

# **Extended essay support material**

Complementing the extended essay guide, first assessment 2027





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# Diploma Programme Extended essay support material

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The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.



# **IB** learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

## As IB learners we strive to be:

### **INOUIRERS**

We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

## **KNOWLEDGEABLE**

We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

## **THINKERS**

We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

### COMMUNICATORS

We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

### **PRINCIPLED**

We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

### OPEN-MINDED

We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

## **CARING**

We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

### **RISK-TAKERS**

We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

## **BALANCED**

We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

#### RFFI FCTIVE

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.

The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.



# About this extended essay support material

## **Aims**

This support material has been written by International Baccalaureate (IB) teachers experienced in supporting students and fellow teachers with the extended essay component of the Diploma Programme (DP).

Its advice is neither prescriptive nor exhaustive, but it is designed to:

- support both experienced and less experienced extended essay coordinators and supervisors. (Experienced coordinators and supervisors will find it particularly helpful to read the section "What is new in the extended essay guide?")
- complement IB professional development
- make links with other helpful and relevant IB documents
- encourage collaboration and discussion about the extended essay experience between all those involved: students, supervisors, coordinators and librarians
- provide the theoretical background and practical tools to enable supervisors to support and guide their students' learning throughout the extended essay process
- provide additional advice for students to support their independent research and writing.

## Content

The support material will be useful to both supervisors and students and is designed to complement the guide.

Some of the sections and subsections designed specifically for supervisors and extended essay coordinators are as follows.

- What is new in the extended essay guide?
- Supervising the extended essay

An example supervision model

- Supervising an interdisciplinary extended essay
- Supporting students for academic integrity

Supporting student use of AI tools

Some of the sections and subsections that have been specifically written to be helpful for students are as follows.

- Your extended essay and the DP core
- Researching your extended essay
- Writing your essay: The documentation and presentation stage
- The assessment criteria and your extended essay
- Final checklist: Have you done everything?

# What is new in the extended essay guide?

# Audience for the guide

The guide is now reframed as an inclusive document that aims to inform both educators and students. Some sections of the guide are written with the intention that students will be the primary readers, although supervisors and other extended essay stakeholders are also the intended audience for this material.

The aim of the student-focused approach of specific sections is to support the positive, personal engagement of students with their extended essay experience.

# Extended essay pathways

Students choose between two pathways, depending on the nature of their chosen topic.

- Subject-focused pathway
- Interdisciplinary pathway

The subject-focused pathway continues as before. The interdisciplinary pathway is now more clearly defined and explained, broadened and enhanced, absorbing the legacy world studies extended essay.

# Subject-specific guidance

In the guide, the new guidance is:

- reframed and rationalized in the "Subject-specific guidance" section, focusing on advice that is specific to the subject group or to the subject
- preceded by a new section, "Generic guidance for the extended essay", providing guidance applicable to any extended essay
- more sharply focused on the student's research and writing being informed by the assessment criteria and generic guidance
- intended to foster smoother decision-making for students, for example:
  - time-based rules are removed from history, economics and global politics
  - categories are removed from language A and language B, and reframed as advice about potential approaches that could be taken.

# Reflection

The reflection aspect of the essay has also been adjusted.

- There is a fresh focus on the growth of the student through their extended essay experience, emphasizing skills development and transfer.
- The requirement is now one 500-word reflective statement, captured on a redesigned reflection and progress form (RPF). The form continues to record the attendance of the student at three mandatory reflection sessions, the third being a viva voce.
- The reflection statement continues to be submitted with the extended essay, and is assessed via a redesigned criterion E.

Extended essay support material

# Presentation of the content

In this new edition of the guide, user-friendliness and accessibility have been improved by reducing the length of the guide and making greater use of infographics and diagrams.

# The ethical researcher

Ethical considerations from the legacy guide have been combined with new material to create a section on carrying out ethical research. The use of artificial intelligence (AI) has been addressed positively in this section, while taking care to alert students to the importance of producing their own authentic work and acknowledging the work of others in an appropriate way.

# The assessment criteria

The legacy criteria have been amended and restructured, with a new maximum mark of 30.

- Criterion A—Framework for the essay: research question, research methods, structure (6 marks)
- Criterion B—Knowledge and understanding (6 marks)
- Criterion C—Analysis and line of argument (6 marks)
- Criterion D—Discussion and evaluation (8 marks)
- Criterion E—Reflection: evaluative; growth (4 marks)

Some of the main changes are as follows.

- Legacy criterion C (critical thinking) has been divided into two separate criteria, C and D.
- Legacy criterion D (presentation) has been removed, but the "structure" element has been retained as an element of a reworked criterion A.
- Legacy criterion E now has a fresh focus on the growth of the student through their extended essay experience, emphasizing skills development and transfer.
- Text in the generic and subject-specific guidance emphasizes considering the assessment criteria to inform the writing of the essay, rather than interpreting the criteria.

# Supervising the extended essay

# An example supervision model

The following supervision model involves three stages, outlined in table 1. The total time permitted for supervision is between three and five hours.

## Meetings

The model includes six meetings. The supervisor uses each of the following to guide the student at key moments in the extended essay process.

- Three check-ins that involve both student and supervisor input. However, some students may require
  more check-ins.
- Three mandatory reflection sessions, with attendance recorded on the reflection and progress form (RPF).

## **Preparation**

It is vital that the student and supervisor are well prepared for each session. For example, the student may need to send some materials to the supervisor in advance, such as parts of the essay or excerpts from the researcher's reflection space (RRS).

At stage three of the mandatory reflection sessions, students must submit their full draft to the supervisor in good time for the supervisor to read the essay and provide feedback to the student.

## **Timing**

In the model outlined in table 1 below, the first three sessions take place quite close together, possibly within one month, as they are important in establishing the preliminaries for the essay. This work is essential preparation for the first reflection session.

After this first reflection session, the student should clarify the research question to guide their inquiry in preparation for the interim reflection session.

At this point, there will likely be a period of several months during which the student is researching and writing the essay, culminating in a completed draft ready for the third check-in.

There is likely to be over a month between the third check-in and the final reflection, the viva voce.

#### Table 1

### Timelines for the extended essay

Stage 1: Subject and topic selection

Timeline: 1-2 months (suggested)

**Focus:** Preliminary research; narrowing the focus; framing a research question

- Coordinators or experienced extended essay supervisors introduce students to the extended essay process. They share sections of the guide that will be helpful to students.
- Students consult the appropriate subject guides to check that their area of research aligns with the general requirements of the subject.
- Students are made aware of and understand the concept of academic integrity in the context of the extended essay process.

Coordinators or supervisors also consider the following questions.

## Stage 1: Subject and topic selection

- Does the student understand the nature of the extended essay?
- Has the student chosen a viable area of research?
- Does the area of research fit in with the specifications of the chosen subject area?
- Has the student been trained in study and referencing skills: does the school need to organize sessions on research and study skills with the librarian?

