



Diploma Programme
Extended Essay
Student Guide



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Overview of the extended essay

Overview of the extended essay

- The extended essay at a glance
- Prior learning
- The nature of the extended essay
- Engaging with sensitive topics
- Policies relevant to the extended essay
- Aims
- Assessment objectives
- Reflection in the core
- Reflection in the extended essay

The extended essay at a glance

The extended essay is an in-depth study of a focused topic chosen from the list of available Diploma Programme subjects for the session in question. This is normally one of the student's six chosen subjects for those taking the IB diploma, or a subject that a course student has a background in. It is intended to promote academic research and writing skills, providing students with an opportunity to engage in personal research in a topic of their own choice, under the guidance of a supervisor (an appropriately qualified member of staff within the school). This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen. It is mandatory that all students undertake three reflection sessions with their supervisor, which includes a short, concluding interview, or *viva voce*, with their supervisor following the completion of the extended essay. An assessment of this reflection process is made under criterion E (Engagement) using the [Reflections on planning and progress form](#).

The extended essay is assessed against common criteria, interpreted in ways appropriate to each subject.

Key features of the extended essay

- The extended essay is compulsory for all students taking the Diploma Programme and is an option for course students.
- A student must achieve a D grade or higher to be awarded the Diploma.
- The extended essay is externally assessed and, in combination with the grade for theory of knowledge, contributes up to three points to the total score for the IB Diploma.
- The extended essay process helps prepare students for success at university and in other pathways beyond the Diploma Programme.
- When choosing a subject for the extended essay, students must consult the list of available Diploma Programme subjects published in the [Handbook of procedures for the Diploma Programme](#) for the session in question.
- The extended essay is a piece of independent research on a topic chosen by the student in consultation with a supervisor in the school.
- It is presented as a formal piece of sustained academic writing containing no more than 4,000 words accompanied by a reflection form of no more than 500 words.
- It is the result of approximately 40 hours of work by the student.
- Students are supported by a supervision process recommended to be 3–5 hours, which includes three mandatory reflection sessions.
- The third and final mandatory reflection session is the *viva voce*, which is a concluding interview with the supervising teacher.

Prior learning

The extended essay is a unique task for all students, both those who are studying for the full IB diploma and course students who choose it as an option. While no particular background is formally required to undertake the extended essay, students are strongly recommended to carry out research in a subject area they are currently studying in the Diploma Programme to ensure that they have sufficient subject knowledge to complete the task. If a student has a background in the subject that is not from their Diploma Programme studies, the student must ensure that they are familiar with the subject from a Diploma Programme perspective.

For those students completing a world studies extended essay, it is strongly recommended that they are undertaking a course of study in at least one of the subjects chosen for their essay. A familiarity with research methods would be an advantage; however, when students begin the extended essay, part of the process is to develop an understanding of the methodology most appropriate for the research area within the chosen subject. Developing this understanding will be undertaken with the support and guidance of their supervisor, Diploma Programme and/or extended essay coordinator and librarian.

The nature of the extended essay

The extended essay is a unique opportunity for students to explore an academic area in which they have a personal interest. This takes the form of an independently written research paper that allows students to demonstrate their passion, enthusiasm, intellectual initiative and/or creative approach for their chosen topic. Such topics can range from focused, in-depth analyses of specific elements of a subject to critically evaluating responses to issues of global significance in the case of the world studies extended essay. Students develop important transferable skills such as research, critical thinking, and self-management, which are communicated in the form of an academic piece of writing. Emphasis is placed on engagement and reflection on the research process, highlighting the journey the student has made on an intellectual and personal level and how it has changed them as a learner and affected the final essay.

Students complete an extended essay in a specific discipline or in one of the interdisciplinary options available. In a disciplinary essay students must demonstrate their knowledge and understanding of the theories, tools and techniques of a specific discipline explored through a topic of their choice. Students who choose a world studies extended essay must demonstrate how their understanding of an issue of contemporary global significance is enhanced by taking an interdisciplinary approach.

An important aim of the extended essay, as part of the Diploma Programme core is to support and be supported by the academic disciplines. Whichever subject is chosen, the extended essay is concerned with exploring a specific research question through interpreting and evaluating evidence, and constructing reasoned arguments. In undertaking the extended essay students model many of the elements of academic research by locating their topic within a broader disciplinary context, or issue in the case of a world studies extended essay, justifying the relevance of their research and critically evaluating the overall strength of the arguments made and sources used. Guided through this process by a supervisor, students are encouraged to reflect on insights gained, evaluate decisions, and respond to challenges encountered during the research.

Embedded within the process of writing the extended essay are many elements of the [approaches to learning](#) (ATL). While research skills are fundamental to successful completion, other ATL skills are implicit in the task. As the extended essay is an independent task, it requires students to self-manage by developing organization and affective skills, including mindfulness, perseverance, resilience and self-motivation. The process of researching and writing the extended essay represents the learner profile in action. Being open-minded, principled and reflective are aspects of the student experience within the extended essay. The extended essay provides students with the opportunity to become more internationally minded by engaging with the local and global communities on topics of personal inquiry. The development of the learner profile attributes help to unify IB learners in a larger community in this shared experience.

The extended essay is a challenging and rewarding experience, which prepares students for different pathways beyond the Diploma Programme by developing skills valued by both tertiary education and employers. The extended essay embodies the essence of an IB education in developing inquiring, critical, lifelong learners.

Engaging with sensitive topics

Undertaking an extended essay provides students an opportunity to engage with interesting, stimulating and personally relevant topics and issues. However, it should be noted that often such topics and issues can also be sensitive and personally challenging. Diploma Programme and/or extended essay coordinators and supervisors should be aware of this and provide guidance to students on how to approach and engage with such topics and issues in a responsible manner. The IB's [ethical guidelines](#) should be consulted.

Policies relevant to the extended essay

All students undertaking an extended essay must be aware of and read the relevant policies related to [ethical guidelines](#) for carrying out research and those relating to academic honesty. Additionally, students must ensure that they follow the policies related to specific subject areas, such as in the sciences, psychology, and social and cultural anthropology. In the sciences, this refers specifically to the animal experimentation policy, and in psychology and social and cultural anthropology it refers to ethical guidelines for undertaking research.

Aims

The aims of the extended essay are for students to:

- engage in independent research with intellectual initiative and rigour
- develop research, thinking, self-management and communication skills
- reflect on what has been learned throughout the research and writing process.

Assessment objectives

In working on the extended essay, students are expected to achieve the following assessment objectives.

Assessment objectives	
Knowledge and understanding	<ul style="list-style-type: none">• To demonstrate knowledge and understanding of the topic chosen and the research question posed.• To demonstrate knowledge and understanding of subject specific terminology and/or concepts.• To demonstrate knowledge and understanding of relevant and/or appropriate research sources and/or methods used to gather information.
Application and analysis	<ul style="list-style-type: none">• To select and apply research that is relevant and appropriate to the research question.• To analyse the research effectively and focus on the research question.
Synthesis and evaluation	<ul style="list-style-type: none">• To be able to discuss the research in terms of a clear and coherent reasoned argument in relation to the research question.• To be able to critically evaluate the arguments presented in the essay.• To be able to reflect on and evaluate the research process.
A variety of (research) skills	<ul style="list-style-type: none">• To be able to present information in an appropriate academic format.• To understand and demonstrate academic integrity.

Reflection in the core

Being reflective is one attribute of the IB learner profile: “We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.”




Reflection in CAS:



- Reflection is central to building a deep and rich experience of CAS. Students explore their own actions and reflect on their personal growth.
- The emphasis in CAS is on **affective** reflection, characterized by reflecting on attitudes, feelings, values, principles, motivation, emotions and self-development.
- Students will be encouraged to informally reflect on their CAS experiences throughout the CAS programme, but are required to reflect formally when developing a CAS portfolio.

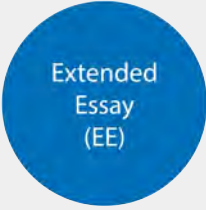
Reflection in TOK:



Theory of
knowledge
(TOK)

- TOK is about reflecting on the nature of knowledge. Students are encouraged to reflect on how knowledge is constructed as well as the commonalities and differences in their subject areas.
- The emphasis in TOK is on **critical** reflection, characterized by reflecting on metacognition, evaluation, justification, arguments, claims and counterclaims, underlying assumptions and different perspectives.
- Students will be encouraged to informally reflect on their engagement with knowledge throughout the course, but are required to reflect formally as part of the TOK essay and the TOK presentation.

Reflection in the extended essay:



Extended
Essay
(EE)

- Reflection in the extended essay focuses on the student's progress during the planning, research and writing process. It is intended to help students with the development of their extended essay as well as allowing them the opportunity to consider the effectiveness of their choices, to re-examine their ideas and to decide whether changes are needed.
- The emphasis in the extended essay is on **process** reflection, characterized by reflecting on conceptual understandings, decision-making, engagement with data, the research process, time management, methodology, successes and challenges, and the appropriateness of sources.
- Students will be encouraged to informally reflect throughout the experience of researching and writing the extended essay, but are required to reflect formally during the reflection sessions with their supervisor and when completing the Reflections on planning and progress form.

The supervisor

The supervisor–student working relationship is probably the most important one in the extended essay process. The supervisor must be a suitably qualified member of staff at the school in which the student is registered.

