



CENTRE FOR

bioscience



Differentiated learning

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WHY is differentiated learning a current issue?

- **Participation:** top 2% moving to top 50% - a greater range of ability, aspiration and motivation
- **Quote** – *‘you know there are three groups – those who are bored, those OK and those who are lost?’*
- **Level:** teach to middle; what happens at the ends?
- **Student numbers:** demographic downturn means we must attract students and meet different demands; – ‘to each according to his needs.....’ is good marketing
- **Attract best students:** all want best students, more interesting, PhDs, less trouble, stretch teachers, overseas market
- **UK Plc:** needs of knowledge based economy utilising scientific innovation and brilliance



WHAT is differentiated learning?

- Do we already provide this with **graded degrees**? Some get firsts, some thirds. **Graded universities**, not all are equal.
- Do we mean differentiated teaching?
- Differentiated learning objectives? – type, content, level? **By intention** (by default=graded degree?)
- Within a programme or within the student (learning) experience?
- Remedial teaching or **stretching the top end**?
- How is this done in schools? (www.nagty.ac.uk National Academy for Gifted and Talented Youth)
- What happens in sport? UK Olympics Training Squad; Sports Science scholarships and bursaries. Talent scouts. Yorkshire Cricket coaching

What are we doing in bioscience?



WHAT is the additional/different learning?

- Specific subject knowledge?
- Broader knowledge (cross discipline), fuzzy edges?
- Generic skills?
- Problem solving? Application of knowledge?
- Data interpretation?
- Creative thinking?
- Critical thinking?
- Enterprise and entrepreneurship?
- Team working?

What additional/different learning are we looking for?



HOW is differentiated learning accessed?

- Voluntary: opt in to extra material
- Compulsory: we decide you'll follow a different path
- Competitive: (ability, potential, motivation?)
 - absolute standard or relative to peers?
 - on past performance, on performance in a task or on future potential?
 - can you buy your way in?

OR

- Open ended tasks assessed with progressive learning objectives? Unrealistic aspirations problem.

Consistent or different between universities/disciplines?



HOW is differentiated learning assessed and accredited?

- Does it have to be at all? The learning is still the same – or is it?
- Assessed inside or outside current structures?
- Starred degrees?
- Different degree name? (Biochemistry in Relation to Medicine – Biochemistry for Boffins?)
- Separate certification?
- Record of achievement?

How do you know/demonstrate you've got it?



HOW is differentiated learning accomplished?

INTERNAL

- Sets and streaming? Starred degrees?
- Voluntary extra classes/material (essays, tasks, involvement in research, separately certificated master-class...) Implications for assessment?
- MSc – or is this too late?
- Fast track – BSc and MSc together in 3 years?
- Open ended tasks with graded assessment and learning outcomes
- Self-driven, self-motivated – no compulsory extra but free up time, e.g. grant to remove need for employment during degree?

EXTERNAL

- Master classes from outside bodies
- Essay competitions
- External grants – e.g. for conferences
- External placements in work/research



Is differentiated learning ethical, fair or achievable?

- They all pay the same – should they all receive the same?
- Selective opportunity – who decides?
- What about peer pressure and student attitudes?
- Will universities (as a business) ever look to the educational need (stretching bright students) rather than the financial imperative (payment for retention; league tables position)
- Early and late developers – is there a way back? Late access?
- Are we dealing with the top 5%, 0.5% or 0.05% (250, 25, 3)
- Can students balance social, debit, employment, maturation, standard academic work AND excellence?
- Do students have a sufficiently long term perspective to be interested?



Characteristics of differentiated learning?

The **intention** to provide for different outcomes

Different learning objectives

Access based on ability and motivation

Stretching the top

Assessed and accredited