Session	Questions to consider		
Check-in 1: Initial ideas for an extended essay topic	What sparked the student's interest in their chosen subject area?		
	<ul> <li>Has the student chosen a provisional research question that seems viable?</li> </ul>		
	What background reading has the student done?		
	<ul> <li>How is the student planning on organizing their work and managing the RRS?</li> </ul>		
	• What are the next steps in conducting their research?		
Check-in 2: Gathering resources and finessing the research	Are a sufficient range of resources and information available for the student to answer the research question effectively?		
question	• Will the student need to revise the research question to ensure it lends itself to an analytical approach?		
	<ul> <li>Might the student need a different approach and a new focus for the question?</li> </ul>		
Reflection session 1 (mandatory)	Has the student developed a working research question?		
—Developing the refined research proposal	Does the student have a good grounding in the relevant knowledge, concepts, theories and methods of the subject(s)?		
	Has the student been made aware of any ethical issues in relation to the intended topic and proposed research methods?		

### Stage 2: Discussing the development of the essay

**Timeline:** 2–3 months (suggested)

**Focus:** In this phase, the student transitions through researching to writing their essay.

- In the first one or two months, the student undertakes deep and wide research to answer the specifics of their research question.
- In the latter stages, the student will produce a first rough draft of the essay, but its structure and arguments may still be incomplete or not fully coherent.

After check-in 3 (below) the student will reflect on the supervisor's comments on the full draft of the essay.

Session	Questions to consider	
Reflection session 2 (mandatory): Interim reflection	<ul> <li>Has the student encountered any obstacles or problems in the research process and how have these been overcome?</li> </ul>	
	• Is the research question clear and focused?	
	<ul> <li>How has the student's understanding of the question or topic changed?</li> </ul>	

Stage 2: Discussing the developme	ent of the essay
	<ul> <li>Are there any inconsistencies in the analysis, discussion and argument?</li> <li>Is the argument well structured and coherent?</li> <li>Has the student provided enough evidence to support a reasoned argument?</li> </ul>
Check-in 3: Complete draft essay for supervisor comments*	<ul> <li>Does the essay have a clear introduction that addresses the research question?</li> <li>Does the essay comply with the presentation requirements?</li> <li>Has the student cited and referenced their work correctly?</li> <li>Are there any concerns regarding academic integrity?</li> </ul>

## \* Further guidance for the supervisor

The supervisor is not permitted to make detailed annotations on the text of the essay, but it is legitimate to ask several pointed questions that will prompt the student to reflect on their work. For example:

- "I'm not sure I follow your argument here, because ..."
- "What did you mean here: could you express this point more clearly?"
- "Are you sure all your findings and data are accurate?"
- "Are there some adjustments you might make to improve this section?"

### **Stage 3: Completed extended essay**

**Timeline:** 1–2 months (suggested)

Focus: Final reflection and the viva voce; completion of the RPF

• The final essay is submitted and can be followed up with the viva voce. The supervisor should have read the final essay in preparation.

Session	Questions to consider		
Reflection session 3 (mandatory): Final reflection	Can the student give examples from the RRS to show how they have grown as a learner through the process?		
	<ul> <li>What research skills and/or conceptual understanding has the student acquired through the completion of the extended essay, and how could these be transferred to other contexts, now and in the future?</li> </ul>		
	<ul> <li>What other skills such as time management, decision-making or thinking skills has the student learned?</li> </ul>		
	<ul> <li>What has the student learned about the topic, the research process and their own learning and any new questions they have uncovered?</li> </ul>		
	• What does the student think were successes in this process?		
	• What was the most rewarding aspect of the entire process?		
	<ul> <li>How will the student be able to use their extended essay experience in future studies or work?</li> </ul>		



Stage 3: Completed extended essay	
•	What is the personal significance of the work the student has done?

## **Guidance on final submission**

After the final reflection session, the following steps should be followed.

- The student must complete the "Reflective statement" section of the RPF.
- The supervisor adds their initials to authenticate the final reflection session.
- The extended essay and RPF are now ready for submission to the IB.

# Contracting: Establishing a working relationship

Contracting is the process of reaching agreement between supervisor and student.

- Contracting establishes how the supervisor and student will work together and their expectations of each other.
- Contracting forms the basis of the supervisor and student's understanding of their working relationship.
- Contracting lasts for the duration of the student's extended essay process.

# Five ways to establish the relationship

This section offers five teaching ideas for establishing a good working relationship between supervisor and student. Any or all of them can be used for this purpose.

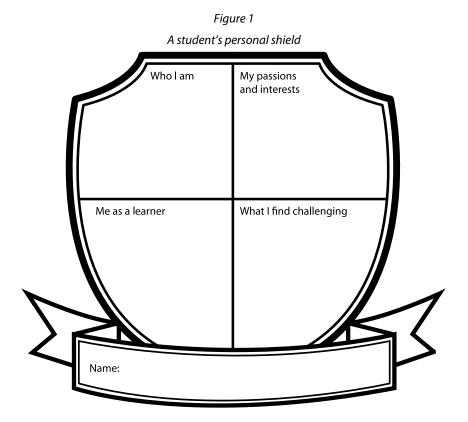
- The supervisor first needs to find out how each student learns and thinks.
- Together, the student and the supervisor can then choose the most appropriate forms of support for that student.

## The shield

A student's "personal shield" (figure 1) can be used as a starting point. The student writes down their thoughts under each heading. This gives the supervisor an understanding of the student and therefore guides their relationship.

A template of the shield is available for download.





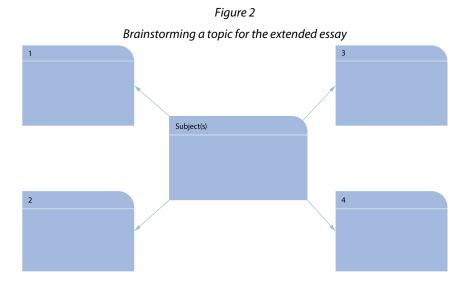
## **Brainstorming**

Brainstorming about potential topics for the research question is a useful exercise during the preliminary discussion between the student and the supervisor (figure 2).

- At this stage, the student probably has broad ideas about topics within a Diploma Programme (DP) subject or subjects that they like.
- The brainstorming session will help the supervisor to understand the student's interests and initial line of thinking. They may then be able to give the student pointers to explore these topics in greater depth or to offer ideas and resources that may be useful to the student.

A template (PDF) for brainstorming is available for download.

