Quick guides to all our project qualifications

Including Level 1, 2
and the EPQ

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Contents

Guide to being a centre coordinator

What is a centre coordinator?

A centre coordinator is one of the key roles for the project qualifications. They are responsible for delivering the qualifications within a particular school, college or consortium.

The key areas of responsibility are:

- developing staff understanding of the requirements of the qualification

- devising, timetabling and delivering the taught skills element (delivery may be delegated to other colleagues or outsourced to other experts but it must be centrally organised to ensure consistency for all students)

- final sign off of all project proposals – it is imperative that the centre coordinator refers to the five point checklist in section 2.4 of the specification to ensure student proposals will allow them to access the full range of marks

- assuring the quality of supervision received by each student is consistent

- ensuring our marking standard is understood by all Supervisors and that it is maintained within the centre. This includes attending our standardisation meetings, communicating the standard to the Supervisors who are marking the projects and then arranging internal moderation of the marking of each Supervisor.

There are some important administrative tasks that must be completed by the centre coordinator to ensure that the submission of the projects for external moderation runs smoothly. These are:

- making the centre's examination officer aware of students who should be entered for the projects

- setting internal deadlines to ensure our deadlines for submission are met

- submitting marks to AQA and a requested sample of work to an external AQA moderator

- ensuring that every Supervisor and the centre coordinator have signed the centre declaration sheet which must be submitted to the external moderator alongside the requested sample of work.

It is important that the centre coordinator registers their centre and provides us with relevant contact details so that we can put them in touch with a project adviser and inform them of upcoming meetings and/or specification developments. The centre coordinator is the only person who should contact us or the adviser directly. All questions should be escalated via them.

We provide training for centre coordinators, on or off-site through our professional development service which can be accessed from our website.

Guide to being a Supervisor

What is a Supervisor?

The Supervisor and student relationship can be the key to success in many project qualifications. They help students through a new and challenging programme of study and don't need to be a subject specialist in the chosen area of project research. It's often better for a Supervisor to have no specialist subject knowledge so that student and Supervisor embark on the learning journey together.

The Supervisor role has four key responsibilities: to regularly meet with their student(s), to complete key sections of the production log, to attend each student's presentation and to mark the work of their student(s).

Responsibility one: meeting with students

- Field initial ideas from students and take them through the initial planning stage of their project.

- Advise students on ways to improve and focus their initial ideas to ensure they can achieve the best result possible.

- Hold the planning review, mid-project review and project product review with the student, offering advice and guidance to help them to progress, without directing the course the project takes. Often the Supervisor holds additional meetings as and when the student requires support.

Responsibility two: completing the production log

It is essential that the Supervisor completes their sections of the production log so that the evidence of the project process is comprehensive and authenticated:

- The Supervisor must provide details of the centre's taught skills programme in the production log. They are sometimes involved in the delivery of these taught skills depending upon the centre set-up.

- Using the checklist in section 2.4 of the specification, the Supervisor comments on the suitability of the student's project proposal in Part B of the production log.

- Explain how the project will extend and develop from a student's main course of study in Part B of the production log. It is important that dual accreditation is avoided; the Supervisor provides evidence that the proposed project will extend from a student's other areas of study where there is potential overlap.

- Complete the 'Presentation record part B' section of the production log, recording the nature of the presentation audience, the nature of the presentation, the delivery of the presentation and the questions asked of/ responses given by the student

- Complete the record of marks section of the production log, providing marks for each assessment objective and supporting statements that justify the marks awarded, indicating evidence where appropriate.

- Complete the submission checklist in the production log and the necessary Supervisor declaration sign off.

Responsibility three: attend the presentation

The Supervisor must attend the presentation and keep a comprehensive log of the nature of the audience, the presentation, the delivery of the presentation and the questions asked/responses given. This will form the basis of the assessment evidence for this session. It is imperative that this is recorded in the production log 'Presentation record part B' as it is often the only evidence the external moderators have of the presentation (students may choose to include additional relevant information related to the presentation, such as PowerPoint slides).

Responsibility four: mark student work

It must be ensured that each Supervisor marks the submitted work of students to the same standard as their colleagues by following the system of internal standardisation and moderation that has been set up by the centre coordinator.

We provide teacher standardisation training and training for Supervisors, on or off-site, through the professional development service which can be accessed from the AQA website.

Guide to using a Technical Mentor or Consulting Specialist

The best Project Supervisors aren't usually subject specialists. You've told us that by supervising projects that aren't related to your specialism, you focus on supporting students with the process and avoid over directing their work.

However, occasionally students need specialist support from a Technical Mentor or Specialist about their project.

Technical Mentors

Students might work with a Technical Mentor when they are undertaking a practical or experimental project which requires specialist equipment.

A Technical Mentor is:

- an addition to a Project Supervisor
- someone who support students with technical aspects of their project
- an exception; Technical Mentors should only be used where necessary.