The supervisor plays an important role in helping students to plan and undertake their research for the extended essay. The relationship should be an active two-way process with the supervisor primarily there to support and guide the student, during the supervision and reflection sessions, at the planning stage, and when the student is carrying out and writing up their research. This is done through the supervision process, including the three mandatory reflection sessions and the completion of the *Reflections on planning and progress form*.

It is the responsibility of the supervisor to ensure that students are familiar with the requirements of the extended essay. Supervisors and students must discuss:

- the nature of the extended essay
- their chosen subject, topic and research question
- the most appropriate research methods to be used given the subject for which the student is submitting their essay
- the formal requirements for the completion of the task.

Students should be encouraged to initiate discussions with their supervisor to obtain advice and information and the role of the supervisor should be explained to them so that there is a shared understanding of expectations and responsibilities. Supervisors must ensure that they understand the important role they play in supporting students in this process. However, if a student could not have completed the work without substantial support from their supervisor, this should be reported to the Diploma Programme/extended essay coordinator, who in turn must record the details on the appropriate form. Additionally, if the student has received substantial support from a teacher but has not declared this, then this too must be recorded in the summative comment made by the supervisor on the *Reflections on planning and progress form*. If academic misconduct is suspected, supervisors must report this to the Diploma Programme/extended essay coordinator initially.

Supervisors are **required** to:

- undertake three mandatory reflection sessions with each student they are supervising
- sign and date each reflection summarized on the *Reflections on planning and progress form* and provide comments at the end of the process. If the form is not signed by both the student and the supervisor, it may result in:
 - a delay in a grade being issued for the extended essay
 - criterion E (engagement) being compromised—the examiner may not be able to apply criterion E due to missing or lacking information

- the essay being referred as a possible case of academic misconduct as a result of not being authenticated
- provide students with advice and guidance in the skills of undertaking research
- encourage and support students throughout the research and writing of the extended essay
- discuss the choice of topic with each student and, in particular, help to formulate a well-focused research question which is suitable to the subject of registration and ensure that the chosen research question satisfies appropriate legal and ethical standards with regard to health and safety, confidentiality, human rights, animal welfare and environmental issues
- is familiar with the regulations governing the extended essay and the assessment criteria, and gives copies of these to students
- monitor the progress of the extended essay to offer guidance and to ensure that the essay is the student's own work (this may include presenting a section of the essay for supervisor comment)
- read and comment on one draft only of the extended essay (but do **not** edit the draft); this should take place after the interim reflection session, but before the final reflection session, the *viva voce*
- ensure that the final version of the essay is handed in before the final reflection session (*viva voce*) takes place, and that no changes are made to it subsequently
- read the final version and, in conjunction with the *viva voce*, confirm its authenticity.

The student may work with or consult external experts in a particular area of specialism but it remains the responsibility of the supervisor within the school to complete all the requirements described above. See the section on the role of external mentors.


Supervisors are **strongly** recommended to:

- read recent extended essay reports for the subject
- spend between three and five hours with each student, including the time spent on the three mandatory reflection sessions
- encourage the development of a Researcher's reflection space for students
- set a clear schedule for the reflection sessions
- ensure that the chosen research question is appropriate for the subject
- advise students on:
 - access to appropriate resources (such as people, a library, a laboratory)
 - research methods
 - how to cite and reference.



The following resources might be helpful in supporting the supervision and reflection process:

Pedagogical support for the EE

Quick glance: the role of the supervisor

Do: 	Do not: 
-----------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------

Quick glance: the role of the librarian

Do: 	Do not: 
<ul style="list-style-type: none">• oversee the scheduling of the extended essay process• offer lessons and workshops in information literacy and research skills• build partnerships with public and university libraries• act as a supervisor for extended essay students, if appropriately qualified• support students in terms of accessing adequate print and online sources• help train students and teachers on using the extended essay guidelines and information• provide guidance to students on how to format a formal essay using word processing software• support and provide guidance to students on how to develop the Researcher's reflection space• provide training and support on the concept of academic honesty, including an introduction to how to cite correctly and consistently.	<ul style="list-style-type: none">• comment on any part of the essay if they are not the supervisor• propose or revise research questions• undertake searches for information on behalf of students beyond guiding them on how to use search systems• provide a pre-formatted template for the extended essay• correct bibliographies or citations.

Important note on the role of external mentors

Ideally, students should carry out the research for the essay solely under the direction of a school supervisor and within the school. However, in circumstances where the school deems it appropriate, students may undertake their research at an institute or university under the guidance of an external mentor. This must be with the agreement of the school, and the external mentor must be provided with [a letter](#) outlining the nature of the extended essay and clear instructions about the level of guidance that is permitted. Schools are responsible for ensuring that these external mentors are aware of the limits of their role in providing this service. It is important to note that if this is the case the student **must** be allocated a supervisor within the school and undertake his or her reflection sessions with this person. Only a supervisor within the school is permitted to complete the reflection process for the extended essay with the student and provide both signature and comments on the [Reflections on planning and progress form](#) (RPPF). The nature of these comments may be informed by the external mentor but must **not** be provided by them. For further clarification please see the accompanying teacher support material.

The letter, which must be electronically signed by the external mentor, must be inserted in the appendix of the essay as part of the document file rather than as a scanned document. If a student has had an external mentor, this signed letter is an important part of the authentication of the essay.

As the extended essay is an independent task and a formal assessment component, students must not receive assistance with any aspect of the research, writing or proofreading of the extended essay beyond that which is permitted through their supervisor. If a supervisor suspects that the extended essay submitted for assessment by a student could not have been completed without assistance they are required to bring this to the attention of the Diploma Programme/extended essay coordinator, who in turn must inform the IB. This may then be investigated as a possible case of academic misconduct.

meaningful ways to successfully complete the extended essay. Finally, supervisors will be able to more effectively authenticate the student voice in that the RRS links directly to elements that will eventually be found in the essay itself. The RRS is intended to make the entire supervision process more meaningful.

Insights and information recorded in the RRS are expected to form the basis for and find direct expression in the essay, reflection sessions and *Reflections on planning and progress form*. Students are expected to share excerpts from the RRS in discussions with their supervisor. Using these reflections as a point of reference in their supervision sessions, students will be able to:

- demonstrate their planning
- discuss what they are learning
- evaluate their progress.

The student–supervisor relationship

Students can use the RRS to prepare for their reflection sessions with their supervisors.

Reflection session	Description
The first reflection session	Students are encouraged to include in their RRS examples of initial topic exploration, possible sources and methods, preliminary research questions and their personal reactions to the issues. In attending their first reflection session with their supervisor, students can use notes made in the RRS as the basis for discussion as well as to demonstrate the progress students have made in the research process.
The interim reflection session	As their RRS develops, students can demonstrate the progress of their thinking, the development of their argument and raise any questions they may have with their supervisor. At this stage the RRS may include reactions to readings, progress in the timeline for completion of the extended essay, a possible outline of arguments, setbacks encountered and the strategies used to overcome them.
The final reflection session— <i>viva voce</i>	During the <i>viva voce</i> , which takes place at the completion of the extended essay process, the RRS can form the basis for discussion about the process of completing the essay. Students can show what they have learned about the topic, the research process followed, their own learning, as well as outlining new questions they have uncovered. Most importantly, during the <i>viva voce</i> the RRS may help to highlight the personal significance of the work to the student and ultimately contribute to the supervisor's report.

Tip

While use of the RRS is not mandated, the IB considers the development of the RRS an essential element of good reflective practice as it will help the student to not only scaffold the extended essay process but also to build skills which transcend the task itself and prepare the student for university study and beyond.

A well-used RRS will aid the reflection sessions students have with their supervisor, as elements of it can be used to stimulate and inform discussion. This will help students to move towards a more evaluative understanding of the research process and the choices they make as part of this.

Finally, the RRS will contribute to a richer and more personally rewarding experience with the extended essay overall.

Introducing students to the extended essay

Overview

The following sections offer guidance on how the extended essay process can be supported for students.

It includes the following:

- Introducing students to the extended essay
- The supervision process
- Distinguishing between a supervision session and a reflection session
- Supporting the mandatory reflection sessions
- Preparation for the first reflection session
- First formal reflection session
- Preparation for the interim reflection session
- The interim reflection session
- Accommodating a change of direction
- Commenting on a draft version of the extended essay
- Submission requirements
- Preparation for the final reflection session (*viva voce*)
- Final reflection session (*viva voce*)
- Authenticating student work
- Protocols for completing and submitting the *Reflections on planning and progress form*

Introducing students to the extended essay

Before embarking on the extended essay, it is important for students to understand:

- the nature and aims of the extended essay, including the requirements
- how the extended essay is implemented in their school
- the different stakeholders involved, and their respective responsibilities
- the extended essay's place in the core and Diploma Programme
- what is expected from the task.

It is the responsibility of schools and Diploma Programme/extended essay coordinator to ensure that students are familiar with the above, and to introduce concepts such as research methods, academic honesty and technology literacy (using technology responsibly, specifically in this instance when accessing and using internet based sources of information).

Students should also be introduced to the Researcher's reflection space which will facilitate the planning and monitoring of their progress throughout the research process.

The supervision process

In order for students to be successful in the completion of the extended essay, the process needs to be structured and must incorporate a supervision process of 3–5 recommended hours to include three formal reflection sessions between the student and the supervisor as well as supervision sessions called check-in sessions.

The recording of reflections on the *Reflections on planning and progress form* is mandatory and must be submitted with the completed extended essay for assessment under criterion E (engagement). To prepare for these sessions and ensure that they are meaningful and purposeful, the student needs to undertake a number of preparatory steps which are outlined in the following section.

