LTSN Bioscience Professional Development Programme

Preparing students for their final year project: nature or nurture?

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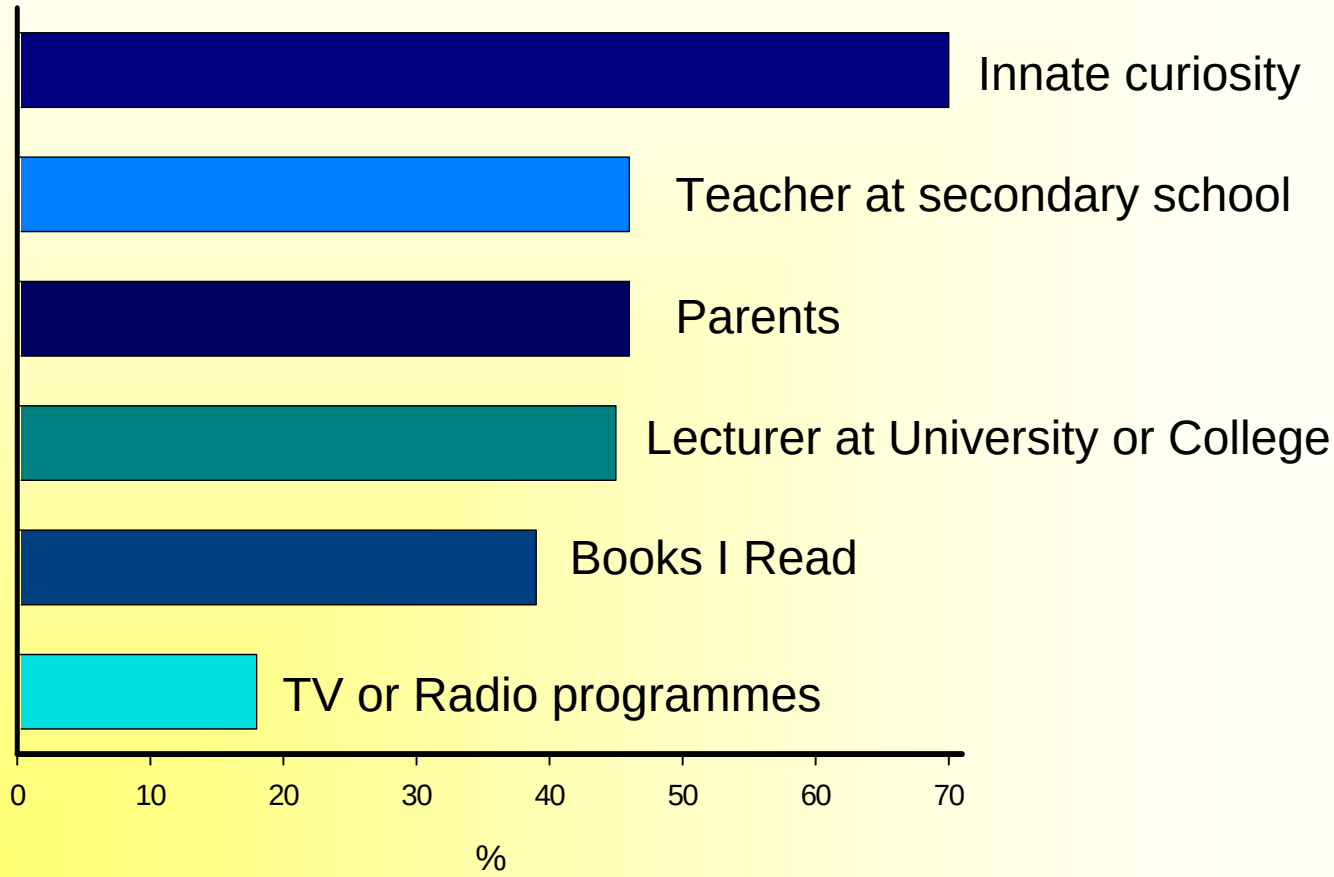
Preparing students for their final year projects

What influences led them to become scientists?
(choose three answers)



From: The Scientist (2003), 17; 21, 12.

NATURE?

The “embedded” approach, in which the young scientist develops their own (innate) research skills as they progress through their degree course.

Gaining research experience through frequent practicals and mini-projects and through contact with research active staff.
Immersion in a “research culture”

This approach favours those with an innate curiosity

NURTURE?

The “formal” approach is to timetable, lectures, tutorials and workshops on qualitative and quantitative research methods parallel with the final year project (and throughout the course*).

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In both cases the student is supervised by experienced staff members.

Student expectations and both staff and financial resources dictate which approach is practical and cost effective.

Each approach has its merits and often a combination of the two provides the best outcome for the student.

BSc (Hons) Applied Sports Science

Considerations

- Student to staff ratio
- Staff research activity
- Funding
- Facilities
- Areas of study
- Ethics, Health and Safety legislation
- Student and staff input/returns
- Purpose of final year project

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3rd Year
Students take 6 Modules
Research methods is a compulsory single module

2nd year = 40 credits

3rd year = 120 credits

The lowest scoring module is ignored

Therefore this module contributes 20/140 or 1/7 (14%) of the total

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Module assessment

Research proposal	10%
Dissertation	85%
Oral Presentation	5%

No literature reviews, project must be related to health and or exercise issues, and must contain an element of original data collection.

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Course Structure

Weeks 1-2 Form groups, consult staff (find a supervisor) and decide on project

Lectures provide an introduction to module, information on previous research projects, staff interests, and planning a project timetable.

Week 3-4 Begin writing a research proposal (with Supervision) consult literature, and explore study design.

Lectures on qualitative research methods that consider practical study design and ethical issues

Week 5 Students declare project title, groups and supervisor

Module leader consults with staff members on allocation of projects

Weeks 6-7 Submit research proposal for marking and risk assessment (ethics and safety)

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Research proposal (10% of final mark, marked by module leader)

Introduction (25% of marks) review of literature and aims

Project description (75% marks)
Subject recruitment, protocol, project duration, statistical analysis, expected outcome

Equipment and consumables required

Risk assessment, low, medium or high

Signed by supervisor

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Weeks 8-12 Quantitative research methods

Lectures on statistics and computerised data entry.

1 hour tutorial time on staff timetable

Start early stages of research projects, pilot studies, documentation, recruit subjects.

Second term Work on project usually begins

Students need to book laboratory space, equipment and specialist facilities

Specialist Workshops organised according to demand

Some supervision by research staff, ie PhD students

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April: 5000 word dissertation submitted, provides 85% of the total marks, marked by supervisor.

May: 10 minute oral presentation of dissertation, 5 minutes question and answers. Marked on presentation skills, provides 5% total mark.

The “nurture” approach

Advantages:

Each aspect of the research process is formally explained and provides the student with an opportunity to initiate further reading or questions

Working in groups allows;

- More ambitious projects
- Gives the weaker students a chance to experience research
- Resources can be stretched further

Disadvantages:

- Proportioning marks fairly.
- Requires more tuition time and therefore less time available for students to do project work, and less time for supervisors to oversee projects.
- Working in large groups can dilute impact of project
- Less contact with mentors and peers
- Less time to cover other subjects

Who benefits?