A Technical Mentor should:

- give technical support only
- avoid directing student work
- contribute to the taught skills element of the project where appropriate.

Students should:

- refer to their Technical Mentor in their production log
- justify why the nature of their project requires them to work with a Technical Mentor (typically because equipment cannot be used without support).

Technical Mentors might be: lab technicians, university researchers, technical and vocational specialists such as mechanics, engineers, hairdressers, craftspeople, chefs etc.

Consulting Specialists

Students might consult specialists when they need information or input directly related to the topic of their project.

A Specialist is:

- in addition to a Project Supervisor
- knowledgeable about the topic of a project
- a legitimate source of information for a student.

A Specialist should:

- respond to student questions, but not offer unsolicited advice
- avoid directing student work.

Students should:

- refer to communications with Specialists in their production log under Part A: Student proposal
- treat a Specialist like any other source of information by considering the reliability of the information they provide and their authority to provide it.

Specialists might be teachers or lecturers in the relevant subject area, university researchers, established experts (some students may even contact leading world experts).

Over direction by a Mentor or anyone else can undermine your students' ability to meet the assessment criteria and ultimately affect their marks. Please guide your students carefully about the use of Specialists and Technical Mentors.

EPQ delivery model guidance

When launching the EPQ and deciding on the right delivery model for you and your students, there are some key points to consider.

The taught skills programme takes up 30 of the 120 guided learning hours (GLH). All students should undertake the taught skills programme and some could require specialist teaching, depending on their area of research – for example how to use laboratory equipment safely.

To ensure that you have time to deliver the taught skills element at the most appropriate times, you need to find the model that works for you.

There are a number of delivery models available. The four most common, along with their advantages and disadvantages, are below. Contact your Project Adviser if you would like to discuss which of these would work best for you. If you don't have your adviser's contact details, email our EPQ team at projects@aqa.org.uk, or call 0161 957 3980.

Model 1

- Start EPQ in September of Year 12
- Submit EPQ in May Year 12
- Advantage: Less likely to experience staff changes
- Disadvantage: Students may lack the maturity demanded by a Level 3 qualification

Model 2

- Start EPQ in September of Year 12
- Submit EPQ in November Year 13
- Advantage: Students have the summer holiday in which to realise their project product
- Disadvantage: Supervisors may change jobs and/or responsibilities and this could affect the EPQ assessment process

Model 3

- Start EPQ in September of Year 12
- Submit EPQ in May Year 13
- Advantage: Time pressure removed, students could have an internal centre deadline at the centre's choosing, Supervisors are not pressured by a November submission date
- Disadvantage:
  - Possible staff changes more likely
  - Possible competition with A-level mock examinations (but this can be overcome by using an internal centre deadline)

Model 4

- Start EPQ in June of Year 12
- Submit EPQ in May Year 13
- Advantage:
  - Students have completed their first year of A-levels and may have developed greater maturity in tackling level 3 qualifications
- Disadvantage:
  - Possible staff changes more likely
  - Competition with A-level examinations (but this can be overcome by using an internal centre deadline)

Guide to ethical principles for the EPQ

Why are ethical principles important?

All educational providers have a responsibility, enshrined in legislation, for the safeguarding of students and the protection of children. It is the responsibility of the centre to ensure that all research undertaken for the EPQ meets these regulatory requirements.

We take safeguarding responsibilities very seriously and external moderators refer to the malpractice if they feel a centre submits student work that suggests these ethical responsibilities have not been met.

There are educational reasons for an emphasis on ethics for EPQ. Students are not just learning how to undertake their own independent research, they are encountering the often-challenging issues regarding the impact of the research itself, on participants; on the researcher, the school and wider community.

A consideration of ethical issues is a key part of the taught skills element for all students, not just those undertaking primary research with human subjects. It is also a higher-level evaluative skill which is assessed as part of the EPQ. It is appreciated that those teachers involved in the delivery of the EPQ may need support in teaching research ethics, and this short guide is a starting point.

Why ethical principles?

Many students just want a list of do's and don'ts, but it is appropriate that they think deeply about the implications of their research. The British Psychological Society has produced a set of ethical principles which can be applied by all students and teachers.

- **Respect:** This includes a consideration of the impact on all those involved in the research, be they participants in research, students, colleagues, different cultures or diverse groups within schools, colleges or the wider community.

- **Competence:** As well as research skills this includes the appropriate interpersonal skills and maturity required to undertake the tasks proposed. For those involved with the EPQ it implies a responsibility to ensure that all are appropriately trained for the roles undertaken.

- **Integrity:** This includes honest reporting of the research procedures and findings to enable others to make assessments, as well as taking into account personal bias and assumptions when interpreting data. For students, it includes avoiding plagiarism and for staff it includes professionalism and accountability.

- **Responsibility:** This includes researcher's responsibility for the well-being of those involved in their research. It is meaningless to make someone responsible if they are unable to respond appropriately, so training for competence is an integral element. Each role has its own responsibilities discussed overleaf.

