *'CAL good presentation as lectures took a long time and concentration is lost.'*(cohort 1995)
- *'It's hard staring at a screen for so long'*(cohort 1997)
- *'CAL packages in moderation are good because you have to find the answers yourself.'*(cohort 1997)  
*(Student quotes from Wharrad et al 2000)*
- Flexibility, in moderation, short, interactive, self-directed, not totally replacing FTF



# The School of Nursing

- Faculty of Medicine and Health Sciences
- School of Nursing - Five Education Centres
  - Boston, Derby, Lincoln, Mansfield and Nottingham (3000 m<sup>2</sup>)
- Pre registration courses x 3
- Post registration (120+ modules), undergraduate and post graduate courses
- 4000 students; 200+ staff



# Early lessons (lecturers)

- Developing large packages – time, cost, updating
- Wanted to use some elements of CAL (diversity - range of courses; types of students; specialisms)
- Based on educational need not technology led (areas of difficulty - maths; science; statistics)
- Added value (visualisation of scientific processes; linking theory to clinical practice)





# Nurse Prescribing Course - Nottingham

*"We needed more time on each aspect [of Pharmacology] until factors were absorbed and understood!!"*

*"I have always struggled with 'biology' etc so its not the lecturers' fault that I do not understand the sessions. I will revise at my own pace."*

- developed RLOs incorporating high quality graphics and audio to help students understand core pharmacology concepts

# Pharmacology RLOs

- ◆ Exploring the synapse
- ◆ Understanding first pass metabolism
- ◆ Understanding half life
- ◆ Understanding bioavailability
- ◆ Drugs and receptors: the lock & key hypothesis
- ◆ Excretion of drugs in the kidney
- ◆ Drug metabolism: the role of the liver
- ◆ Agonists and antagonists
- ◆ Drugs acting at the synapse
- ◆ Role of plasma proteins in drug binding

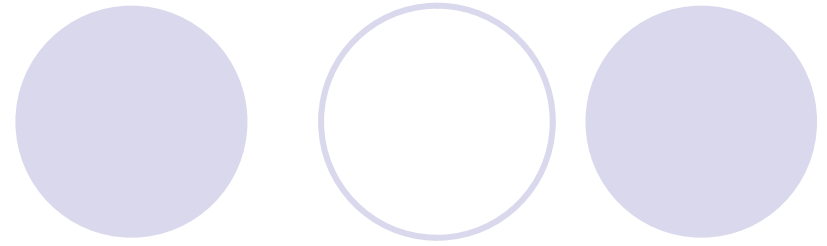




Demo1 - Half life of drugs  
Demo2 - First pass metabolism  
Demo3 - Lock & Key)



## Students comments:



### *Exploring the synapse:*

"This one was good to go over and over again until I got it right and for revision"

"Diagrams really useful"

### *First Pass metabolism:*

"Liked the visual analogues,  
fantastic way of learning and remembering"