Distinguishing between a supervision session and a reflection session

To support students through the process of undertaking independent research they must be allocated an appropriate supervisor.

Check-in sessions

Students are encouraged to meet with their supervisor in between (and in addition to) the formal reflection sessions. Supervision time should meet the needs of the individual student; therefore, the frequency and duration of these meetings will depend on the needs of the student and the supervisor's requirements. Supervision time may consist of an occasional 10-minute check-in to discuss a timeline or clarification of a comment made by the supervisor. It may also include a more lengthy discussion about particular issues, for example, regarding access to resources. These supervision sessions do not form part of the formal reflection process and do not, therefore, need to be reported on the [Reflections on planning and progress form](#). However, they nevertheless form an important part of the supervision process.

Formal reflection sessions

These are the mandatory sessions that must be recorded on the *Reflections on planning and progress form*. It is recommended that these sessions last 20–30 minutes. During these sessions students should share excerpts from their Researcher's reflection space with their supervisor. These sessions should focus on progress made so far and set clear objectives for moving forward in the research process. Students should be prepared for these sessions and the meetings should be a dialogue guided by questions posed by the supervisor. Examples of these are given in the document *Guiding student reflection*.

Supporting the mandatory reflection sessions

There are three mandatory reflection sessions that are a formal part of the extended essay and should be recorded on the *Reflections on planning and progress form*. Following each session, students are required to complete the relevant comment section on the form and submit it to their supervisor. The supervisor must then sign and date the form and after the final reflection session, the *viva voce*, add their own comment. For more information on the protocols for completing and submitting the *Reflections on planning and progress form* please refer to the section "Protocols on completing and submitting the *Reflections on planning and progress form*".

Following the completion of all three sessions, the form will be submitted to the International Baccalaureate along with the completed extended essay. An incomplete form will impact the examiner's ability to apply assessment criterion E (engagement) and will result in the student receiving a lower mark for this criterion.

Reflection sessions

The following sections provide guidance with regard to preparing for and undertaking the three mandatory reflection sessions.

- Preparation for the first reflection session
- First formal reflection session
- Preparation for the interim reflection session
- The interim reflection session
- Accommodating a change of direction
- Commenting on a draft version of the extended essay
- Submission requirements
- Preparation for the final reflection session (*viva voce*)
- Final reflection session (*viva voce*)

Preparation for the first reflection session

As preparation for their first reflection session, students should do the following.

1. Think about subjects and areas of particular personal interest and do some initial background reading into a subject and topic of their choice.
2. Using this as a starting point, explore a variety of possible research topics.
3. Read the subject-specific section of the *Extended essay guide* for the subject they are interested in, paying particular attention to the nature of the subject and the treatment of the topic.
4. Undertake further background reading and begin to gather information around their area of interest. This exploration should give rise to a variety of topics and questions that students can consider for further research. At this stage it is important that students consider the availability of reliable and valid sources for the topic under consideration. All of this should be recorded in their Researcher's reflection space.
5. Begin developing a research proposal which might include a MindMap[®] of ideas, an annotated article or preliminary bibliography. Additionally, students must already be thinking in terms of the following questions.
 - Is my topic appropriate for the subject I am considering?
 - Why am I interested in this area and why is it important?
 - What possible questions have emerged from my initial reading?
 - Are there any ethical issues that I need to consider?
 - What possible methods or approaches might be used for research in this area and why?

It is recommended at this point that the student–supervisor relationship is formalized and the student can consider himself or herself prepared for the first formal reflection session.

First formal reflection session

This initial reflection session should be a dialogue between the student and the supervisor based on the student's initial explorations. It is recommended that the student sends their supervisor an outline of their research proposal ahead of the meeting in order to give the supervisor the opportunity to review their work. This will ensure that the reflection session is focused and productive.

Topics of discussion that should arise during this session include:

- a review of the requirements and assessment criteria for the subject
- a review of ethical and legal implications, if applicable
- a dialogue about possible approaches and any potential problems that might arise
- a discussion of strategies for developing the student's ideas for the essay and expanding the research so that the essay starts to take form
- probing and challenging questions that will help the student focus their thinking; this should lead to the development of the student's working research question
- an outline of the next steps that the student should undertake in order to refine their question; this should take the form of a research and writing timeline.

Tip

Following this first session, the student is required to complete the first student comment section of the *Reflections on planning and progress form* and submit it to their supervisor who must then sign and date the form. Please refer to the section "Protocols for completing and submitting the *Reflections on planning and progress form*" for more information.

Preparation for the interim reflection session

Between the first and second reflection session, students can engage in informal conversations with other people, such as subject teachers, the extended essay coordinator, the librarian or their supervisor. They must also ensure that they are progressing with their research plan.

In preparation for the interim reflection session, students should have:

- attempted to refine a focused and appropriate research question
- significantly deepened their research and recorded pertinent evidence, information or data in the Researcher's reflection space
- reviewed and consolidated the methodologies they are using
- formulated arguments based on the evidence that they have collected
- added to the working bibliography for their research.

The interim reflection session

This session is a continuation of the dialogue between supervisor and student in which the student must demonstrate the progress they have made in their research. They must also be able to discuss any challenges they have encountered, offer their own potential solutions and seek advice as necessary.

During this session the supervisor might discuss:

- a completed piece of sustained writing from the student in order to ensure that they understand the academic writing requirements, including referencing formats
- whether an appropriate range of sources has been accessed and how the student is critically evaluating the origin of those sources
- what the student now has to do in order to produce the full draft of their essay, and ways and means of breaking down the task into manageable steps.

By the end of the interim reflection session both student and supervisor should feel satisfied that there is:

- a clear and refined research question
- a viable argument on which to base the essay
- a sufficient range of appropriate sources
- a clear vision for the final steps in the writing process.

Between the interim session and the completion of the extended essay, students should continue to see their supervisor as appropriate to their needs, although the third and final reflection session should not take place until after the extended essay has been completed and uploaded for submission.

Tip

Following this interim session, the student is required to complete the second student comment section of the [Reflections on planning and progress form](#) and submit it to their supervisor who must then sign and date the form. Please refer to the section "Protocols for completing and submitting the *Reflections on planning and progress form*" for more information.

Accommodating a change of direction

If the student or supervisor is not satisfied that the goals of the research are being met, further supervision sessions may be appropriate.

Students who find that they need to change direction in their research or adjust the formulation of their research question should demonstrate the thinking that led them to these decisions in their second reflection on the [Reflections on planning and progress form](#). They must not go back and adjust their initial reflections, as the purpose of the form is to demonstrate the evolution of their thinking in the research process.

Commenting on a draft version of the extended essay

Commenting on one completed draft of the essay is a very important aspect of the latter stages in the process, and the last point at which the supervisor sees the essay before it is finally uploaded for submission. It is therefore vital that the level of support given is appropriate—too little support and the ability of the student to meet their potential is compromised; too much help and it will not be the work of an independent learner.

The best way of conducting this last stage is for the student to submit the essay prior to a supervision session to allow the supervisor to add their comments. This should be followed by a one-to-one discussion between the supervisor and the student in which they go through the comments together as these become a starting point for a dialogue about the essay. This advice should be in terms of the way the work could be improved, but this first draft must not be heavily annotated or edited by the supervisor.



What supervisors can do

Comments can be added that indicate that the essay could be improved. These comments should be open-ended and not involve editing the text, for example:

- **Issue:** the research question is expressed differently in three places (the title page, the introduction and the conclusion).

Comment: is your research question consistent through the essay, including on the title page?

- **Issue:** the essay rambles and the argument is not clear.

Comment: your essay lacks clarity here. How might you make it clearer?

- **Issue:** the student has made a mistake in their calculations.

Comment: check this page carefully.

- **Issue:** the student has left out a section of the essay.

Comment: you are missing something here. What is it? Check the essay against the requirements.

- **Issue:** the essay places something in the appendix that should be in the body of the essay.

Comment: are you sure this belongs here?

- **Issue:** the conclusion is weak.

Comment: what is it that you are trying to say here? Have you included all your relevant findings? Have you looked at unanswered questions?

- **Issue:** the essay has an incomplete citation.

Comment: you need to check this page for accuracy of referencing.



What supervisors cannot do:

- Correct spelling and punctuation.
- Correct experimental work or mathematics.

- Re-write any of the essay.
- Indicate where whole sections of the essay would be better placed.
- Proofread the essay for errors.
- Correct bibliographies or citations.

Tip

If students give their supervisor sections of their extended essay to read, this is permissible but the same section of work should not be looked at repeatedly by the supervisor, nor should it be heavily annotated or edited. Students and supervisors must be clear that only one complete draft of the essay is permitted to be looked at by the supervisor.

Submission requirements

The next version of the essay that the supervisor sees must be the final one. The supervisor gains access to this version once the student has uploaded it onto the e-coursework system. This version of the extended essay must be clean; in other words, it must not contain any comments from the supervisor, or any other person. Once this version has been uploaded to the system by the student they are not permitted to make any further changes to it, unless deemed appropriate by the supervisor because of an administrative error. For this reason, it is important that students are advised to ensure that it meets all formatting and submission requirements before they upload it.

Preparation for the final reflection session (*viva voce*)

Supervisors must have already read the final version of the essay, available to them on the e-coursework system, before this session takes place.