Ethical principles for the centre coordinator

The centre coordinator is responsible for ensuring that Supervisors carry out their roles ethically and that the work submitted by the centre is ethically sound. There are several ways to do this:

1 Supervisor **training**, ensures that professional and research ethics are included in training sessions.

2 The **taught skills element** should include input on ethical considerations before students decide on their aims and methodology.

3 **Part C: The Centre coordinator's approval of candidate proposal** stage of the project process is the Coordinator's opportunity to influence specific project proposals from an ethical point of view before the student begins to plan their project research. This is a crucial role and to reach a sound judgement there needs to be enough information available in the student's Part A student proposal, and the Supervisor's Part B Supervisor's comments. Information on the proposed research process and evidence that ethical principles have been considered may be in the initial ideas section. If this is lacking then resubmission is required, with a request to the student that this is included prior to resubmission.

4 **Consult your Project Adviser**: Each EPQ centre is allocated a Project Adviser to provide advice on assessing the appropriateness of project proposals and support you with planning training and the taught skills element. projects@aqa.org.uk can provide contact details.

Ethical principles for Supervisors

Supervisors ensure that students carry out their research ethically and have considered ethical issues throughout the project process. This can be done by:

- Using the **initial ideas meeting** to refer to the ethical considerations raised in the taught skills element and to challenge the student to apply them.

- Encouraging students to use Part A candidate proposal to explain the ethical principles applied to their project proposal. Part B Supervisor's comments can be used to clarify the student's application of ethical principles to ensure the centre coordinator is presented with adequate information to make a judgement on approval of the project proposal

- Seeking the advice of the **centre coordinator** who can liaise with your adviser as required.

- Once the student's project proposal is approved the Supervisor has a responsibility to ensure that the proposed safeguards are followed by the student. If their plan develops and the ethical nature of the research changes, for example the student decides on follow up interviews to a questionnaire, then the Supervisor may need to ensure the student has considered the ethical impact of this change.

- Throughout the project process and particularly at the **presentation** it may be appropriate to ask students how they have considered ethical principles regarding project development decisions and applications of their research. This may provide useful evidence of evaluative skills when applying the assessment criteria.

- In centres where ethical responsibilities are taken seriously there is no need to advise students to avoid **controversial topics** in their research. This also applies when students use their own experiences in their research or as inspiration.

- In cases where material may be upsetting for the student it is useful to involve a colleague to support supervision. It may be appropriate to involve the school's designated safeguarding lead to support and advise the Supervisor and student.

- Use the following **Ethics Committee** activity.

A student activity: 'The ethics committee'

This activity could form part of the taught skills element. The questions can be given to students, however the activity needs to be supervised to ensure that i) students understand the ethical principles involved, and ii) the Supervisor can use the outcomes to inform their judgement regarding the suitability of student proposals.

The ethics committee is formed of EPQ student peers whose job is to ensure each proposal is ethically sound prior to submission. Students take it in turns to present their project proposals and answer questions posed by their peers. Below are some suggested questions for students to select and adapt.

Generic questions for all proposals

1 How do you think your research findings could be of benefit to others?

2 Does your research have the potential to inform others about different cultures or help overcome prejudice and misunderstanding between different groups?

3 Have you considered the applications of your research and to what extent are you able to influence its outcomes?

4 What qualifies you to undertake this research?

5 How have you taken any health and safety issues into account?

6 Give an example of how you will respect views different to your own?

Questions for research using human participants

7 How will you ensure that all participants are fully informed about the research before they decide to take part?

8 How will you protect the confidentiality of participants and make sure that the experience of participation is a positive one for them? What will they get out of it?

9 How will you ensure that your participants can withdraw at any stage and that they have the chance to see and influence the way you have used their input?

10 How will you ensure all participants are fully debriefed after the research stage?

Questions for socially sensitive research into controversial topics

11 On balance why do you think the outcomes of this research outweigh any potential for harm or unsettling others?

12 If you are aiming to bring about some positive change, how will you ensure your actions actually make a positive difference?

13 If you are using live models or participants in your artefact/presentation, how will you protect them and ensure the experience is positive.

14 If you are using online research tools for surveys or creating blogs, websites or social media, how will you protect the safety of your participants and yourself?

Sources of further support

• Supervisors can look to their centre coordinators for support; coordinators can access advice from their adviser. projects@aqa.org.uk provide adviser contact details.

• For more on the British Psychological Society's ethical principles, visit bps.org.uk

• The **Wellcome Trust** provide an ethics guide for EPQ which is excellent for anyone considering a survey, experiment or observational study. This is linked from our website – Wellcome Trust.

• AQA offers face-to-face CPD training events for Supervisors and coordinators, please see the professional development page for details of upcoming courses.

• Many universities provide materials supporting the EPQ which include ethical considerations. See the higher education page.