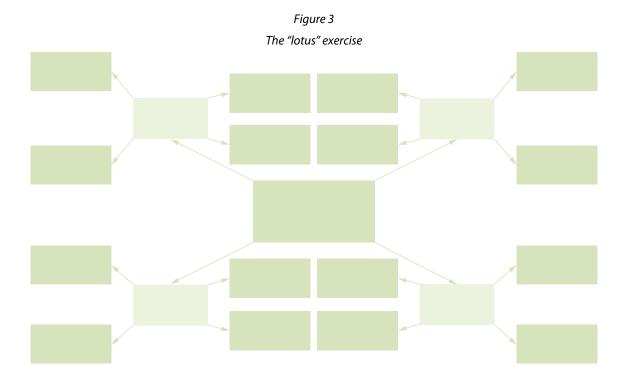
After this, the "lotus" diagram in figure 3 could be used to explore these chosen topics in greater depth at subsequent meetings.



## The lotus

This is an exercise that can be used to generate ideas. It works on a blossoming principle: analogous to a lotus flower opening up symmetrically, revealing more layers and detail of its structure (figure 3).

The exercise provides a good starting point for the supervisor and the student to discuss the nature of the extended essay and the various aspects the student needs to explore.



- The student draws a box in the centre of the page and writes their broad area of inquiry inside the box.
- The student then draws four diagonal lines from each of the four corners of the box and draws a new box at the end of each line. This creates a central box surrounded by four smaller boxes.

- The student writes further information related to their area of inquiry in each of the four smaller boxes.
- The student then repeats the process, adding four further boxes linked to the first set of four smaller boxes.
- Again, the student writes additional nuanced details for each of the areas they have identified in the smaller boxes.

This exercise gives students the opportunity to identify key ideas and sub-ideas to explore in their topic and the various aspects that need to be examined for each.

The template (PDF) in figure 3 is available for download.

## Agreeing expectations

Both the student and the supervisor write a list of:

- what they expect from each other
- how they want to work
- practicalities, e.g. the number of meetings and their planned lengths (figure 4).

Each shares their list with the other, and together they draw up a list of the guidelines to guide their processes and meetings. It is also important to discuss how the meetings will be run and for the supervisor to state clearly how feedback will be given in different ways.

The template (PDF) in figure 4 is available for download.

Setting expectations between student and supervisor Name Date Practicalities (e.g. number of meetings, What we want from each other length, when, rough agendas) How we want to work together Other comments

# Figure 4 Setting expectations between student and supervisor

## Railway line

The "railway line" is an exercise in future-oriented reflection. It requires the student to mark specific moments as milestones of what they have achieved, but also to reflect on the positive consequences of these milestones for their learning and for them as a person (figure 5). What is the impact of these on their future work, learning, methodology and actions?

- The student draws a "railway line": a vertical line in the middle of the page divided by at least five shorter horizontal lines across it.
- For each horizontal line on the left-hand side, the student identifies breakthroughs, key moments, challenges (and how they were overcome) and triumphs regarding the work they have completed.
- Correspondingly on the right-hand side, the student records how this will affect their future actions, methodologies and approaches to learning.

Overall, the railway line helps the student to process their achievements, which in turn will influence their future approaches and actions.

The template (PDF) in figure 5 is available for download.

1

The railway line to the future An exercise in futureoriented reflection Breakthroughs, key Effect on future actions, moments, methodologies, approaches to learning challenges and triumphs You can do it!

Figure 5 A "railway line" for future-oriented reflection

# Questioning

The supervisor can help the student reflect by careful questioning across three different categories.

- Basic questioning: "Why did you do that?"
- Academic questioning: "How might you explain this?"
- Personal questioning: "How are you getting on?"

Questions that help prompt student reflection can be divided into five categories, as shown in figure 6.

A PDF of figure 6 is available for download.



Figure 6
Five types of questions to prompt students

## Questioning



### **Patterning questions**

Questions that connect knowledge and understanding to generate new insights and perspectives. For example: "What is the relationship between architecture and politics?"

### **Dynamic questions**

"How" questions relate to action and process. For example: "How will you make this model of a structure stand without support?"

### **Speculative questions**

Questions that look at possibilities and encourage creativity using "if" in the question.
For example: "What if we build this underwater?"



### **Evaluative questions**

Questions that measure the extent to which something has been achieved or successful against predetermined criteria and goals. For example: "To what extent is an underwater structure safe?"



## **Affective questions**

Check the student's well-being, progress and feelings about their learning and progress.
For example: "What impact will this new direction have on your scheduling for this task?"

# To the answer and beyond

The point at which students believe they are near to the answer to their research question is the very point at which they should be asking more complex questions. This will lead them not just to the overall solution, but beyond it, producing original and innovative approaches to the area of inquiry. It is the supervisor's role to help them achieve this.

# Evaluation and feedback

Evaluation, including self-evaluation, is a "distancing" technique.

• Evaluation requires the students to look at something from a distance and try to judge it more objectively. This can be their own work or someone else's work.

• The student's judgement is measured against pre-set objectives and criteria: what has been produced and how, what has worked and what has not.

Evaluation may take place at certain points during the development of the extended essay as well as at the end of the process.

At each point, evaluative reflection and feedback should always be future-oriented. It should be formulated in terms of pointed questions.

- What have you found here?
- What is the impact?
- What should be the next step?
- How might you do that differently next time?

What to do with feedback, and how to use it, is a key feature of learning through reflection. However, feedback must be managed carefully. Its timing and how it may be perceived by the receiver are important things to consider.

## SAFE framework for feedback

The SAFE (Share, Affirm, Feedback, Evaluate) framework (figure 7) categorizes feedback into four types and is a useful guide for supervisors.

A PDF of figure 7 is available for download.

## Figure 7 The SAFF framework for feedback to students

#### The SAFE framework for feedback to students **Share Feedback** General feedback helps Measuring the student's An exercise in sharing Designed to confirm success in achieving goals, developing skills and answering questions to develop the student's work, ideas and work, overcoming specific obstacles suggestions achievements Responding to what the student has done so far, Free of judgement Focuses on what the Designed to affirm and why they have done it, student has and hasn't Based on the student's develop the student's work, their original objectives and criteria and its impact Important to the student Also looks at how they for success Solving a problem feeling they are making have done it together through Discussion about how this evaluation will affect progress collaboration Examines challenges, but also possibilities Useful during the "lulls" their future work Timing: early to mid-project in the process Asks students to reflect Timing: End of project on their own approaches and progress The student needs this to be able to move on Timing: Any time Timing: Mid-project

The SAFE approach requires the supervisor and the student to decide together what type of response is most appropriate at any given time. Negotiating what type of response would be most useful can be very helpful, with some provisos.

# Questions to guide reflection sessions

The questions listed in table 2 are designed to be used with students during their reflection sessions. The questions fall into three stages.

- Initial questions: Deciding on a topic and research question
- Interim questions: Reflecting on progress during the research and writing process
- Final questions: Summative reflection on the extended essay experience

The questions could be used with students during the supervision process, in both their check-in and reflection sessions. They are neither prescriptive nor exhaustive, so it is not expected that a supervisor will ask every student these questions.