Students should bring the following to this session:

- extracts from their RRS that illustrate how they have grown as learners through the process of reflection
- a willingness to share their personal experience and to discuss the skills and development of conceptual understandings that they have acquired through the completion of the extended essay.

Tip

It is important to note that students must not be allowed to make any changes to their extended essay after this meeting. Once they have uploaded the essay onto the e-coursework system the essay is no longer available to them and no changes are permitted.

Final reflection session (*viva voce*)

The *viva voce* is a short interview between the student and the supervisor, and is the mandatory conclusion to the extended essay process. Students who do not attend the *viva voce* will be disadvantaged under criterion E (engagement) as the *Reflections on planning and progress form* will be incomplete.

The *viva voce* is conducted once the student has uploaded the final version of their extended essay to the IB for assessment. At this point in the process no further changes can be made to the essay. The *viva voce* is a celebration of the completion of the essay and a reflection on what the student has learned from the process.

The *viva voce* is:

- an opportunity to ask the student a variety of open-ended questions to elicit holistic evidence of the student's learning experience.
- an opportunity for the supervisor to confirm the authenticity of the student's ideas and sources
- an opportunity to reflect on successes and difficulties encountered in the research process
- an aid to the supervisor's comments on the *Reflections on planning and progress form*.

The *viva voce* should last 20–30 minutes. This is included in the recommended amount of time a supervisor should spend with the student.

In conducting the *viva voce* and writing their comments on the *Reflections on planning and progress form*, supervisors should bear in mind the following.

- The form is an assessed part of the extended essay. The form must include: comments made by the supervisor that are reflective of the discussions undertaken with the student during their supervision/ reflection sessions; the student's comments; and the supervisor's overall impression of the student's engagement with the research process.
- An incomplete form resulting from supervisors not holding reflection sessions, or students not attending them, could lead to criterion E (engagement) being compromised.
- In assessing criterion E (engagement), examiners will take into account any information given on the form about unusual intellectual inventiveness. This is especially the case if the student is able to demonstrate what has been learned as a result of this process or the skills developed.
- Examiners want to know that students understand any material (which must be properly referenced) that they have included in their essays. If the way the material is used in context in the essay does not clearly establish this, the supervisor can check the student's understanding in the *viva voce* and comment on this on the *Reflections on planning and progress form*.
- If there appear to be major shortcomings in citations or referencing, the supervisor should investigate thoroughly. No essay should be authenticated if the supervisor believes the student may be guilty of plagiarism or some other form of academic misconduct.

- The comment made by the supervisor should not attempt to do the examiner’s job. It should refer to things, largely process-related, that may not be obvious in the essay itself.
- Unless there are particular problems, the *viva voce* should begin and end positively. Completion of a major piece of work such as the extended essay is a great achievement for students.

Tip

Following this final session, the student is required to complete the last student comment section of the *Reflections on planning and progress form*, sign and date it and submit it to their supervisor, who must then add their own comments, sign and date the form. The supervisor must then upload the form into the e-coursework system, confirm the authenticity of both the form and essay, and submit them to the IB for assessment as one portfolio. Please refer to the section “Protocols for completing and submitting the *Reflections on planning and progress form*” for more information.

Failure to complete or sign the *Reflections on planning and progress form* may result in:

- a delay in a grade being issued for the extended essay
- criterion E being compromised; in other words, the examiner may not be able to apply criterion E due to missing or lacking information
- the essay being referred as a possible case of academic misconduct as a result of not being authenticated.

Authenticating student work

All extended essays submitted to the IB for assessment must be authenticated by the student and supervisor, and must not include any known instances of suspected or confirmed academic misconduct. All students and supervisors must confirm the authenticity of the work submitted when uploading work to the e-coursework system. Once a student has uploaded the final version of their extended essay to the e-coursework system for assessment, and confirmed the authenticity of it, it is submitted via the system to their supervisor. At this point the supervisor must not allow any retraction of the essay by the student for modification purposes unless there has been an administrative oversight.

The *Reflections on planning and progress form* is given to the supervisor by the student, signed and dated, and it is the responsibility of the supervisor to upload this to the e-coursework system, add their comment and authenticate it before submitting it to the IB with the already uploaded essay as one portfolio. Further guidance on this is given in the section “Protocols for completing and submitting the *Reflections on planning and progress form*”.

It is extremely important that supervisors are able to confirm that they have followed the guidance for monitoring the student’s work throughout the process and can, to the best of their knowledge, confirm the authenticity of the work upon final submission (please refer to the *Handbook of procedures for the Diploma Programme*).

If the supervisor is unable to confirm the authenticity of the work this must be brought to the attention of the Diploma Programme coordinator, who in turn should refer to the *Handbook of procedures for the Diploma Programme* for guidance. Work that is submitted but does not comply with the expectations and requirements outlined in this publication will be treated as a case of academic misconduct.

When authenticity is in doubt, the supervisor should first discuss this with the student. In addition, one or more of the following actions may be helpful:

- compare the style of writing with work known to be that of the student
- compare the final submission with the first draft of the written work
- check the references cited by the student and the original sources
- interview the student in the presence of a third party
- use one of the many websites set up to prevent plagiarism.

It is the responsibility of supervisors to ensure that all students understand the basic meaning and significance of concepts relating to academic honesty, especially authenticity and intellectual property. Supervisors must ensure that all student work to be assessed is prepared according to the stated requirements and must explain clearly to students that the extended essay must be entirely their own work.

The same piece of work cannot be submitted to meet the requirements of both the extended essay and a subject-specific assessment component.

For further guidance on this issue and the procedures for confirming authenticity please refer to the [General regulations: Diploma Programme](#), as well as the *Handbook of procedures for the Diploma Programme*.

Protocols for completing and submitting the *Reflections on planning and progress form*

Completing the *Reflections on planning and progress form* (RPPF) is a requirement for the submission of the extended essay. It plays an important role in the assessment of the final essay and of the student's engagement with the process of independent research. The following is offered as guidance for the completion and submission of the form.

Diploma Programme/extended essay coordinators, with the support of their school leadership team, must determine a system for the administration of the RPPF that ensures that both students and supervisors have access to it in order to complete the required summative comments. This system also needs to ensure the integrity of the form.



The following steps are offered as guidance:



Failure to complete or sign the *Reflections on planning and progress form* may result in:

- a delay in a grade being issued for the extended essay
- criterion E (engagement) being compromised; in other words, the examiner may not be able to apply criterion E due to missing or insufficient information

- the essay being referred as a possible case of academic misconduct as a result of not being authenticated.

An important note:

Once students have written their reflection and this has been signed and dated by their supervisor they must not make changes to these comments. Examiners want to see the progression of ideas through the three reflection comments and if students make amendments at a later stage of the process this will undermine the authenticity of their experiences and affect the way in which examiners apply criterion E.

The research and writing process

Overview

- Initial guidance on research and writing
- Developing a research question
- Five steps to developing a research question
- Sample research questions
- Writing the extended essay
- Presentation
 - Word counts
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 - Footnotes and endnotes
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 - Specimen materials
- Academic honesty
 - Bibliography
 - Citations
 - Referencing
 - Referencing online materials
 - Accessing sources: technology literacy—using electronic sources
 - Using online encyclopedias and other similar information websites
 - Use of computer programs
 - Reliance on external resources
- Proofreading

Initial guidance on research and writing

Supervisors are recommended to advise their students on how to conduct research and write the extended essay, paying particular attention to the following key areas.

When researching the extended essay, students should follow the steps below.

- 1 Choose an available Diploma Programme subject for the extended essay for the session in question (subject to any restrictions imposed by the school).
- 2 Read the following materials: the assessment criteria, relevant subject-specific chapter of the *Extended essay guide*, the IB's ethical guidelines and other associated policies where relevant, such as those relating to animal experiments.
- 3 Set up the Researcher's reflection space (RRS) and use this as the key planning and reflection tool for the extended essay process.
- 4 Choose a topic and undertake some background reading on it.
- 5 Formulate a preliminary research question. Try to incorporate an IB command term in the research question if possible.
- 6 Draw up an outline plan for the research and writing process. This should include a timeline.
- 7 Begin to identify how and where they will gather source material for their research.
- 8 Identify which system of academic referencing they will use, ensuring that this meets the minimum requirements for the IB.
- 9 Set deadlines for themselves that are realistic and take into consideration the school's own internal deadlines.
- 10 Plan a structure for the essay. This may change as the research develops but it is useful to have a sense of direction from the start.
- 11 Undertake some preparatory reading in light of the proposed research question. *If students discover that it will not be possible to obtain the evidence needed in the time available, the research question should be changed. This should be done sooner rather than later: students should not lose time waiting and hoping that something will turn up. Students should go back to stage 3, 2 or 1, and choose a new research question that can be answered.*
- 12 Carry out the research. *The material collected should be assembled in a logical order, linked to the structure of the essay and clearly focused on the research question posed. Only then will students know whether they have enough evidence for each stage of the argument so that they can proceed to the next. Students should be prepared for things to go wrong. Sometimes they may discover something later in the research that undermines what they thought had been established earlier. If that happens, the research plan needs to be revised.*

Developing a research question

All students, regardless of the subject chosen, must frame their research question as a question. A hypothesis or statement of intent is not acceptable. The reason for this is that a question helps students to retain focus throughout the essay.

A research question is a **clear and focused** question centred on a research topic. Research questions usually emerge when questions are asked about a particular issue that a student is interested in or curious about.

