
Science and the EPQ

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Overview of Project qualifications

Students are required, **with appropriate supervision**, to:

- choose an area of interest
- draft a project title and aims for approval by the school or college
- plan, research and carry out the project
- deliver a presentation to a specified audience
- provide evidence of all stages of project development and production for assessment.

Choosing a title

Following the launch of the Project qualification within a school or college, students will need a period for choice and discussion of potential titles with their supervisor.

This part of the project process is critical to the eventual success of a student's project. Hastily chosen titles can frequently lead to projects that do not allow the student to access higher marks within the assessment objectives.

The scientific method

- Literature review
- Formulation of a hypothesis to test
- Methodology for acquisition of data
- Experimental evidence or secondary data set to be used
- Analysis
- Conclusion
- Evaluation

Which format?

Written report

- Appropriate for projects based predominantly on secondary research.
- If experimental data is used it would be a small part of the evidence gathered.

Artefact and written report

- Appropriate for reconstructions of classic experiments which are effectively demonstrations.
- Also appropriate for experimental projects where a methodology is devised and implemented and primary data is the main evidence used.

What is in it for the student?

- Excitement of original independent research.
- The ability to interpret scientific papers.
- The ability to write in a formal scientific style.
- Confidence – the student becomes an expert in their own field.
- Excellent topic for discussion at interview.
- Good transition to university science departments.
- Icing on the academic cake for a high flier.
- A chance to rebuild academic credibility if necessary.

What is in it for the school or college?

- More UCAS points.
- Increases the likelihood of improved grades for students doing the EPQ.
- Raised morale of science staff free from curriculum restraints and able to rediscover the excitement of watching a student solve a problem.

Caveat one

Beware the temptation to over manage:

- you can advise, but the student makes the decisions
- standing back when on one's own subject area is difficult, but essential.

Caveat two

Nuffield Research placements and laboratory work experience placements do not always sit easily with the EPQ.

- A student completing a CREST award probably does not need to do an EPQ as they will have research experience.
- Unless the planning of the project is complete before the placement it is difficult for the EPQ process to be demonstrated with a short placement, and the student may come back with too much directed work.
- It is not impossible to use a placement for data gathering, especially if specialised equipment is needed, but the planning has to be in place first.

Further caveats

- An EPQ is not a substitute for coursework.
- It is not appropriate for a single subject class to be offered an EPQ.
- The EPQ process is generic, students are supported as they develop their skills and methodologies, they are not told what to do or offered prepared.
- Protocols.

What the school or college needs to provide

- An EPQ co-ordinator
- A programme of taught skills
- Supervisors
- Possible additional science specific provision
- Technical adviser – consultant role
- Health and safety supervision – risk assessments
- Confidentiality protocols

The taught element

Core skills required:

- time management skills
- research skills and evaluation of sources
- report writing skills
- referencing and bibliography creation
- how to avoid plagiarism
- presentation skills
- reflection and evaluation.

Some suggestions

- There has to be data.
- Data collection does not have to be difficult ,dangerous, or expensive.
- Simple regular measurement can provide accurate significant data
 - eg measuring rate of growth of nails on the right or left hand?
 - eg soil, air temperature measurements.
- Second hand data sets can be gold mines.

Any questions?

What else would you like to know?

How did we do?

- Please rate this session on the **Sched Conference app**.
- Using the post-its provided, please write:
 - one thing you enjoyed about our session or will take away for your teaching
 - one thing you feel could be improved.
- Stick these on the feedback poster as you leave.

Get in touch

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Thank you