Table 2 **Questions to guide reflection sessions** 

Stage	Focus	Possible guiding questions
Initial	<ul> <li>Deciding on an area of research</li> <li>Consolidating your topic</li> <li>How are you approaching research of your topic?</li> <li>What are the possible research methods you will use?</li> <li>Designing a focused, achievable research question</li> <li>Who is the audience for your essay?</li> </ul>	<ul> <li>Do you understand the nature of the extended essay?</li> <li>What has motivated you to research this topic?</li> <li>What do you already know about the topic?</li> <li>What are some of the ideas or questions you have about this topic?</li> <li>What background reading have you done, if any?</li> <li>What are the extended essay requirements for the subject in which your topic fits?</li> <li>Does your topic fit in with the specifications of your chosen subject area?</li> <li>Have you chosen a provisional research question that meets the subject criteria?</li> <li>Have you chosen a viable area of research?</li> <li>What sections of the Extended essay guide might be helpful to you at this time?</li> <li>Have you had any training in research skills?</li> <li>How are you planning to organize yourself and manage your RRS?</li> <li>What do you think are the next steps in conducting your research?</li> <li>Where are you searching for reliable sources?</li> <li>Will you be able to collect sufficient resources to answer the research question effectively?</li> <li>Will you need to revise your research question to ensure it promotes an analytical approach?</li> <li>What can you do about the challenges or obstacles?</li> </ul>

Stage	Focus	Possible guiding questions
		<ul> <li>What background information and/or data do you need to move forward to formulate a research question?</li> <li>Have you developed a working research</li> </ul>
		<ul><li>question?</li><li>What preliminary research question or questions are guiding your</li></ul>
		<ul> <li>investigation?</li> <li>Have you been made aware of any ethical issues in relation to the intended topic and proposed research methods?</li> </ul>
		<ul> <li>Do you have a good grounding in the relevant theories, methodologies or findings of the subject?</li> </ul>
		What is your theoretical or conceptual base for this topic?
		What approaches to the topic or research question have you or might you develop for this topic? (See Extended essay guide for subject examples.)
		<ul> <li>In your RRS are you attaching drawings, mind maps or recordings that show your thinking?</li> </ul>
		What are the key resources you have investigated so far? (Students may have developed an annotated bibliography as part of their RRS.)
		• What do you need to do next?
		<ul> <li>When will you begin writing and how are you planning to manage your time?</li> </ul>
		• What is your goal for the next meeting?
Interim	<ul><li>Reviewing a range of credible sources</li><li>Finessing a clear and refined research</li></ul>	<ul> <li>Where are you now in the research process?</li> </ul>
	question	<ul> <li>What have you achieved so far and how did you manage this?</li> </ul>
	<ul> <li>Reviewing the methodology used</li> <li>Considering a clearly defined and viable argument on which to base the essay</li> </ul>	<ul> <li>What challenges have you faced and what strategies have you used to overcome these?</li> </ul>
	Assessing the development of the essay	Have you encountered any obstacles or problems in the research process and how have you overcome them?
		How are you ensuring that you are carrying out independent research and adhering to the academic integrity policy?
		• Is the research question clear and refined?

Stage	Focus	Possible guiding questions
		How has your understanding of the question or topic changed?
		<ul> <li>What changes do you need to make to complete this research?</li> </ul>
		What have you learned that might affect the way you continue?
		<ul> <li>Are there any inconsistencies in your argument and analysis?</li> </ul>
		<ul> <li>Is your argument well structured and coherent?</li> </ul>
		Have you provided enough evidence to support a reasoned argument?
		Have you critically evaluated your research?
		• Will the examiner be able to follow your line of argument throughout the essay?
		Are there any last-minute adjustments or changes that you might make to improve your essay?
Final	Celebrating the completion of the essay	To what extent were your initial ideas realized?
	Transferable skills of IB approaches to learning that have been developed	<ul> <li>Were your original plans or ideas realistic and appropriate?</li> </ul>
	<ul> <li>Reflecting on what has been learned, both in terms of the research topic and</li> </ul>	• What do you think your successes were in this process?
	process	What was the most rewarding aspect of the entire process?
		How will this experience prepare you for future work of this nature, in college or employment?

# Commenting on a draft extended essay

A very important aspect of the latter stages of the extended essay process is the supervisor commenting on one completed draft of the essay. This is the last time the supervisor sees the essay before it is uploaded for submission. It is therefore vital that the level of support given is appropriate—too little support may negatively impact the capacity of the student to meet their potential; too much support pushes the boundaries of academic integrity and compromises the independence of the student's work.

The best way to manage this last stage is for the student to submit the draft essay prior to a supervision meeting, allowing time for the supervisor to add their written comments. Then, in the ensuing one-to-one discussion, the supervisor and the student go through the supervisor's comments together. Any advice given by the supervisor should be expressed in terms of the way the work could be improved; the draft must not be heavily annotated or edited by the supervisor.

# What supervisors can do

Comments can be added that indicate how the essay could be improved. The comments should be openended and not involve editing the text. Here are some examples.

**Issue 1**: The research question is expressed differently in three places—the title page, the introduction and the conclusion.

Comment 1: Is your research question consistent throughout the essay, including on the title page?

**Issue 2**: The essay rambles and the argument is not clear.

Comment 2: Your essay lacks clarity here. How could you make it clearer?

Issue 3: The student has made a mistake in their calculations.

Comment 3: Check this page carefully.

**Issue 4**: The student has left out a section of the essay.

Comment 4: There is something missing here. What is it? Check the essay against the requirements.

**Issue 5**: The essay presents something in the appendix that should be in the body of the essay.

Comment 5: Are you sure this belongs here?

Issue 6: The conclusion is weak.

**Comment 6**: What is it that you are trying to say here? Have you included all your relevant findings? Have you looked at unanswered questions?

**Issue 7**: The essay has an incomplete citation.

Comment 7: You need to check this page for accuracy of referencing.

# What supervisors cannot do

Supervisors are not permitted to:

- correct spelling and punctuation
- correct experimental work or mathematics
- re-write any part of the essay
- indicate where whole sections of the essay would be better placed
- proofread the essay for errors
- correct bibliographies or citations.



# Supervising an interdisciplinary extended essay

Sometimes a supervisor may feel daunted about the prospect of mentoring a student who has chosen to follow the interdisciplinary pathway for their extended essay. It may be that the supervisor has expertise in just one of the two DP subjects, or perhaps neither.

In either case, as with a subject-focused essay, a supervisor should not feel burdened by a responsibility to provide subject area expertise in terms of directing students to content that they can use in their essay. The extended essay is a student-focused, self-regulated learning experience, with the student firmly at the centre of the research and writing process.