• There is a free Futurelearn online course on research for the EPQ which includes ethics and can be used directly with students over 8 x 1 hour sessions. There is also a shorter three week Futurelearn course designed for the EPQ.

• Some students want to use their research to bring about a positive change. These are best treated as Social Action Research and advice on how to supervise such projects can be found on the ACT website.

The production log and its purpose

What is the production log?

The production log is a document that is used to record a student's journey through the project process. The production log is not an admin document; it provides the student with the backbone of their project.

The project qualifications are process-based qualifications. The outcome (essay, artefact, production) is a significant component, but the production log is just as important. It charts the student's progress from initial ideas, through their research to their final outcome and evaluation.

It is vital that students are made aware of how important this document is in relation to their final outcome and that they complete the log as they go along, rather than trying to fill it in retrospectively.

The assessment criteria

Students should be encouraged to consider the assessment criteria when completing their production logs and answer the question/respond to the statement at the start of each section in a clear and focused way. The log has been designed to provide students with appropriate prompts for each section and following this structure will provide students with a framework for their project.

Below is an outline of each page of the log and some tips for their completion.

Candidate record form

Similar to student record forms for all coursework, this should be completed by the student at the end of the process. It confirms that the work they are submitting is their own.

Submission checklist

This is an aide memoir for the Supervisor to complete before submitting a project.

The taught skills element

Using the space provided, the Supervisor should record details of the taught skills programme followed by the student.

Record of marks

This is where the Supervisor records the final marks awarded to the student. The Supervisor should write a supporting statement for each Assessment Objective indicating the evidence seen to justify the marks awarded. The Supervisor may also make a concluding statement on the project as a whole. If the project has been used for internal moderation the centre coordinator should complete the internal moderation comment as appropriate.

Record of initial ideas

It is acceptable for students to have more than one idea for their project at the beginning of the process. Students should record all their initial project ideas and how they will research these ideas in the space provided. The initial ideas and research will form the basis of the student's first meeting with their Supervisor, the contents and outcomes of this meeting should be recorded in the space provided.

Part A: Student proposal

This page is completed by the student. They should be encouraged to be as clear and detailed as possible when discussing the types of research they plan to undertake; we are expecting more detail than 'I will read books and look on the internet'. This is also where students record what other courses they are undertaking. Please note that whilst students might be inspired to look more deeply into a topic they have touched on in another area of study, they should be looking to extend and develop away from those core areas of study. This is particularly true at Level 3 (EPQ).

Part B: Supervisor's comments on student proposal

This is completed by the Supervisor. The Supervisor should comment on the suitability of the project working title, how the project proposal extends/develops from the student's main course of study, and whether the student's research plan is feasible. The Supervisor should indicate whether the student is working as part of a group and what form the final project product will take.

Part C: Centre coordinator's approval of Student proposal

This is completed by the centre coordinator who gives the final approval for a project to go ahead. If you are the sole Supervisor and are also working as the centre coordinator, please enlist the help of a colleague to sign projects off. The centre coordinator should refer to the five point checklist in section 2.4 of the specification before approving project proposals.

Planning review

This section provides the student with an opportunity to map out their next steps by developing a project plan that will allow them to chart their progress. Some students use Gantt charts or other project management tools to help with the management of their projects. These can be helpful tools when used effectively but they aren't compulsory for a successful project. Students can use the production log to plot and chart their progress against their aims. The planning review also provides the opportunity for the student to arrange a meeting with their Supervisor to discuss their planning, and record outcomes and actions from this meeting in the space provided.

Mid-project review

By this stage the student's title should be finalised. They will have undertaken most of their research, and will be ready to start producing their outcome. Any changes that have been made as a result of their research, conversations with their Supervisors or other input should be logged and fully explained. Students should be reminded that the project is marked holistically and that there may be opportunity for reflection and evaluation at any point. If they have made a decision to refine their title, this would be an appropriate time to justify and reflect upon how they came to that decision.

Project product review

This section provides students with an opportunity to measure how well they have managed the project process since the mid-project review. Students should be reminded of the necessity of recording their own monitoring processes and discuss the extent to which they have they reached the goals they set themselves/met their own deadlines. The Supervisor may have some more comments or points that the student could choose to incorporate in their product at this stage.

Presentation record part A

This is an opportunity for the student to outline what form their presentation will take, who will be there, the content of their presentation and any changes they make as a result of a discussion with their Supervisor after a rehearsal. See the quick guide to the presentation for more information on this important aspect of the project qualifications.

Presentation record part B

This is completed by the Supervisor. In order for AQA moderators to support the marks you award as a result of the presentation, a detailed record must be made which supports those marks. We do not ask you to submit recordings of the presentations, but a comprehensive written record of the questions asked and answers given make it much easier for moderators to support your marks. Please avoid vague statements such as 'the student answered confidently' and instead document specific examples from the presentation, as directed by the prompts on Presentation record part B.

