Linking teaching and research – from first to final year?

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Are we talking about……..

- **Linking teaching and research** – teacher should be (? - or have been??) active research worker in the discipline (or in the subject being taught?)?; teacher should be up to date with research finding (all or just in area taught?)?; distinction between scholarship and research?; teaching should use research scenarios only?

OR

- **Linking learning and research** – material (all?) presented to students should be at cutting edge (even in year 1? even if uncertain and likely to change?)?; students should learn (everything?) through studying research work?; students should understand research process (since it determines the attributes (accuracy, certainty, transience, completeness etc) of information)?; students should see how research makes discipline live and advance?; students should know growth points of discipline? students should be exposed to the excitement/enthusiasm /commitment associated with research (even those students who don't feel these things?)?; because research = problem solving + innovation + creativity?

OR

- **Some or all aspects of both?**

Why link T&L and research at all?

- **Generates enthusiasm and motivation**
- **Develops critical attitude and self-criticism**
- **Prepares some for future careers**
- **Emphasises uncertainty of information**
- **Shows how science develops**
- **It's what students want**
- **Develops creativity and problem solving ability**
- **Shows need for presentation skills, information retrieval and processing skills, group working skills, time management……**
- **Prepares for success and failure**
- **HEFCE priority; unique feature of university teaching**
- **Meets benchmark statement requirements**
- **Keeps information up to date?**
- **Good researchers are good teachers?**

Shows research to be an interesting human activity; only to the curious?

Points to note

Generates enthusiasm

On the scale line +2 to -2 to what extent do you agree (+2) or disagree (-2) with these statements regarding the last lecture? [mean +2 / 4 as %]

- It generated enthusiasm/interest in the discipline   78%
- It improved my knowledge of the area   46%
- I wanted to know more 69%
- I understood most of the material covered 21%
- I was confused by the different concepts 36%
- I was bored by the lecture 12%
- This lecture was a waste of time 8%

It's what students want

"Unfortunately I couldn't do a lab-based research project"

"The research project was the best part of the whole programme"

Determining career direction

"Learning about how research was done convinced me it wasn't for me."

"My lab-based research project showed me what sort of a job I wanted; it changed my view on practical work."

From first to final year?

- **Is there a single right answer?**
- **Institutions different – research intensive and research sparse environments have different problems**
- **Are all the objectives appropriate for all years?**
- **Are the students equipped with appropriate knowledge and attitudes?**
- **Are all students able to cope with research in year 1 (or even in year 3?)?**
- **What about student numbers and available resource?**
- **Service teaching/optional modules?**
- **Different aspirations, abilities and career plans among students?**

Take home messages

- " I've done the research module " versus " Integrated throughout the programme ".
- Consider your student body
- Appropriate objective for the year of study
- Must consider resources available (space, time, money, labs, kit costs)
- Spin-offs (e.g. enthusiasm and interest) as well as directly assessable items
- Integrated into the skills agenda