A research question helps to focus the research, providing a path through which students will undertake the research and writing process. A clear and well-focused research question, which has a specific aim, will allow a student to work towards developing a reasoned argument within the scope of the task, rather than the kind of “all about” essay that an unfocused research question can lead to.

Sometimes students may need to revise their research question; therefore, a research question should always be considered provisional until they have enough research data to make a reasoned argument.

Supervisors should note that unfortunately the IB is unable to comment on the suitability of individual research questions. This is because the development of an appropriate research question forms part of the assessment. Should supervisors require support or advice with regard to possible research questions, the [Online curriculum centre extended essay forum](#) is a good starting point.

Five steps to developing a research question



Choose a subject and topic that is of interest.

Deciding on a subject and topic that is of interest and in which the student is personally invested is important if their motivation is to be sustained throughout the process. The student should be able to identify, in a broad sense, what it is that they are interested in and why.



Carry out preliminary reading.

After deciding on a topic of interest students should undertake some general reading around the issue. Questions they must consider at this stage are:

- What has already been written about this topic?
- Was it easy to find sources of information?
- Is there a range of different sources available?
- Is there a range of views or perspectives on the topic?
- What interesting questions have started to emerge from this reading?



Consider the emerging questions.

The student should now begin posing open-ended questions about their general topic. These questions will usually be framed using the terms “how”, “why” or “to what extent”.



Evaluate the question.

Once possible research questions have been posed they should be evaluated. This evaluation should be based on whether the research question is clear, focused, and arguable.

Clear: Will the reader understand the nature of my research? Will it direct the research being undertaken?

Focused: Will the research question be specific enough to allow for exploration within the scope of the task (that is, the number of words and time available)?

Arguable: Does the research question allow for analysis, evaluation and the development of a reasoned argument?



Consider research outcomes.

Once a provisional research question has been decided upon students should start thinking about the direction their research might take. This could be in terms of:

- suggesting possible outcomes of the research
- outlining the kind of argument they might make and how the research might support this
- considering options if the research available is not sufficient to support a sustained argument.

Sample research questions

The following table gives guidance on the difference between unclear and unfocused research questions and those that are appropriately clear and focused, lending themselves to in-depth research.

Unclear, unfocused and unarguable research questions	Clear, focused, narrow research questions lending themselves to in-depth research
What was the impact of Ho Chi Minh's allegiance to Lenin?	To what extent was nationalism the guiding factor in Ho Chi Minh's adoption of Leninism in 1920?
What is the history of Chinese theatre?	How does the legacy of Mei Lan Fang contribute to modern Jingju?
How important is chlorophyll to plant life?	What is the effect of different concentrations of kinetin on leaves aging and the biosynthesis of chlorophyll?
How can the US government's spending policy be reformed?	To what extent did the rising COE prices affect the demand for new and used cars by the consumer population and hence affect the revenue generated by the Singaporean economy for the period 2012–16?

An important note:

A question that is unclear or too broad will result in a narrative overview of the issue or event being discussed and provide little scope for analysis and reasoned argument. The result of this is that examiners will not be able to apply the range of marks available in the assessment criteria, particularly in relation to criterion C (critical thinking).

Writing the extended essay

The structure of the essay is very important. It helps students to organize the argument, making the best use of the evidence collected.

There are six required elements of the final work to be submitted. More details about each element are given in the “Presentation” section. Please note that the order in which these elements are presented here is not necessarily the order in which they should be written.

Six required elements of the extended essay:

1. Title page
2. Contents page
3. Introduction
4. Body of the essay
5. Conclusion
6. References and bibliography

Title page

The title page should include **only** the following information:

- the title of the essay
- the research question
- the subject for which the essay is registered (if it is a language essay also state which category it falls into; if a world studies essay also state the theme and the two subjects utilized)
- word count.

An important note:

Please note that name of the student or the school should not appear on the title page or on any page headers. This is because the work is assessed anonymously.

The title

The title of your essay should be a clear, focused summative statement of your research, which gives the reader an indication of your research topic. It should **not** be phrased as a research question.

Title	Research question
Negative externalities of consumption: Australian policy on cigarette packaging	How effective has the Australian policy of plain cigarette packaging been in reducing the negative externalities associated with the consumption of cigarettes in X?
Commodification and the body— an ethnographic study of social representations about the human body with relation to organ donation	To what extent can we interpret the negative attitude from laymen towards organ donation as an act of resistance towards the demands of the hegemonic medical model? The case of organ donation in Argentina.

Title	Research question
An exploration of evil as a motivating force in drama	How effectively does Christopher Marlowe present his view of evil in <i>Dr Faustus</i> ?
The feasibility of wireless networking in a city-wide context	To what extent is wireless networking a feasible alternative to cabled networking within a whole-city context?

Contents page

A contents page must be provided at the beginning of the extended essay and all pages should be numbered. Please note that an index page is not required and if included will be treated as if it is not present.

Introduction

The introduction should tell the reader what to expect in the essay. The introduction should make clear to the reader the focus of the essay, the scope of the research, in particular an indication of the sources to be used, and an insight into the line of argument to be taken.

While students should have a sense of the direction and key focus of their essay, it is sometimes advisable to finalize the introduction once the body of the essay is complete.

Body of the essay (research, analysis, discussion and evaluation)

The main task is writing the body of the essay, which should be presented in the form of a reasoned argument. The form of this varies with the subject of the essay but as the argument develops it should be clear to the reader what relevant evidence has been discovered, where/how it has been discovered and how it supports the argument. In some subjects, for example, the sciences, sub-headings within the main body of the essay will help the reader to understand the argument (and will also help the student to keep on track). In structuring their extended essay, students must take into consideration the expected conventions of the subject in which their extended essay is registered.

Once the main body of the essay is complete, it is possible to finalize the introduction (which tells the reader what to expect) and the conclusion (which says what has been achieved, including notes of any limitations and any questions that have not been resolved).

Any information that is important to the argument **must not** be included in appendices or footnotes/endnotes. The examiner **will not** read notes or appendices, so an essay that is not complete in itself will be compromised across the assessment criteria.

Conclusion

The conclusion says what has been achieved, including notes of any limitations and any questions that have not been resolved. While students might draw conclusions throughout the essay based on their findings, it is important that there is a final, summative conclusion at the end. This conclusion(s) must relate to the research question posed.

References and bibliography

Students should use their chosen style of academic referencing as soon as they start writing. That way they are less likely to forget to include a citation. It is also easier than trying to add references at a later stage. For more information on this, refer to the guidelines in the IB document [Effective citing and referencing](#).

Writing the essay takes time but if students have used their Researcher's reflection space and reflection sessions in a meaningful way they should be well prepared to develop their arguments.

Presentation

The extended essay should be written in a clear, correct and formal academic style, appropriate to the subject from which the topic is drawn. Given that the extended essay is a formally written research paper, it should strive to maintain a professional, academic look.

To help achieve this, the following formatting is **required**:

- the use of 12-point, readable font
- double spacing
- page numbering
- no candidate or school name on the title page or page headers.

Submitting the extended essay in the required format will help set the tone of the essay and will aid readability for on-screen assessment by examiners.



Word counts

The upper limit is 4,000 words for all extended essays.

Please note: Examiners are instructed not to read or assess any material in excess of the word limit. This means that essays containing more than 4,000 words will be compromised across all assessment criteria. Given the holistic nature of the assessment criteria, students who write in excess of the word limit will self-penalize across all criteria. For example, in criterion B, any knowledge and understanding demonstrated beyond the 4,000-word limit will be treated as if it were not present; in criterion C, analysis, discussion or evaluation made beyond the 4,000-word limit will be treated as if the point had not been made.

Supervisors and students should be aware that the e-upload of extended essays will facilitate the automatic recognition of a cut-off point for assessment. Students should ensure that they remain within the word limit and should edit accordingly.

Please refer to the following guidance on what content should be included in the word count.

 Included in the word count	 Not included in the word count
The introduction	The contents page
The main body	Maps, charts, diagrams, annotated illustrations
The conclusion	Tables
Quotations	Equations, formulas and calculations
Footnotes and/or endnotes that are not references	Citations/references (whether parenthetical, numbered, footnotes or endnotes)
	The bibliography
	The <i>Reflections on planning and progress form</i>

Please refer to the document entitled *Diploma Programme assessment: Principles and practice* for further clarification of word count requirements.

A note for students writing in Chinese and Japanese:

Students writing their extended essay in Japanese or Chinese should use the following conversions.

- Japanese: 1 word = approximately 2 Japanese characters (upper limit 8,000 characters)
- Chinese: 1 word = approximately 1.2 Chinese characters (upper limit 4,800 characters)

Illustrations

Presentation and overall neatness are important, and it is essential that illustrative material, if included, is well set out and used effectively. Graphs, diagrams, tables and maps are effective only if they are clearly labelled and can be interpreted with ease.

Any labelling should contain the minimum information to ensure the examiner understands the significance of the map, chart, diagram or illustration. It must not include commentary, as this will be considered as part of the essay discussion and thus included in the word count.

All such material that is incorporated into the extended essay must be directly related to the text and acknowledged where appropriate. The use of photographs and other images is acceptable only if they are captioned and/or annotated and are used to illustrate a specific point made in the extended essay. Students should be advised to use illustrations with caution as excessive use may detract from the discussion in the essay. They should only be used if they are relevant and appropriate to a point being made as part of the argument of the essay.

Tables

The use of tables should be considered carefully and are only really appropriate in certain subjects. Tables must not be used in an attempt to circumvent the word limit.