Summary and reflection

Students should provide an abstract/brief outline of their product. There are a number of online resources on how to write an effective abstract which could form part of the taught skills programme.

Often students think that if they admit to any failings they will be penalised; this is not the case. Honest reflection on what went well and what they have learned, coupled with what went less well, and what they would do differently, are key to a successful reflection. Students should understand that admitting to any problems they encountered and acknowledging the ways in which they dealt with those problems are a legitimate aspect of an effective reflection.

The production log belongs to the student. It is their document and they are the ones who are responsible for its completion (apart from the pages indicated for the Supervisor and centre coordinator). The student is also responsible for the selection of any additional evidence they wish to include. Some of the most successful projects we have seen have comprised simply a production log (including presentation record) and the completed project product. Additional evidence can be useful only if it is relevant to the project process and outcome. The judicious selection of such material should form part of the taught skills programme.

What support is there to help me with the production log?

We can provide support in a number of ways, including:

- your allocated Project Adviser
- the Projects team – email projects@aqa.org.uk or call 0161 957 3980

Guide to providing evidence of the project product

Project outcomes

Students can produce a range of outcomes for their project product. These are:

- a research based written report (a written report of appropriate length to the level of project – including scientific based reports)
- a production
- an artefact (eg a piece of art, a computer game, a realised design).

If students complete a production or an artefact, they must also complete a research-based written report (refer to the relevant specification to confirm the length of this report). This report should be a synthesis of the research they have completed in preparation for creating their production or artefact. It should have an academic focus and tone and be fully referenced along with the written report.

How to provide sufficient evidence of project outcome

If a student has produced a 3D artefact which cannot be posted to the external moderator, high quality photographic evidence of the artefact should be submitted along with the production log. This should reflect the quality of the artefact and may include evidence gathered throughout the course of producing the artefact (including evidence of experiments, mistakes made or issues which have arisen). Depending on the nature of the artefact, it may be appropriate to submit a supporting testimony from a subject expert, testifying the quality/success of the final artefact. For example, from a teacher of Spanish if the artefact is a magazine article written in Spanish for a Spanish audience, or from a costume designer if the artefact is a gown produced for a particular dramatic production).

Where students have created a production or performance, or where evidence of an artefact is to be submitted on CD/DVD/USB, please ensure that the programs can be run on a Windows operating system.

All CDs/DVDs/USBs must be **clearly labelled** with centre number, centre name, candidate number and candidate name. There must be a **unique CD/DVD/USB per candidate** (even if candidates have worked on a group project).

Please draw your students' attention to the invitation to supply additional evidence should they wish, but advise them that such evidence needs to be relevant and well selected.

What support is there to help me provide evidence for the project product?

We can provide support in a number of ways, including:

- your allocated Project Adviser
- the Projects team on projects@aqa.org.uk and 0161 957 3980

Guide to the presentation

What is the presentation?

For each of the project qualifications, students must complete a live presentation. The presentation should focus on the project product and cover the following:

- what their project is about
- the reasoning that underpins their project
- their aims and objectives
- what research has been undertaken and why
- a review of their performance and achievements
- lessons they have learnt
- how their product might affect their future career/education.

The presentation provides students with an opportunity to tell the story of their project, from initial project choice right through to final reflections. Students can demonstrate their project management, research, and evaluation skills which can provide excellent evidence to contribute towards the holistic assessment.

Format of the presentation

The presentation should be for a non-specialist audience. The minimum number of people in the audience is two (one of whom must be the Supervisor).There are a variety of ways that the presentation can be conducted, for example:

- Viva (witnessed by at least one person in addition to the Supervisor)
- lecture
- seminar
- market place (for large cohorts, each student has a stand and conducts their presentation to a number of small groups).

Students may wish to use flip charts, posters, slides, or short excerpts of video material to complement their presentation. In their Log, students may discuss why they selected a particular format, why it was appropriate for their particular product, and any limitations that affected their choice.

The Supervisor should ensure that there is a live question and answer session during the presentation. Questions should be specific to the student and spontaneous, the use of an identical list of questions for all students is not advisable. Individual targeted questioning enables the student's knowledge and understanding of issues arising from their project to be measured. Supervisors may also use the question and answer session to prompt responses that provide evidence missing from the project, or give further detail to support decisions made.

Evidence of the presentation

Physical evidence of the presentation is not compulsory (for example, a video of the presentation or slides used) although students may choose to include supplementary presentation evidence which is appropriate and relevant. However Supervisors must complete Presentation Record Part B of the production log fully and in detail to give moderators a complete overview of the student's performance.

All assessment is evidence-based. If marks are awarded to credit the student's responses to questioning, a record of the questions asked and answers given must be supplied.

What support is there to help me with the presentation?

We can provide support in a number of ways, including:

- your allocated Project Adviser
- the Projects team – email projects@aqa.org.uk or call on 0161 957 3980

Guide to internal standardisation for project qualifications

What is internal standardisation?

