

The Benchmark in the Biosciences

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Dearing Report, 10.66

We are attracted to the proposition that standards should be developed by the academic community itself through formal groupings from the main areas of study....In many cases, subject associations and professional bodies will play a role developing benchmarks.

Benchmarking should be used for:

- Programme design and validation
- Academic Review (whatever happens; this is not just Subject Review)
- External Examining
- Informing other academics about the subject
- Informing employers about the subject and its standards
- Informing the public about the subject and its standards

The 'Bioscience' Benchmarking Group

Jeffrey BALE	The University of Birmingham
Paul BRAIN	University of Wales, Swansea
Darrell BROOKS	University of Central Lancashire
Sara CHURCHFIELD	King's College, London
Kathleen KANE	University of Strathclyde
Jacqueline LANDMAN	The Nutrition Society
Caroline MACDONALD	University of Paisley
David MALE	The Open University
Roger MARCHANT	University of Ulster
Helen O'SULLIVAN	Liverpool Hope University College
Wendy PURCELL	University of the West of England
Jim RIMMER	Aston University
Robert SLATER	University of Hertfordshire
Janet SPRENT	University of Dundee
Simon VAN HEYNINGEN	University of Edinburgh

QAA's "Key Questions"

- What are the ATTRIBUTES and CAPABILITIES a Graduate should be able to demonstrate?
- What are the minimum standards of attainment in relation to those attributes and attainments?

The core attributes of biological science graduates

Report of the Institute of Biology &
the Biochemical Society to the
Quality Assurance Agency of a pilot
GSP Project

November 1997

Expected Attributes

- Critical reasoning
- Subject's conceptual basis
- Investigative skills
- Communication
- Data/information processing
- Subject content and range
- Laboratory skills / fieldcraft
- Subject methodologies

More Expected Attributes

- Teamwork
- Independence
- Professional skills
- Time Management
- Synthesis

Assessed Attributes

- Subject's content and range
- Subject's conceptual basis
- Critical reasoning
- Intellectual analysis
- Laboratory skills / fieldcraft
- Data/information processing
- Subject methodologies
- Investigative skills
- Originality

Expected and assessed – **not** the same thing!

- Critical reasoning
- Subject's conceptual basis
- Investigative skills
- Communication
- Data/information processing
- Subject content and range
- Laboratory skills / fieldcraft
- Subject's content and range
- Subject's conceptual basis
- Critical reasoning
- Intellectual analysis
- Laboratory skills / fieldcraft
- Data/information processing
- Subject methodologies

Headings for the Benchmark Statement

1. Introduction
2. The Nature and extent of the Biosciences
3. Knowledge, understanding and skills in the Biosciences
4. Teaching, learning and assessment
5. Subject standards

First Consultation – informal

- QAA's formal list of subject specialists
- People who applied for the group but were not chosen
- HUBS and UKLSC
- Some specific societies

Web page available from HUBS

Second Consultation – formal

- All HEIs through their Vice-Chancellor
- Major groupings of societies: HUBS, UKLSC
- Eighty specific societies
- Industry: ABPI, Bioindustries Forum
- English Nature and similar

Web page available from QAA

The Draft Benchmark

- Is **NOT** a core syllabus
- Does **NOT** lay down what must be taught
- Is **NOT** about any particular branch of biology – but about all the biosciences
- Does not therefore have much to say about chemistry, mathematics, statistics etc.

The Draft Benchmark

- Is written for fellow academics (but not just biologists) – impossible in practice to make it useful for other stakeholders.
- Tries (but may not succeed) to explain why biosciences are interesting, important, current.
- Explains the background and the wide diversity.

The Draft Benchmark

- Has rather little about factual information, since so little is common to all the biosciences.
- Inevitably concentrates on generic skills – so ends up looking like several other quite different subjects.
- Does **NOT** prescribe detailed standards for all the graduates in the biosciences.

“Standards”

- We need to have “standards” as they are part of the whole idea.
- “Threshold” and “good”. Is this a good idea?
- Generic standards are “compulsory”, but the subject-specific ones are examples. They don’t include everything. Are they helpful?

Is the benchmark going to be any use?

- Obviously we hope so – although I have my doubts.
- But in any case we have tried to make it as useful as possible, while not imposing unnecessary burdens on anyone.

A European Benchmark?

To bring about a **high Europe-wide convergence** in Higher Education by defining commonly accepted professional and learning outcomes.

A set of **general and more specific competencies** or learning outcomes, which are also very useful in a wider perspective.