Footnotes and endnotes

Footnotes and endnotes may be used for referencing purposes and if this is the case will not be included in the word count of the essay. If information is contained in a footnote or endnote and is not a reference, this **must** be included in the word count. In order to avoid confusion and unwittingly exceed the word limit, students are advised to avoid using footnotes or endnotes other than for referencing purposes unless it is appropriate.

As footnotes and endnotes are not an essential part of the extended essay students must take care to ensure that all information with direct relevance to the analysis, discussion and evaluation of their essay is contained in the main body of it.

An essay that attempts to evade the word limit by including important material in footnotes or endnotes will be compromised across the assessment criteria. Please note that footnotes and endnotes are added to the word count as they are encountered.

Appendices

Appendices are not an essential part of the extended essay and examiners will not read them, or use any information contained within them, in the assessment of the essay. Students must take care to ensure that all information with direct relevance to the analysis, discussion and evaluation of their essay is contained in the main body of it. Appendices should therefore be avoided except in the following instances:

- an exemplar of a questionnaire or interview questions
- an exemplar of permission letters
- group 1, category 1 essays: copies of poems or short stories (of less than three pages)
- group 1, category 3 essays: excerpts from newspapers, advertisements and transcripts of speeches
- language acquisition, category 1 and 2: excerpts from newspapers, advertisements, transcripts of speeches, etc
- language acquisition, category 3: excerpts or copies of poems or short stories (less than 3 pages)
- an external mentor letter, where one has been used
- raw data or statistical tables for experimental sciences (this should not include any analysis or conclusions).

Students should not continually refer to material presented in an appendix as this may disrupt the continuity of the essay and examiners are not required to refer to them.

Specimen materials

Specimen materials used in, or produced by, investigations do not form part of the extended essay and must **not** be submitted. Photographic evidence may be submitted in place of such material.

Academic honesty

Research practices when working on an extended essay must reflect the principles of academic honesty. The essay must provide the reader with the **precise** sources of quotations, ideas and points of view through accurate citations, which may be in-text or footnotes, and full references listed in the bibliography, which, regardless of the system used, must ensure the [minimum requirements](#).

Producing accurate references and a bibliography is a skill that students should be seeking to refine as part of the extended essay writing process. Documenting the research in this way is vital: it allows readers to evaluate the evidence for themselves, and it shows the student's understanding of the importance of the sources used.

Failure to comply with this requirement will be viewed as academic misconduct and will, therefore, be treated as a potential breach of IB regulations.

For further information, see [Academic honesty in the IB educational context](#) and [Effective citing and referencing](#).

Bibliography

A bibliography is an alphabetical list of every source used to research and write the essay. Sources that are not cited in the body of the essay but were important in informing the approach taken should be cited in the introduction or in an acknowledgment. The bibliography **must** list only those sources cited.

Citations

A citation is a shorthand method of making a reference in the body of an essay, either as an in-text citation or footnote/endnote. This must then be linked to the full reference at the end of the essay in the bibliography. A citation provides the reader with accurate references so that he or she can locate the source easily. How sources are cited varies with the particular referencing style that has been chosen. Page numbers should normally be given when referencing printed material and this is especially so in the case of direct quotations. For some styles this will also be in the citation, in others in the full reference. Once again, it is important to emphasize that there must be consistency of method when citing sources.

Referencing

A reference is a way of indicating to the reader, in an orderly form, where information has been obtained. A reference provides all the information needed to find the source material. References must be cited because they acknowledge the sources used, and enable the reader to consult the work and verify the data that has been presented.

References must be given whenever someone else's work is quoted or summarized. References can come from many different sources, including books, magazines, journals, newspapers, emails, internet sites and interviews.

There are a number of different styles available for use when writing research papers; most are appropriate in some academic disciplines but not others. The supervisor or school librarian should help the student decide on a style for the particular subject of the essay. It is important to remember that whatever style is chosen, it must be applied consistently and in line with the IB's minimum requirements. When choosing the style, the student needs to have a clear understanding of how it is to be used before embarking on the research task. The style should be applied in both the final draft of the essay and in the initial research stages of taking notes. This is good practice, not only for producing a high-quality final product, but also for reducing the opportunities and temptation to plagiarize.

The IB's minimum requirements include:

- name of author
- date of publication
- title of source
- page numbers (print sources only)
- date of access (electronic sources only).

Any references to interviews should state the name of the interviewer, the name of the interviewee, the date and the place of the interview.

For more detailed information on styles for citations and referencing please refer to the IB document [Effective citing and referencing](#).

Referencing online materials

References to online materials should include the title of the extract used as well as the website address, the date it was accessed and, if possible, the author. With regard to electronic sources, the requirement of the IB for date stamping supersedes the requirements of the chosen referencing system. In other words, all electronic sources must be date stamped by including the date the student accessed the resource (for example, accessed 12 March 2016). Caution should be exercised with information found on websites that do not give references or that cannot be cross-checked against other sources. The more important a particular point is to the essay, the more the quality of its source needs to be evaluated.

Accessing sources: technology literacy—using electronic sources

Using the internet as a resource for finding information is more and more commonplace, and it is a tremendous resource. However, it must be used critically and with care. One important thing to be aware of is that unlike resources found in a library in printed form, those found on the internet may not have been through a review or editing process.

Students should:

- know appropriate search engines to use
- not rely exclusively on sources found on the internet

- have a clear and focused research question to help them search more directly on the internet (given the amount of information available it is easy to be overwhelmed)
- critically evaluate the reliability and validity of the information presented on the internet
- keep a detailed record of all references, in accordance with the IB's minimum requirements, ensuring that the URL of where the source was located is written down correctly. This includes recording the date that the site was accessed. The Researcher's reflection space (RRS) is a good tool for supporting this practice.

The following table contains a series of questions students can apply to determine the reliability and validity of information presented on the internet. It could equally apply to print resources.

Desirable source attribute	Questions to consider in order to determine this
Authority	<ul style="list-style-type: none"> • Is the author of the information identified? • If the author has chosen to remain anonymous, why might this be? Is this significant in terms of your evaluation of the information presented? • Is there enough information available to establish the author's credibility? • Is the author affiliated to an academic institution or credible organization? • Is the author qualified to write about the subject?
Audience appropriate	<ul style="list-style-type: none"> • Who is the intended audience? • Does the information presented appropriately address the target audience? • Is the information relevant to your area of research?
Reliability and credibility	<ul style="list-style-type: none"> • Does the information appear to be valid and well researched? • Can it be supported by evidence? • Can the information be verified through other sources? • Is there a non-web equivalent of this material that could be used to verify the information? • Does the URL (web address) give you any indication of the source of the information?
Accuracy	<ul style="list-style-type: none"> • Is there an indication as to who has responsibility for the accuracy of the information provided? • Do you know if the information has been reviewed? • Are there grammatical, spelling or typographical errors? If there are, what does this suggest about the source? • Is there a bibliography?
Objectivity	<ul style="list-style-type: none"> • Is the information fact or opinion? • Is the language used free of bias?

Desirable source attribute	Questions to consider in order to determine this
	<ul style="list-style-type: none"> • Is the author’s point of view objective or do they make it clear when they are expressing a personal opinion? • Is it a personal website? • Is the author affiliated with any institution or organization which might create a bias in the information?
Currency	<ul style="list-style-type: none"> • Is the information kept up-to-date? • Is there any indication of when the information was last updated? • Are any links up to date and working?

Using online encyclopedias and other similar information websites

As a tool for research, free online encyclopedias can be valuable resources, but there are several reasons why students should be cautious in using them:

- they tend to be general encyclopedias
- very often the author is unknown
- there is no guarantee that the content meets standards of academic rigour—it may not, for example, have been through a process of peer review
- the content can be unstable, in that it can change at any time.

Teachers, supervisors and coordinators may choose to caution against the use of free online encyclopedias and other similar information websites. Certainly a bibliography that only cites these for reference or an argument that is overly reliant on them will not demonstrate the necessary “range of sources” required by the assessment criteria for the extended essay. They may also not be relevant or appropriate for the research question being explored.

Many online encyclopedias are not scholarly sources; however, if used appropriately and critically they can offer a useful starting point for many students undertaking research. Rather than absolutely discouraging the use of these sites, it may be more supportive to explore their potential as a platform for training students in research and thinking skills, especially in terms of assessing and evaluating the information they provide.

The internet is part of the education information ecosystem and a “real-world” source that many students engage with. The rise in popularity of free online encyclopedias has led to a shift in how knowledge and expertise is viewed, with new definitions of notions such as authority and expertise. For this reason, ensuring that students use it in an informed way is essential if they are to develop the necessary research, critical thinking and reflection skills in which the extended essay places value.

If using free online encyclopedias, students should do the following.

- Follow the references provided by the encyclopedia; this will help to verify the information given.
- Consider whether the article is part of a larger project, where a number of people are contributing to the discussion. If it is, then it implies that the writers have more than a casual interest in the topic being written about.
- Look to see if there is a rating for the information provided. If there is then this means that the information has undergone some sort of peer review and been given a rating. While not the same as an academic peer review, it can aid the judgment of the “quality” of the information.

The key point to remember, if students do use information that is found on the internet, is that they are responsible for ensuring that it is both reliable and accurate. One way a supervisor could facilitate this as a learning opportunity is in terms of a discussion with students about the quality of their sources. This could take the form of asking students to produce an annotated bibliography as part of their Researcher’s reflection space. An annotated bibliography provides a concise summary of each source and some assessment of its value and relevance. A good annotated bibliography will:

- encourage students to think critically about the sources they are using and how these relate to their chosen research area in terms of their relevance for example
- provide a way to help students determine whether a source is of use to them in their research
- allow students to keep track of their reading and enable them to make informed decisions about which sources to use in writing their essay.