Internal standardisation for the project qualifications is the process by which centres ensure that all Supervisors are assessing projects to the same standard. It should not be confused with internal moderation. Internal standardisation takes place before marking is undertaken, whereas internal moderation is carried out by the centre coordinator and comes after projects have been marked by Supervisors.

Standardisation helps ensure that assessment is accurate and consistent. Accurate marking helps avoid adjustments being made to centre assessment following AQA moderation. Consistent assessment, where every Supervisor applies the assessment criteria in the same way, is very important.

The centre coordinator is responsible for internal standardisation. If you are a new coordinator, or if assessment at your school or college has previously been adjusted following moderation by AQA, you should:

- attend one of our standardisation meetings. These are designed to ensure that centres understand the standard before communicating it to their Supervisors
- review the JCQ guidance on standardisation which offers generic tips on conducting internal standardisation.

How to deliver internal standardisation

Internal standardisation should be done before Supervisors begin to mark live work. One way to deliver internal standardisation is for Supervisors to:

- review the assessment objectives and criteria
- assess a number of example projects that have been used at our standardisation meetings. Example projects can be found on e-AQA

- make notes that refer to the assessment criteria and underpin the reasoning behind the marks awarded
- discuss the marks they have awarded, identify any differences and discuss them to achieve a common understanding and application of the marking criteria.

Our coordinators usually spend a morning or afternoon standardising their Supervisors.

What evidence should I give of internal standardisation

Internal standardisation does not have to be evidenced in the production log, however by signing the centre declaration form the centre coordinator is confirming that internal standardisation has taken place. There is space in the production log to provide comments on internal moderation, and it is expected that the Supervisor will provide clear annotations and notes in support of their assessment that refer directly to the assessment criteria. Where a project has been sampled for internal moderation the centre coordinator should also provide clear annotations in support of their adjustments.

What support is there to help me deliver internal standardisation?

There are a number of ways in which AQA can support you in delivering internal standardisation meetings:

- consult the professional development section of our website to find out when our free standardisation meetings are taking place
- on e-AQA you will find example projects and commentaries from a number of standardisation meetings
- ask your Project Adviser. If you do not know who your Project Advisor is, or you do not yet have one, email projects@aqa.org.uk to request one.

Guide to working to a brief

In the past we have been hesitant to encourage students to work to a brief, this was due to concerns surrounding the levels of independence a student can demonstrate if they are simply given a brief. However there are some great opportunities for students to base their projects on a brief.

If your students identify a broad topic in which they are interested and evaluate the opportunities available to them to complete a project in that area, they may find a brief or a programme such as the Crest Award that helps them achieve their aims incredibly valuable. Equally, a brief or a programme might be the springboard for their project leading to the identification of a topic, aims and objectives.

Good practice

Here are some pitfalls and good practice to help you guide students who might work to a brief:

- Suitable
  - You make your students aware of the support and equipment that is potentially available to them, so they can make an informed decision that leads to a viable project. Please encourage your students to consider other sources of support such as employers and local universities.
  - Your students take part in a programme or a competition and take this as a starting point for their project.
  - Your students seek out a brief.
  - The brief is broad enough to allow students to make their own decisions (AO3) and clearly pursue their own independent research.
- Unsuitable
  - You or someone else tells your students what topic to study.
  - Your students take part in a programme, eg Crest Award, or an essay writing competition, and retrospectively fit their project to it.

- Your students are given a brief.
- The brief is tightly prescribed and prevents students taking their own decisions (AO3) or undertaking independent research.

Maintaining independence

Universities tell us how important it is that students are able to undertake their own independent research. Working to a brief, working as an individual member of a team, using an existing data set, or choosing a project according to their own assessment of the support and resources available are no barrier to this. As long as students are able to make their own decisions and pursue their own independent research, then we see no reason to discourage students from seeking out a brief to work to.

For example:

- a student who wants to research particular aspects of advertising might seek out a real client and attempt to create advertising that fulfils the client's brief whilst applying all the research undertaken into the chosen aspect
- or a student very interested in environmental matters may seek out a brief from local nature reserve and undertake practical research into an area of fauna/flora that would be of greatest benefit to the reserve
- equally a student could undertake research into website design and then seek out a client with very specific needs for whom to design a website.

In each case, the planning should include plenty of time for client feedback. The student should also evaluate whether or not the brief has been followed adequately and consider whether or not the client's needs have been understood in their reflection.

Guide to practical science projects

Investigative scientific projects are very much in the spirit of project qualifications, particularly EPQ, with its emphasis on enquiry and analysis.

The flexibility of the project qualifications lends them well to the investigative project. Many centres are supporting students through imaginative and well planned studies. Practical experimental investigations in the sciences can be very successful and allow students the opportunity to apply scientific method to their own investigation. This develops vital research skills.

The following suggestions provide more detail on these types of projects.

Which format – artefact or research-based written report?