Bearing this in mind, an extended essay supervisor should think of themselves as a guide and mentor rather than a shaper of the student's work. As such, a supervisor's skill set is focused more on supporting the student with the process and prompting thinking and action by the student with well-placed questions.

The extended essay website includes two videos that explain the interdisciplinary learning process; students taking the interdisciplinary pathway for their research will find these very useful.

Table 3 outlines a useful plan for the initial stages of supervising a student writing an interdisciplinary essay.

Table 3 Planning the initial stages

First steps			
Prompt Action			
Explain or justify your working research question.	Students attempt to design a research question. Reassure them that this can and probably will be modified as they begin their research.		
Identify the <b>two IB subjects</b> and appropriate <b>key concepts</b> you are going to use.	This can be done by listing every aspect of the context and approach for each of the two subjects. Students list any theories, concepts, key terms and case studies they plan to use from each subject area.		
Explain why your research question requires an <b>interdisciplinary approach</b> and indicate the <b>benefits</b> of this integrative approach.	This is a good opportunity for the student to appreciate fully that this needs to be made explicit in their essay. Why is it important to use <b>both</b> subjects to research this topic? What is the benefit of integrating both? Why not use just one?		
Which <b>framework</b> does your idea most likely fall under?	Students select one of the frameworks below that best fits their ideas at this stage. This may be modified as they begin their research. A topic may also cross over frameworks. Reassure students that their choice of framework will not be assessed directly.  Power, equality, justice  Culture, identity, expression  Movement, time, space  Evidence, measurement, innovation  Sustainability, development, change		
Why would anyone else care about this topic? <b>Why does it matter?</b>	Why is this topic worthy of further study? What makes this particular topic so significant?		
<b>Highlight</b> the materials, sources, data and evidence you will be using from the two subjects, with some	What reliable sources of information are emerging in each subject area: textbooks, charts, journal articles, newspapers, documentaries, podcasts? Why have these resources been chosen and not others?		

explanation of why they have been chosen.				
Inv	Investigative methods and approach			
What <b>data</b> do you need to be able to answer this research question?	What data do you need to access to move forward with your research? How will you acquire this data?			
Are you doing <b>primary data collection</b> ? How are you carrying this out, and when?	<b>Note:</b> Primary data collection is not required for an interdisciplinary extended essay, but some students may want to make a note of it if they are using it.			
What <b>secondary sources</b> will you use?	Why do you need secondary sources? These include journal and newspaper articles, information on reputable websites and reference textbooks.			
What <b>technology tools</b> do you need to use?	Besides their personal computers, is there any other technology that students need, such as new software or an app? Can it be accessed through the school?			
What will your <b>approach</b> be in responding to your research question?	Students outline what they plan to do in a bullet point list. How will the student's interdisciplinary extended essay be structured? Can they think of some initial subsections or subheadings that can be used to organize the essay?			

Further advice on supervising an interdisciplinary extended essay is available in the following presentation. Supervising an interdisciplinary extended essay: Getting started



# Supporting students for academic integrity

# Using artificial intelligence with integrity

Extended essay supervisors will want to help their students ensure that artificial intelligence (AI) is not being used in a way that would compromise academic integrity. However, they can also encourage students to consider how AI can be used ethically and positively to support their researching and writing.

## Al in the research process

As the capabilities and potential uses of a range of technologies are changing at a rapid pace, this guidance is intended to serve only as an initial starting point for inspiration. It provides some suggestions for how different technologies and tools might be harnessed in your school context to facilitate or enhance the extended essay learning experience.

Some of the tools and technologies commonly used in education implement machine learning while others do not. Artificial intelligence (AI) tools use machine learning to augment or replace certain tasks. Generative Al tools rely heavily on machine learning and are particularly impacting how students seek information and produce content. There are many ways these different technologies and tools can support students in the research and analysis phase.

### Accessing sources

Using internet databases and search engines to access information is commonplace, and some databases generate answers to common questions using Al. However, as with all resources, these must be used critically and with care. It is important to understand that, unlike print resources and other resources generated by humans, those generated by AI tools may provide inaccurate information. They may not have been through a review or editing process in the way that journals, encyclopaedias or other vetted resources have been. Al-generated content may also contain significant biases, depending on the data that was used to generate the text or images it produces.

The quality of answers Al tools generate depends significantly on the questions students use when querying the tool: these questions, called "prompts", are very important. "Prompt engineering" is therefore a skill students should learn, so that the output of the AI is less likely to contain factual errors.

When accessing sources, students should:

- always start by having a clear and focused research question, so that they are not overwhelmed by their research
- identify appropriate databases or search engines specific to the topics they are exploring
- have a basic understanding of prompt engineering when using generative AI, but then critically evaluate the reliability and validity of the information obtained
- not rely on content generated by Al tools, nor on unvetted or unattributed sources found on the internet
- keep a detailed lists of prompts used in querying AI tools to generate content
- keep a detailed record of all sources consulted, in accordance with the IB's requirements on citation and referencing. For example, they should ensure that the URL of an internet source is recorded fully along with the date the site was accessed. The researcher's reflection space is a good tool for supporting this practice.

### **Generating ideas**

During the preparation and planning phase, students can use internet search engines or generative Al tools to identify ethical issues related to their career interest. They can refine their search to further explore those ethical issues and generate a list of ethical dilemmas. Students can then seek information on various contexts and perspectives relevant to the ethical dilemma they choose.

This can be especially helpful for students who struggle to get going. However, it is only a starting point—students must use critical thinking to filter through the information provided and evaluate their sources for reliability and bias. They must also think critically in refining their research questions, and use additional vetted sources to conduct, analyse and synthesize research. It is only through constant critical thinking and a mindset of inquiry that students will meet the expectations of the extended essay assessment criteria.

## Summarizing research

If students find that a potentially useful but lengthy text resource does not have its own summary abstract, they could use Al tools to summarize the resource for them. This will allow them to determine quickly whether it contains information relevant to their research. Once it is determined that a resource is worth further investigation, students must then explore it more thoroughly.

### Language support

For students conducting research in a language that is not their most proficient, natural language processing (NLP) and translation tools can provide support by translating source texts. Technology can also scaffold and improve student writing with embedded writing tools, such as the review functions commonly used in Microsoft Word, allowing students to communicate their ideas more accurately and effectively.

### **Data analysis**

For students conducting primary research, AI tools can support data analysis, especially if students are using large data sets. Data analysis tools with visualization options can create data charts and graphs. These can enhance student presentations or projects where data visualization is important to communicating key information in the student's essay.

### Writing and editing

While grammar and punctuation are not specifically assessed in the extended essay, the appropriate use of terminology and structures that help to communicate ideas is important. Writing assistants are built into most word-processing programs and are commonly used to provide immediate feedback on grammar, punctuation, structure and word choice. Generative Al can augment writing assistance further, supporting students in exploring and adhering to stylistic conventions. These could be valuable tools for students who want to consider different options when refining their writing. However, students must not use generative Al to write any part of their extended essays.