Use of computer programs

The use of computers is encouraged where they are appropriate as tools for analysing data relevant to the subject of the extended essay. Material such as a hard copy of computer output may be included in the extended essay, but any associated program should be referred to or reproduced, if original, only as an appendix.

Computer programs may only be included (in particular circumstances) in computer science and physics essays. (See the “Computer science” and “Physics” sections for further details.)

Reliance on external resources

Irrespective of the subject, the extended essay should be a complete piece of independent research, modelled on an academic journal/research paper, which can exist and be understood on its own, without the need to access external links, such as hyperlinks, or accompanying material such as DVDs.

Examiners will not access any material contained in an external source when assessing an essay. Material that is pertinent to the argument being made must be contained in the essay itself to be considered by examiners in their assessment of it.

As with appendices, if information central to the argument is included in the external link, it is treated as though the point has not been made and as such could affect different criteria, for example, criterion C (critical thinking), depending on the quality of the other analyses.

Proofreading

The whole essay needs to be proofread carefully by the student (computer spelling and grammar checkers are useful but will not do everything). They must not ask someone else to proofread their work as this is an important part of the learning experience.

Overview

- Assessment in the Diploma Programme
- Methods of assessment
- Assessment of the extended essay
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 - Responsibilities of the school
- Overview of the assessment criteria for the extended essay
- Best-fit approach and markbands
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 - Criterion D: presentation
 - Criterion E: engagement
- Assessment grade descriptors for the extended essay
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Assessment in the Diploma Programme

General

Assessment is an integral part of teaching and learning. The most important aims of assessment in the Diploma Programme are that it should support curricular goals and encourage appropriate student learning. Both external and internal assessments are used in the Diploma Programme. IB examiners mark work produced for external assessment, while work produced for internal assessment is marked by teachers and externally moderated by the IB.

There are two types of assessment identified by the IB.

- Formative assessment informs both teaching and learning. It is concerned with providing accurate and helpful feedback to students and teachers on the kind of learning taking place and the nature of students' strengths and weaknesses in order to help develop students' understanding and capabilities. Formative assessment can also help to improve teaching quality, as it can provide information to monitor progress towards meeting the course aims and objectives.
- Summative assessment gives an overview of previous learning and is concerned with measuring student achievement.

The Diploma Programme primarily focuses on summative assessment designed to record student achievement at, or towards the end of, the course of study. However, many of the assessment instruments can also be used formatively during the course of teaching and learning, and teachers are encouraged to do this. A comprehensive assessment plan is viewed as being integral with teaching, learning and course organization. For further information, see the IB *Programme standards and practices* document.

The approach to assessment used by the IB is criterion-related, not norm-referenced. This approach to assessment judges students' work by their performance in relation to identified levels of attainment, and not in relation to the work of other students. For further information on assessment within the Diploma Programme please refer to the publication *Diploma Programme assessment: Principles and practice*.

To support teachers in the planning, delivery and assessment of the Diploma Programme courses, a variety of resources can be found on the OCC or purchased from the IB store (<http://store.ibo.org>). Additional publications such as specimen papers and markschemes, teacher support materials, subject reports and grade descriptors can also be found on the online curriculum centre (OCC). Past examination papers as well as markschemes can be purchased from the IB store.

Methods of assessment

The IB uses several methods to assess work produced by students.

Assessment criteria

Assessment criteria are used when the assessment task is open-ended. Each criterion concentrates on a particular skill that students are expected to demonstrate. An assessment objective describes what students should be able to do, and assessment criteria describe how well they should be able to do it. Using assessment criteria allows discrimination between different answers and encourages a variety of responses. Each criterion comprises a set of hierarchically ordered level descriptors. Each level descriptor is worth one or more marks. Each criterion is applied independently using a best-fit model. The maximum marks for each criterion may differ according to the criterion's importance. The marks awarded for each criterion are added together to give the total mark for the piece of work.

Markbands

Markbands are a comprehensive statement of expected performance against which responses are judged. They represent a single holistic criterion divided into level descriptors. Each level descriptor corresponds to a range of marks to differentiate student performance. A best-fit approach is used to ascertain which particular mark to use from the possible range for each level descriptor.

Analytic markschemes

Analytic markschemes are prepared for those examination questions that expect a particular kind of response and/or a given final answer from students. They give detailed instructions to examiners on how to break down the total mark for each question for different parts of the response.

Marking notes

For some assessment components marked using assessment criteria, marking notes are provided. Marking notes give guidance on how to apply assessment criteria to the particular requirements of a question.

Assessment of the extended essay

Assessment of the extended essay is a combination of formative assessment (the *Reflections on planning and progress form*) and summative assessment (the extended essay itself).

Generic assessment criteria are used with subject-specific interpretations.

Inclusive assessment arrangements

Inclusive assessment arrangements are available for students with assessment access requirements. These arrangements enable students with diverse needs to access the examinations and demonstrate their knowledge and understanding of the constructs being assessed.

The IB document *Candidates with assessment access requirements* provides details on all the inclusive assessment arrangements available to students with learning support requirements. The IB document *Learning diversity within the International Baccalaureate programmes: Special educational needs within the International Baccalaureate programmes* outlines the position of the IB with regard to students with diverse learning needs in the IB programmes.

For students affected by adverse circumstances, the IB documents *General regulations: Diploma Programme* and the *Handbook of procedures for the Diploma Programme* provide details on access consideration.

Responsibilities of the school

The school is required to ensure that equal access arrangements and reasonable adjustments are provided to students with learning support requirements that are in line with the IB documents *Candidates with assessment access requirements* and *Learning diversity within the International Baccalaureate programmes: Special educational needs within the International Baccalaureate programmes*.

Overview of the assessment criteria for the extended essay

Overview

Criterion A: focus and method	Criterion B: knowledge and understanding	Criterion C: critical thinking	Criterion D: presentation	Criterion E: engagement
<ul style="list-style-type: none">• Topic• Research question• Methodology	<ul style="list-style-type: none">• Context• Subject-specific terminology and concepts	<ul style="list-style-type: none">• Research• Analysis• Discussion and evaluation	<ul style="list-style-type: none">• Structure• Layout	<ul style="list-style-type: none">• Process• Research focus
Marks	Marks	Marks	Marks	Marks
6	6	12	4	6

Total marks available: 34

Best-fit approach and markbands

Assessment criteria must be used in conjunction with the relevant specific-subject interpretations as these interpretations articulate how the generic assessment criteria are understood and applied to each subject.

Levels of performance are described using multiple indicators per level. In many cases the indicators occur together throughout the essay, but not always. Also, not all indicators are always present. This means that a student can demonstrate performances that fit into different levels. To accommodate this, the IB assessment models use markbands and advise examiners and teachers to use a **best-fit approach** in deciding the appropriate mark for a particular criterion. From various assessment trials we know that introducing markbands and using the best-fit model is not always self-evident, and guidance is needed to help with their application. While the extended essay is an externally assessed component of the DP, supervisors are required to submit a predicated grade and understanding the way in which the criteria are applied by examiners will assist with the guidance given to students. The following explains how markbands are used by examiners. The aim is to find the descriptor that conveys most accurately the level attained by the student's work, using the best-fit approach. A best-fit approach means that compensation will be made when a piece of work matches different aspects of a markband at different levels. The mark awarded will be one that most fairly reflects the balance of achievement against the markband. It is not necessary for every indicator of a level descriptor to be met for that mark to be rewarded. (For example, if student work matches two of the three requirements within a markband but one is seriously lacking, the student should be awarded for the strands that have been met well, but the mark awarded should be at the lower end of the markband to compensate for what is lacking in one strand. If the level of student work spans multiple markbands, compensation depends on the performance in the higher order skills of evaluation (AO3), discussion (AO3) and analysis (AO2) (see the example below).

Criterion C: Critical thinking

Research	Excellent (10–12)	Research	Good (7–9)
Analysis	Good (7–9)	Analysis	Good (7–9)
Discussion/evaluation	Adequate (4–6)	Discussion/evaluation	Adequate (4–6)
Mark awarded	8/9 (The 7–9 markband is appropriate because communication of research is a lower order skill compared to analysis and evaluation.)	Mark awarded	7 (The bottom end of the 7–9 markband is appropriate since the achievement level is lower for the higher order skill of discussion/evaluation.)

- When assessing a student's work, examiners will read the level descriptors from the bottom up until they reach a descriptor that most appropriately describes the level of the work being assessed.
- If a piece of work seems to fall between two descriptors, both descriptors will be read again and the one that more appropriately describes the student's work will be chosen. In relation to criterion C, examiners will bear in mind the higher order skills being assessed.

- There are a number of marks available within a level; examiners will award the upper marks if the student's work demonstrates the qualities described to a greater extent. Examiners will award the lower marks if the student's work demonstrates the qualities described to a lesser extent.
- The highest level descriptors do not imply faultless performance and should be achievable by a student. Examiners will not hesitate to use the extremes if they are appropriate descriptions of the work being assessed.

The assessment criteria

Criterion A: Focus and method

This criterion focuses on the topic, the research question and the methodology. It assesses the explanation of the focus of the research (this includes the topic and the research question), how the research will be undertaken, and how the focus is maintained throughout the essay.