Either is appropriate. An engineering construction project or a set-piece demonstration can be designated an artefact. Video or photographic evidence could be submitted as evidence to the external moderator. The accompanying written report would contain the secondary research required to support the artefact, and the decision making implemented together with an evaluation of its success.

Most science topics where a hypothesis is tested work best as research-based written reports in the style of a scientific paper. To support this, students complete a literature review containing the secondary research findings at the beginning followed by the methodology, data and analysis. Statistical validation of results would be appropriate to many investigations.

All project products must include a written report. The exact length of each written report will depend on the nature of the project, the subject area or topic chosen and the other evidence provided. Please see the relevant specification to determine the length of report required for each level of project qualification.

What resource implications are there?

Inside the school or college

Clearly the cooperation of subject staff and technicians is a must for experimental work as all safety protocols need to be observed, and laboratory or fieldwork will need a level of supervision and appropriate risk assessments put in place. The student's Supervisor does not need to be a science specialist. A staff member who is prepared to be consulted regularly and supervise any practical work can be designated as a Technical Mentor, leaving the Project Supervisor in the normal advising and monitoring role. The production log can be used to record the input of the Technical Mentor.

Outside the school or college

University departments, work experience placements and field study centres can be useful resources, particularly where specialist technologies are required. Provided the planning stages of the project are completed before a placement there is no reason why such resources cannot be used to gather the experimental evidence needed.

Nuffield placements provide an excellent opportunity for a student to use advanced facilities. However it is important that both Supervisor and student understand that a placement project undertaken independently cannot be turned into an extended project.

The production log should show the initial planning and record the arrangement of the placement and the precise support or facilities to be used to implement the plan. A fully completed log with all sections correctly dated will provide evidence that the project requirements for planning have been met.

The role of technical or research staff in the placement needs to be clearly described so that the independent work of the student is clearly delineated.

Who else might be involved?

Individual experts can be approached for advice or mentoring where appropriate, provided the production log acknowledges this. This is no different from any other project topic where experts such as healthcare professionals, university lecturers or subject specialist school teachers are interviewed or their advice sought.

Centres encouraging their students to plan experimental projects can get further advice from their Project Adviser.

Further useful resources include:

- The institute for research in schools (IRIS) provides EPQ guidance and exemplar projects

- The Wellcome Trust has produced a very useful guide to research ethics for EPQ students: Read the Wellcome Trust's guide to ethical research for EPQs

- In addition The Wellcome Trust has produced a practical guide to extended science projects Read the Wellcome Trust's practical guide to extended science projects

- The Institute of Physics has guidance on supporting the Level 3 Extended Level 3 Extended Project in Physics

- It also provides case studies of physics EPQs

- The National Stem Centre provides resources to support STEM subject EPQs – including ethics guides for students and teachers

- The Nuffield Foundation provides guidance on health and safety in school and college science laboratories

- Science and Plants in Schools provide resources to support developing skills for science and social science EPQs

- Into Biology, provide research ideas for EPQ and resources that support biology and biochemistry EPQs

Guide to group projects

Project Qualifications allow students to undertake a project by themselves or as part of a group.

If students are working on a group production or event project they must define their individual role, alongside the tasks carried out within the group. This forms the basis for their production log. Although the overall end product may be the same for all students, it is important that students are assessed on their **individual contribution** and not as a group.

A group should contain no more than four students and each production log must declare **all** students involved under Part B: Supervisor's comments on Candidate proposal.

Common mistakes with group projects

Submitting a photocopied production log for all students:

Students often submit projects containing material that is almost identical to other group members, with little or no evidence of what their individual contribution has been.

Students must complete their own production log so that their individual development can be assessed.

Supervisors should not provide generic advice and comments for all students, as each student's skills and abilities are different. Students in a group may have different Supervisors to allow greater focus on each individual rather than viewing each project as a collective effort.

Students focusing on the group effort:

It is common for students to use the phrase 'we' within their production logs and to focus on the joint aims and end product of the team. Students who do not make their role clear put themselves at a disadvantage. Supervisors need to ensure that students fully understand the need to focus on their individual contribution and this should be discussed at the initial planning stage. To provide students with the opportunity to explore how they are able to contribute, Supervisors should advise the group to assign duties and responsibilities to each member.

Students collaborating to produce one written research-based report:

Students need to complete their own report for the moderator to ascertain exactly what each student has done. Reports that are produced as a joint effort mean that it is impossible to tell exactly what each student has contributed. Students wishing to work as a group should be advised that it is imperative that their individual contribution is explicit and identifiable in the final outcome.

Completing a group presentation:

The presentation is a key element within the project qualification as it gives students the opportunity to provide evidence for all Assessment Objectives. A group presentation would constrain each student's ability to demonstrate their understanding of the process they have undertaken in completing the project, and to reflect on their own performance. It is important for each student to produce their own presentation, with a separate question and answer session to draw on their unique project journey. See the *Quick guide to the presentation* for more information on the presentation element of the project qualifications.