### **Chatbots and virtual assistants**

Extended essay coordinators, supervisors and students could benefit from using customized chatbots. Chatbots can be built on a variety of platforms. When created, the chatbot can be supplied with a knowledge base that consists of key resources that students might need to access and interact with throughout the course. However, note that privacy and copyright must be considered when identifying resources to upload to the knowledge base. For guidelines on using IB intellectual property, please refer to IB policy on its use: https://www.ibo.org/intellectualproperty.

Once created, the chatbot can be trained and improved through user interactions and feedback, as well as data refinement, so that it provides contextualized information based on specific data in its knowledge base. The chatbot could therefore be used as a source both of reliable information and feedback. It could even be used to generate prompts for reflection at various points throughout the extended essay process.

### **Project management**

The extended essay may be the first time some students have undertaken a long-term independent project. A variety of project management tools could be used to help students stay organized and manage their

time effectively. Tools for this purpose include interactive calendars and apps that can assist with task scheduling and deadline reminders, and Al tools that analyse data and make suggestions for how projects could be structured.

### **Plagiarism detection**

Many schools use plagiarism detection tools to monitor student work. Students can also use these tools, to check and improve their own work and ensure they have cited sources appropriately, thereby avoiding using copied or uncited content. Supervisors must ensure that students understand that the work they submit must be entirely their own, and that they are familiar with the IB academic integrity policy.

# Supporting student use of AI tools

Being able to discern when and how to use AI tools ethically and responsibly is an important skill in technological literacy that students need, both now and in the future. While many young people are familiar with technology, some may need the support of extended essay supervisors or coordinators to use it appropriately in an academic setting. The supervisor or coordinator should engage students in discussions about the many ethical considerations related to emerging technologies such as AI, including privacy, security, bias, accountability, academic integrity, and the potential impacts of these technologies on society.

An important skill that can be developed through the use of generative AI tools is questioning, which can be practised through prompt engineering. Prompt engineering is the process of creating question prompts in such a way that the generative AI tool will produce the desired outputs. Prompt engineering is, in a sense, a form of assisted inquiry which supports students in developing effective questioning, critical thinking and communication skills. A good strategy to consider is requiring students to record prompt histories when using generative AI tools. This can help teachers to confirm the authenticity of student work and can help students learn how to make better use of AI tools.

Information literacy and critical thinking skills are important aspects of students' use of AI tools. Students must understand that content generated by AI will likely contain inaccuracies and biases depending on its knowledge source. Therefore, any content produced by AI must be subjected to critical analysis for bias, accuracy and reliability: as much, if not more, than any other source used in research.

Students can learn how to use AI tools ethically and responsibly through classroom discussion, through modelling by the teacher and by practising it themselves. Some AI tools also provide tutorials or are designed for learning that includes ethical and responsible practice. Students must be taught how to correctly reference and ethically use AI as a resource.

For any IB student work where an external source has been used, including information sourced or generated through AI tools, a citation must be included at the point of use which should link to a full reference in the bibliography. Students should be clear that if they use content produced by an Al tool—by copying or paraphrasing text or modifying an image—they must clearly reference it in the body of their work and add the reference in their reference list or bibliography.

The in-text citation for an AI resource should contain quotation marks using whichever referencing style already being used by the student, as in the following example.

"the development of the tools and variables required for ..."—text taken/paraphrased from ChatGPT, 2023.

The reference in the bibliography should also contain the prompt given to the AI tool and the date the content was generated, as in the following example.

OpenAl. (23 February 2023). ChatGPT response to prompt [example] about [example] topic.

For further information on academic integrity in the IB, please consult the IB publication Academic integrity policy. Appendix 6 provides guidance on the use of Al. See also Effective citing and referencing and Diploma Programme: From principles into practice. This guidance will help to support students on how to use AI tools while adhering to the IB principles of academic integrity.

Every tool is potentially supportive for learning and teaching. However, the higher the level of Al implemented by a tool, the more likely it is that it may interfere with work students undertake for IB-mandated assessments. While teachers can use their professional judgement about how to use different technologies and tools in learning and teaching, they should check the IB requirements and constraints on using these tools for work submitted for assessment.

If teachers and students choose to use these technologies or tools, they should be aware of their responsibilities (e.g. privacy, security, transparency, integrity of data) and the many ethical considerations (e.g. bias, fairness, access, academic integrity) related to their use in learning, teaching and assessment. Extended essay supervisors and coordinators should also ensure that classroom practice and student use of Al tools is in accordance with their school's policies.

While each school will determine its own policies about the use of AI tools, the IB believes that schools can find appropriate ways to include them as a complement and support for learning, teaching and assessment. The following IB resources explore potential uses of AI for learning and teaching, as well as key considerations surrounding the ethical use of AI.

- Artificial intelligence (AI) in learning, teaching, and assessment
- "Introduction" in Al in the classroom for DP educators [online workshop]
- Artificial intelligence (AI) tools common questions and concerns [PDF]
- Academic integrity policy
- The IB and artificial intelligence (AI) tools [PDF]
- Learning, teaching and leading with technologies



# Your extended essay and the DP core

As a Diploma Programme (DP) student, you participate in each of the following three components that make up the core of the programme.

- Theory of knowledge (TOK)
- Creativity, activity, service
- The extended essay

These three components complement each other, working together to achieve the following common aims.

- Fostering international-mindedness and encouraging students to become responsible and actively involved global citizens.
- Developing students' self-awareness and sense of identity, and providing an opportunity for reflection on their development of the attributes of the IB learner profile.
- Enriching and adding value to students' overall learning experiences through the core—i.e. both supporting students in and helping them to be supported by their studies in the rest of the programme.

The DP core gives you the opportunity to explore your interests: areas about which you may feel passionate and want to delve into more deeply. You can learn more about yourself and your place in the world, understand others better (e.g., why they may feel or think differently from you) and make your own original contributions to your areas of interest. At the same time, you will better understand your DP subjects and reinforce your learning.

It is helpful to think of the three elements of the core as a coherent, interacting and interconnected whole, rather than three unrelated experiences.

Further advice on the connectedness of the three elements of the core is available in the following presentation.

The Diploma Programme core: A springboard to the future

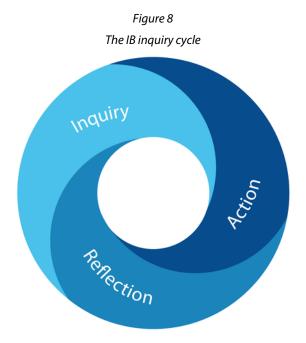
Make sure that your supervisor has provided you with all the useful information and guidance in the Extended essay guide that has been written with the student in mind, as follows.