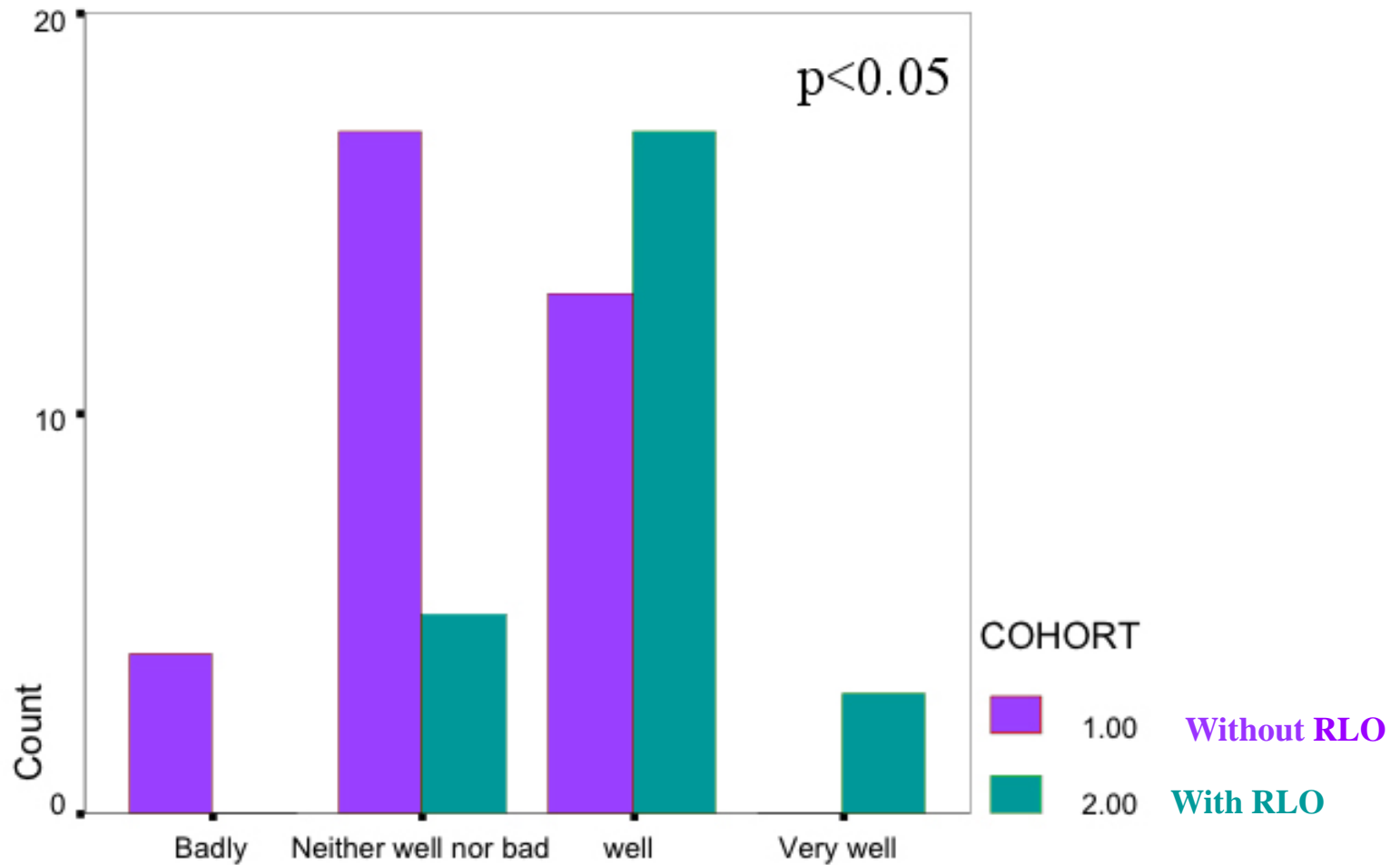
### *Half life of drugs:*

"Very practical in terms of use/understanding in practice"

"Excellent learning tool"