What support is there to help me with the group project?

We can provide support in a number of ways, including:

* your allocated Project Adviser
* email the Projects team on projects@aqa.org.uk
* call 0161 957 3980

Guide to artefacts

Students undertaking a project qualification can either submit a research-based written report, or they can opt to produce a practical project or 'artefact' with an accompanying shorter research-based written report. The specification for each project qualification provides information on the word count for each type of report.

We have seen a large number of excellent artefact projects during moderation. The following guidance will help you and your students avoid some of the more common pitfalls associated with producing an artefact.

What is an artefact?

An artefact can be a physical outcome such as a book or a short film, or it can be a presentation to a specific audience – like a play, or an event such as a fashion show, or a musical evening. There is almost no limit to what constitutes as an artefact, as long as it has research at its core.

What all artefact projects have in common, is that they must have a clear research aim/purpose and be well evaluated.

Students who choose artefact projects must understand that the planned research should form the largest part of their project and that the production of the artefact can only start once this detailed and wide research is completed. While the written report is shorter for artefact projects than for other written outcomes, all artefact projects must be research-based.

Common problems

Title selection

We have seen successful projects with titles including:

- a monologue and analysis of Myra Hindley
- how to recreate the Aurora Borealis in a school laboratory
- create an original scene for the musical Wicked.

In isolation, these titles may not suggest the level of depth and analysis of research materials necessary for success in the Level 1, 2 or EPQ, but they were all very well-executed and achieved A or A* grades. It's often the aims and objectives, set by the student, which demonstrate clarity and focus of artefacts.

When formulating titles, Supervisors should encourage students to develop a proposal that incorporates how they will measure the success of their artefact after they have created it. One such example we saw at moderation is:

'To build a 'High Performance' Desktop PC and evaluate it against commercial pre-built alternatives.'

The student who submitted this project had a clear idea of what it was they wanted to achieve and how they were going to measure its success.

The following sections provide advice related to the Assessment Objectives which may be of help to students undertaking artefact projects, and their Supervisors.

AO1 – Manage

In addition to a clear and focused title with clearly expressed aims and objectives, students should develop a detailed project plan that shows the skills they need to acquire/develop in order to succeed.

It is important that students log what they plan to do/have done throughout the project process. Students should record **why** they have taken decisions/performed certain actions rather than merely **describing** what they have done.

Students should provide evidence of monitoring their own progress/achievements against their objectives through the log. They should be encouraged to understand that the production log forms the 'backbone' of their project (see *Quick guide to the production log* for more information) and moderators need to see evidence of progression throughout the project process.

AO2 – Use of resources

One common mistake we see with artefact projects is the idea that they do not need to have a research focus. This is **not** the case. Students producing artefacts must still have clear research aims and they should still use a wide range of resources to complete their projects. Depending upon the nature of the project being undertaken, these resources might be less conventional than for students undertaking a long research-based report but they should still be critically analysed and assessed the same way as any other project.

For example, if a student is planning to record a song and sound quality is an important part of the project, that student might conduct research into the equipment that is available. Such research may take the form of the more traditional book and internet-based research, or it may include interviews with people who have experience in the field or perhaps tests of various pieces of equipment. What remains important is that they analyse and evaluate the reliability and validity of the resources they are using throughout the process.

AO3 – Develop and realise

When a student has produced an artefact, it is important that the finished product is of a high standard. However this alone is not enough to earn the highest marks available for this AO.

Students need to demonstrate that they have made appropriate decisions throughout the project process, choosing the correct materials to work with. They must ensure that their final outcome is consistent with the plan they finally agreed. A project that has not been well-managed can easily veer off in an unexpected direction. If these changes are not documented and explained in the production log, students can fail to reach the top mark band, despite having produced a high-quality artefact.

Students who produce artefacts must still complete a research-based written report. The report that accompanies their artefact should not be a 'write-up' of what they have done but, rather, should demonstrate a synthesis of the research and how the research has influenced the design decisions that underpin the final product.

Students should ask themselves: 'Have I done what I said I was going to do?'

They should present a clear and detailed evaluation of the project as a whole. They should use this opportunity to discuss the strengths and weaknesses of the artefact, alongside their own performance throughout the project process.

The temptation to focus solely on the quality of the outcome may seem overwhelming to students, but they should be encouraged to discuss the entire project process and evaluate the process honestly and critically.

Their conclusions and findings should be clearly articulated and ensure that they are communicated in a way that is accessible to readers (including AQA moderators), who have not been involved in their project process.

Further guidance and support

There are a number of ways that you can access further guidance and support if you have students considering producing an artefact:

- a number of artefact projects that have been used as exemplar material for standardisation. These can be accessed via e-AQA. If you do not have access to e-AQA, please contact your examinations officer

- contact your Project Adviser

- email the projects team at projects@aqa.org.uk or call 0161 957 3980.