- Extended essay pathways
- Researching and writing the extended essay

Read these sections and ensure that you have absorbed them and feel confident about putting them into practice. If you have any questions, discuss these with your supervisor.

# Inquiry and the extended essay

Inquiry is an iterative process. First, questions about a topic come to mind. Then, you do something to address or find an answer to those questions. Following that, you reflect on whether you have fully answered those questions. In reflecting, you think of new questions and lines of inquiry or different ways to answer the questions. Note that these three elements of the inquiry process do not necessarily happen in that order: they may all happen concurrently.



The IB inquiry cycle model reflects this: it captures the way in which the three elements of the process overlap and merge into each other, illustrating how inquiry is an iterative process. As you address your questions, reflection may suggest new questions and potential new actions (figure 8). Your TOK discussions will help you appreciate that "facts" and answers often seem "right" until further evidence then suggests otherwise. Similarly, different people may understand or believe different things, and all of these may arguably be "right" when there is no overall consensus and evidence for one view over another.

The inquiry-driven extended essay gives you the opportunity to construct new knowledge or consider existing knowledge, and to support your thinking with evidence and reasoned argument.

There are three main stages in the extended essay process.

- The pre-research or exploration stage
- The research or data-gathering stage
- The documentation and presentation stage

For a summary of this process, see the following presentation.

The research and writing process for the extended essay

# Researching your extended essay

# The pre-research or exploration stage

The purpose of the pre-research stage is to find out as much about your topic as you can, constantly narrowing the focus and seeking greater depth of knowledge. You are trying to get a sense of what is unknown, not yet considered or is undecided in your narrowing topic area. This will eventually inform your construction of a research question that is:

- focused—clear about what you intend to address in your essay
- worth answering—your answer will add something new or different to what is already known in the subject(s)
- manageable in 4,000 words—neither too broad nor too narrow a question
- manageable in terms of research methods, resources and time
- manageable in terms of the subject-specific guidance and IB policies
- analytical and arguable—rather than leading you towards a descriptive answer.

The pre-research or exploration stage may be the most iterative stage of the whole extended essay process. You may feel as if you are going round in circles and trying to do many things at once. This is to be expected, so do not be alarmed or overwhelmed: research can be messy!

For example, you might find that what you thought was a brilliant research question has already been asked and perhaps answered definitively. Or perhaps the question is unanswerable or needs resources that you do not have and would find hard to get. In these cases, you will need to rethink the question fundamentally.

At this stage, do not try to read everything on the topic, nor read too deeply. Instead, skim read and check secondary sources to gain a quick understanding of the topic or sub-topics and the tools of analysis you will need to use to for investigation.

- Use the citations and references given in these sources to find primary sources and academic articles.
- Use keywords in academic articles to find other articles on the same subject.
- Read abstracts and conclusions; skim the main text and any illustrations and tables to get a sense of how academic articles are structured.
- Use your researcher's reflection space (RRS) to record usable ideas and findings, quotations and questions that come to mind.

There is no need to read too deeply at this stage, but later you are likely to need to read some of these sources in more depth—your RRS notes will prove invaluable in this regard.

As you read and gain information and start formulating possible research questions, consider how you will answer those questions, what you will need to find out and how you will find it out, and then read more.

As your research question emerges, try outlining or mind mapping what the essay will look like once it is written. Think of the section and subsection headings and the information or points you might include in each section and subsection; think how the argument is likely to flow. You may not have gathered and processed much of the information you will need for each section yet, but as you find out more, you will be able to add it to your outline and become more aware of what you still need to find out. By the time you are ready to write the essay, your outline may be so detailed that your essay will unfold relatively smoothly.

# The research and data-gathering stage

Once you have decided on a workable, viable research question, the next stage is to consider the data and information you already have and other data and information you will need but that you do not yet have. Your task is to work out how to find it.

Although presented here as a distinct stage, you may be starting this research and data-gathering stage even while you are still pre-researching, that is, still exploring initial ideas for the topic and possible research questions. Similarly, you might be writing parts of your essay (the third stage) even while gathering data and information: notes you take may end up as phrases or sentences in your final essay. Note, therefore, that the continuous cycle illustrated by the IB inquiry model (figure 8) applies to these stages too.

## **Note-making: An essential practice**

As you go about your research, keeping notes to record your findings and thoughts in either paper or digital form will really help you to track your work. The notes will allow you to find important pieces of information later, develop your line of argument and begin the important work of accurate citation and referencing. These notes can be posted in your RRS.

Table 4 is an example of a format you could use, categorizing the types of notes into those that relate to quotations, paraphrasing or summaries and your own ideas. For quotations and paraphrasing or summary, the "Source" column will connect with your draft bibliography.

Table 4
Example note-making table

Example note-making table			
Source	Tags	Quotation?  Paraphrase or summary?  My own ideas?	Summary notes
Mail Online, David Derbyshire https:// www.dailymail.co.uk/ news/article-1153583/ Social-websites-harm- childrens-brains-Chilling- warning-parents- neuroscientist.html	#socialmedia #brain #neuroscience	Quotation	Article: "Social media is harmful to children's brains: Chilling warning to parents from top neuroscientist"
Jian, Yu-Cin. (2022). Reading in print versus digital media uses different cognitive strategies: evidence from eye movements during science-text reading https://www.researchgate.net/publication/358162699_Reading_in_print_versus_digital_med ia_uses_different_cognitive_strategies_evidence_from_eye_movements_d	#brain #readingprint #cumulativereading	Quotation	"- Reading in print versus digital media employs different cognitive strategies  - Digital readers spend more time examining text on their first read, but seldom reread it  - Print readers tend to skim read first, then return for more close reading  - Reading in print shows more selective and

Source	Tags	Quotation?	Cummanu notos
Source	Tags		Summary notes
		Paraphrase or	
		summary?	
		My own ideas?	
uring_science-			intentional reading
text_reading			behaviour"
	#online	My own ideas	Questions to explore:
	#reflect		Does online activity
	#deepthinking		overstimulate the brain,
			make it harder to rest,
			harder to think, reflect?
			Does being online
			diminish a child's
			capacity to think deeply?
Mueller, Oppenheimer	#informationprocessing	Quotation	From the abstract: "The
The pen is mightier than	#conceptualquestions		present research
the keyboard:			suggests that even when
Advantages of longhand			laptops are used solely to
over laptop note taking			take notes, they may still
https://			be impairing learning
pubmed.ncbi.nlm.nih.go			because their use results
v/24760141/			in shallower processing.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			In three studies, we
			found that students who
			took notes on laptops
			performed worse on
			conceptual questions
			than students who took
			notes longhand. We
			show that whereas taking
			more notes can be
			beneficial, laptop note takers' tendency to
			transcribe lectures
			verbatim rather than
			processing information
			and reframing it in their
			own words is detrimental
			to learning."
			to learning.