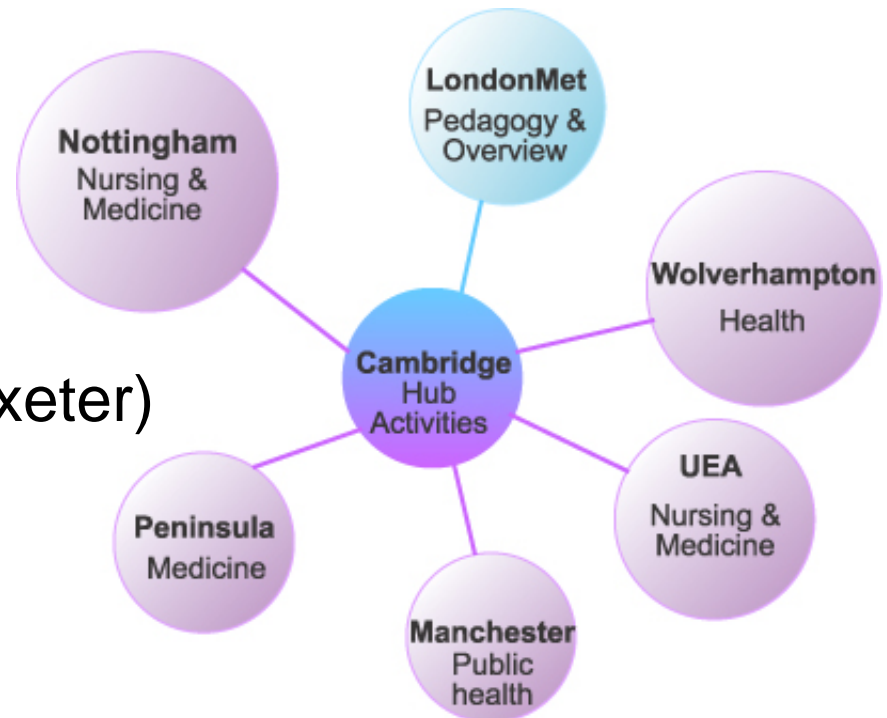


# How well or badly do you think you understand Bioavailability?



# UCeL partners

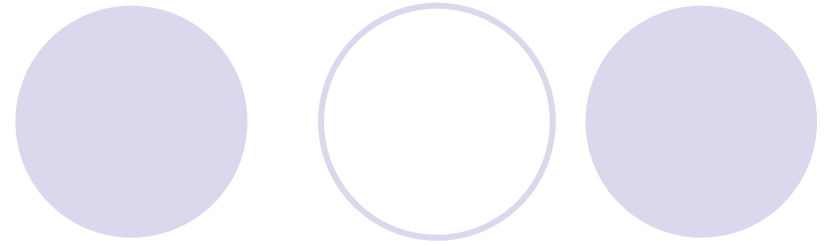
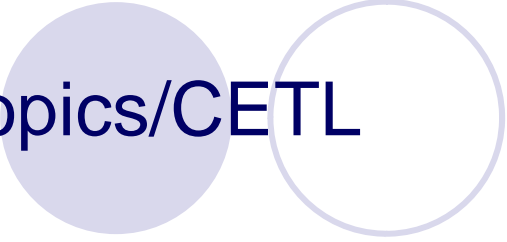
- Nottingham
- Manchester
- UEA (Norwich)
- Peninsula (Plymouth/Exeter)
- Wolverhampton
- Cambridge (hub)
- London Metropolitan (advisory)



# UCeL: A model for the production of collaborative, multidisciplinary eLearning materials

- i) Identify topics:
  - Based on REAL educational needs
  - Broadly generalisable
- ii) RLO content creation:
  - Specification
  - Workshops
  - Peer-review
- iii) RLO development:
  - Ingredients and templates
  - Training programme
  - Peer-review
- iv) Use and evaluation

Topics/CETL



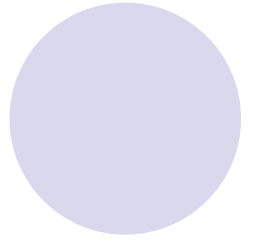
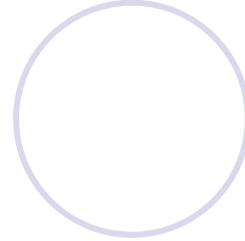
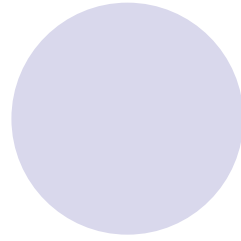
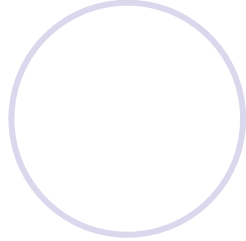
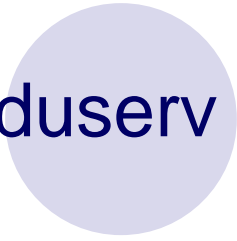




Demo - levels of measurement

Demo - why a questionnaire?

Eduserv





# Challenges

- Institutional
  - Competition for students
  - Sharing culture?
  - Cross disciplinary (context, language, methods...)
- Educational
  - Constructivist approaches
  - Course design/educational models
  - Changes in a lecturer's role
  - Learning technologists
- Technical
  - Interoperability across platforms (metadata)
  - taxonomy