Level	Descriptor
0	The work does not reach a standard outlined by the descriptors below.
1–2	<p>The topic is communicated unclearly and incompletely.</p> <ul style="list-style-type: none"> • Identification and explanation of the topic is limited; the purpose and focus of the research is unclear, or does not lend itself to a systematic investigation in the subject for which it is registered. <p>The research question is stated but not clearly expressed or too broad.</p> <ul style="list-style-type: none"> • The research question is too broad in scope to be treated effectively within the word limit and requirements of the task, or does not lend itself to a systematic investigation in the subject for which it is registered. • The intent of the research question is understood but has not been clearly expressed and/or the discussion of the essay is not focused on the research question. <p>Methodology of the research is limited.</p> <ul style="list-style-type: none"> • The source(s) and/or method(s) to be used are limited in range given the topic and research question. • There is limited evidence that their selection was informed.
3–4	<p>The topic is communicated.</p> <ul style="list-style-type: none"> • Identification and explanation of the research topic is communicated; the purpose and focus of the research is adequately clear, but only partially appropriate. <p>The research question is clearly stated but only partially focused.</p> <ul style="list-style-type: none"> • The research question is clear but the discussion in the essay is only partially focused and connected to the research question. <p>Methodology of the research is mostly complete.</p> <ul style="list-style-type: none"> • Source(s) and/or method(s) to be used are generally relevant and appropriate given the topic and research question. • There is some evidence that their selection(s) was informed. <p>If the topic or research question is deemed inappropriate for the subject in which the essay is registered no more than four marks can be awarded for this criterion.</p>
5–6	The topic is communicated accurately and effectively.

Level	Descriptor
	<ul style="list-style-type: none"> • Identification and explanation of the research topic is effectively communicated; the purpose and focus of the research is clear and appropriate. <p>The research question is clearly stated and focused.</p> <ul style="list-style-type: none"> • The research question is clear and addresses an issue of research that is appropriately connected to the discussion in the essay. <p>Methodology of the research is complete.</p> <ul style="list-style-type: none"> • An appropriate range of relevant source(s) and/or method(s) have been applied in relation to the topic and research question. • There is evidence of effective and informed selection of sources and/or methods.

Criterion B: Knowledge and understanding

This criterion assesses the extent to which the research relates to the subject area/discipline used to explore the research question, or in the case of the world studies extended essay, the issue addressed and the two disciplinary perspectives applied, and additionally the way in which this knowledge and understanding is demonstrated through the use of appropriate terminology and concepts.

Level	Descriptor
0	The work does not reach a standard outlined by the descriptors below.
1–2	<p>Knowledge and understanding is limited.</p> <ul style="list-style-type: none"> • The selection of source material has limited relevance and is only partially appropriate to the research question. • Knowledge of the topic/discipline(s)/issue is anecdotal, unstructured and mostly descriptive with sources not effectively being used. <p>Use of terminology and concepts is unclear and limited.</p> <ul style="list-style-type: none"> • Subject-specific terminology and/or concepts are either missing or inaccurate, demonstrating limited knowledge and understanding.
3–4	<p>Knowledge and understanding is good.</p> <ul style="list-style-type: none"> • The selection of source material is mostly relevant and appropriate to the research question. • Knowledge of the topic/discipline(s)/issue is clear; there is an understanding of the sources used but their application is only partially effective. <p>Use of terminology and concepts is adequate.</p> <ul style="list-style-type: none"> • The use of subject-specific terminology and concepts is mostly accurate, demonstrating an appropriate level of knowledge and understanding. <p>If the topic or research question is deemed inappropriate for the subject in which the essay is registered no more than four marks can be awarded for this criterion.</p>

Level	Descriptor
5–6	<p>Knowledge and understanding is excellent.</p> <ul style="list-style-type: none"> • The selection of source materials is clearly relevant and appropriate to the research question. • Knowledge of the topic/discipline(s)/issue is clear and coherent and sources are used effectively and with understanding. <p>Use of terminology and concepts is good.</p> <ul style="list-style-type: none"> • The use of subject-specific terminology and concepts is accurate and consistent, demonstrating effective knowledge and understanding.

Criterion C: Critical thinking

This criterion assesses the extent to which critical-thinking skills have been used to analyse and evaluate the research undertaken.

Level	Descriptor
0	The work does not reach a standard outlined by the descriptors below.
1–3	<p>The research is limited.</p> <ul style="list-style-type: none"> • The research presented is limited and its application is not clearly relevant to the RQ. <p>Analysis is limited.</p> <ul style="list-style-type: none"> • There is limited analysis. • Where there are conclusions to individual points of analysis these are limited and not consistent with the evidence. <p>Discussion/evaluation is limited.</p> <ul style="list-style-type: none"> • An argument is outlined but this is limited, incomplete, descriptive or narrative in nature. • The construction of an argument is unclear and/or incoherent in structure hindering understanding. • Where there is a final conclusion, it is limited and not consistent with the arguments/evidence presented. • There is an attempt to evaluate the research, but this is superficial. <p>If the topic or research question is deemed inappropriate for the subject in which the essay is registered no more than three marks can be awarded for this criterion.</p>
4–6	<p>The research is adequate.</p> <ul style="list-style-type: none"> • Some research presented is appropriate and its application is partially relevant to the Research question. <p>Analysis is adequate.</p> <ul style="list-style-type: none"> • There is analysis but this is only partially relevant to the research question; the inclusion of irrelevant research detracts from the quality of the argument.

Level	Descriptor
	<ul style="list-style-type: none"> • Any conclusions to individual points of analysis are only partially supported by the evidence. <p>Discussion/evaluation is adequate.</p> <ul style="list-style-type: none"> • An argument explains the research but the reasoning contains inconsistencies. • The argument may lack clarity and coherence but this does not significantly hinder understanding. • Where there is a final or summative conclusion, this is only partially consistent with the arguments/evidence presented. • The research has been evaluated but not critically.
7–9	<p>The research is good.</p> <ul style="list-style-type: none"> • The majority of the research is appropriate and its application is clearly relevant to the research question. <p>Analysis is good.</p> <ul style="list-style-type: none"> • The research is analysed in a way that is clearly relevant to the research question; the inclusion of less relevant research rarely detracts from the quality of the overall analysis . • Conclusions to individual points of analysis are supported by the evidence but there are some minor inconsistencies. <p>Discussion/evaluation is good.</p> <ul style="list-style-type: none"> • An effective reasoned argument is developed from the research, with a conclusion supported by the evidence presented. • This reasoned argument is clearly structured and coherent and supported by a final or summative conclusion; minor inconsistencies may hinder the strength of the overall argument. • The research has been evaluated, and this is partially critical.
10–12	<p>The research is excellent.</p> <ul style="list-style-type: none"> • The research is appropriate to the research question and its application is consistently relevant. <p>Analysis is excellent.</p> <ul style="list-style-type: none"> • The research is analysed effectively and clearly focused on the research question; the inclusion of less relevant research does not significantly detract from the quality of the overall analysis. • Conclusions to individual points of analysis are effectively supported by the evidence. <p>Discussion/evaluation is excellent.</p> <ul style="list-style-type: none"> • An effective and focused reasoned argument is developed from the research with a conclusion reflective of the evidence presented.

Level	Descriptor
	<ul style="list-style-type: none"> • This reasoned argument is well structured and coherent; any minor inconsistencies do not hinder the strength of the overall argument or the final or summative conclusion. • The research has been critically evaluated.

Criterion D: Presentation

This criterion assesses the extent to which the presentation follows the standard format expected for academic writing and the extent to which this aids effective communication.

Level	Descriptor
0	The work does not reach a standard outlined by the descriptors below.
1–2	<p>Presentation is acceptable.</p> <ul style="list-style-type: none"> • The structure of the essay is generally appropriate in terms of the expected conventions for the topic, argument and subject in which the essay is registered. • Some layout considerations may be missing or applied incorrectly. • Weaknesses in the structure and/or layout do not significantly impact the reading, understanding or evaluation of the extended essay.
3–4	<p>Presentation is good.</p> <ul style="list-style-type: none"> • The structure of the essay clearly is appropriate in terms of the expected conventions for the topic, the argument and subject in which the essay is registered. • Layout considerations are present and applied correctly. • The structure and layout support the reading, understanding and evaluation of the extended essay.

Criterion E: Engagement

This criterion assesses the student's engagement with their research focus and the research process. It will be applied by the examiner at the end of the assessment of the essay, after considering the student's *Reflections on planning and progress form*.

Level	Descriptor
0	The work does not reach a standard outlined by the descriptors below.
1–2	<p>Engagement is limited.</p> <ul style="list-style-type: none"> • Reflections on decision-making and planning are mostly descriptive. • These reflections communicate a limited degree of personal engagement with the research focus and/or research process.
3–4	Engagement is good.

Level	Descriptor
	<ul style="list-style-type: none"> • Reflections on decision-making and planning are analytical and include reference to conceptual understanding and skill development. • These reflections communicate a moderate degree of personal engagement with the research focus and process of research, demonstrating some intellectual initiative.
5–6	<p>Engagement is excellent.</p> <ul style="list-style-type: none"> • Reflections on decision-making and planning are evaluative and include reference to the student’s capacity to consider actions and ideas in response to setbacks experienced in the research process. • These reflections communicate a high degree of intellectual and personal engagement with the research focus and process of research, demonstrating authenticity, intellectual initiative and/or creative approach in the student voice.