# Keeping a record of research for an interdisciplinary essay

Figure 9 shows a format for keeping track of everything you read so that you do not forget about any source you have found that may be useful at some point in the process. A table format is useful because it provides easy access to all your information in one space and is not overwhelming.

As you do your research, follow this format, making quite detailed notes. This will:

- help you to keep track of what you have read
- be a source of ideas for structuring your essay and its content
- help you to avoid plagiarism.

The "Notes" column should be your own summary of what you have read. Avoid merely cutting and pasting information into this column. It is the act of summarizing that helps you to better understand your research and start to process it in your own head.

Figure 9

An example format for a research record

	Key: Academic journal Websites Statistics Books Anything else? Amend or add here as needed.			
IB subject	Description of the source	Where found	Notes: key facts, understandings, diagrams, statistics, etc., in this source	Section of the essay where this information will be most useful

The two resources below provide further guidance for students undertaking an interdisciplinary essay. The first resource is the template seen in figure 9.

Researching an interdisciplinary extended essay

Outline for an interdisciplinary extended essay

## Secondary research

In the research stage of your investigation, you will probably need to reread some of the sources you skimmed through during the pre-research stage, but more closely this time. Make good use of your RRS to decide which sources you need to look at more carefully. As you do this, consider whether the source content will really help you to answer your research question: you may find material that is "interesting", but does it provide information that is truly relevant? If not, perhaps make a note in the RRS to reconsider this source another time if you think it may yet be of some use, but otherwise you might choose to ignore it.

Researching what others have already said about a topic is essential for all extended essays, whatever the subject, and this is likely to form the backbone of the introduction to your essay. Secondary research enables you to:

- provide a context for your investigation and essay
- provide a springboard for your own specific research topic and question
- show why your investigation of the topic is worth doing
- provide material, information and data that you might use as you analyse and evaluate your findings and arguments.

It is important that you use relevant and reliable sources. Popular websites like Wikipedia or news articles may be useful for giving you ideas, perhaps even the inspiration for investigating the topic in the first place, but it is strongly recommended that you find and use the sources that provided the information used in those articles. The nearer to the original source you can get, the more accurate and reliable it is likely to be.

Sometimes you might find information and data that contradict the information you are relying on. Do not ignore this—it can contribute to the overall answer you give in your essay. For example, you might be able to discount or discredit the contrary information or use it to discuss some controversies and uncertainties about what is known in this field. It is worth looking at what others have said about the contradictory

information and what those who support it have said too. It is useful to evaluate your source materials in the body of your essay itself, instead of presenting them in a separate "Evaluation" section.

Not everything is already fully known in any field of knowledge. Your research question should be sufficiently original that you are making a genuine contribution to knowledge in that field. Secondary research will help you find data and information that tell you what others know and/or have found out, but there will be gaps in what you can find through secondary research. This is often a cue that primary research is needed.

## Primary research

Primary research collects original data. It is research that you carry out yourself, finding new data and information, then you apply the models, methods and tools of analysis of your discipline and subject(s) to produce new knowledge.

Note that in the context of the extended essay, primary research methods are not considered to be suitable for all subjects, for example, psychology. In these subjects, you can use other researchers' primary data, but you will not be able to collect primary data yourself. Make sure you find out what you need to know about this at the start of the extended essay process, referring to the relevant extended essay subject-specific quidance.

Primary research is used when secondary research is not sufficient to answer your specific research question, that is, you must fill in knowledge gaps or extend what is known by carrying out original research yourself. To do this, you must choose a method or methods that are appropriate to the research question and also commonly used in your particular DP subject(s). Possible data collection methods include:

- experiments
- · investigations and fieldwork
- interviews
- surveys.

As well as using the data you collect to support your points and argument, it is essential that you also say how the data were collected and why you chose particular research methods. In the body of your essay, be sure to include the details of any primary research you carry out, including:

- the methods used—and how and why these were selected
- the persons involved—and how and why these were selected
- the relevant results
- any limitations and biases that may have influenced the results.

## Quantitative and qualitative research

Primary research involves either **quantitative** or **qualitative** research methods.

#### **Quantitative research**

Quantitative research follows a well-defined process that yields data that can be analysed **statistically**. For example:

- outcomes from experiments
- data collected from surveys where responses were given to closed or multiple-choice responses.

#### **Qualitative research**

Qualitative research collects information that may reflect opinions or personal perspectives on a particular situation. While the data that are collected generally cannot be analysed statistically, they can complement and add meaning to associated quantitative data. Examples of qualitative research include:

- responses in interviews
- open-ended questions in surveys.

## Research methods

#### **Experiments**

Experiments can be conducted and their data collected using systematic methods and well-defined processes. For example:

- using the scientific method in conducting science experiments
- simulating an experiment about using mobile phone technology to determine the location of a person.

Experiments usually involve quantitative processes to collect and analyse the resulting data.

### Investigations

Investigations of original source material can reveal whether a particular situation exists and, if so, to what extent it does.

Investigations can also extract and analyse data from original sources to demonstrate the fact of a particular situation or outcome. These original sources may include:

- maps
- photographs
- historical documents (including diaries and letters)
- organization policies
- law
- · original art.

#### **Interviews**

Interviews can be with one person or a small group, also called a **focus group**. They may be conducted:

- face to face
- by email
- by phone
- by online chat.

Face-to-face interviews have the advantage of allowing the interviewer to ask follow-up questions during the interview.

Successful interviews require careful preparation, including:

- · developing questions related to the research question and the findings from secondary research
- trialling the questions before the actual interview
- · deciding on the best methodology for conducting and recording the interview
- making the purpose and use of the data collected known to the interviewee in advance
- in some cases, providing the interviewee with the questions in advance
- assuring the anonymity of the interviewee if requested or promised.

#### Question design

Questions should be designed to elicit the responses required to help answer the overall research question.

#### Recording the interview

Another consideration is how to record the response. If you want to use any audiovisual equipment during an interview, you must ask the permission of the interviewee.

As electronic copies/recordings of the interview are not permitted for the extended essay, an example transcript (or extracts from the interview) will need to be attached as an appendix. If points from the

interview are important to your argument, be sure to include in the body of your essay appropriate quotations from the transcript.

#### Surveys

Surveys can be carried out:

- using a printed form distributed to a defined group of people under controlled conditions
- online

Printed surveys give you better control over who is responding to the questions than online surveys.

Successful surveys require:

- knowing from the secondary research what areas need to be investigated
- formulating well-stated questions that yield data that can be analysed
- trialling the questions before conducting the survey—this is called a pilot study
- assuring anonymity as requested by (or assured to) the participants
- conducting the survey and collecting the data in a well-defined manner.

Surveys can collect both quantitative and qualitative data. To collect **quantitative** data, the survey must ask closed or multiple-choice questions. These:

have a limited number of responses

or

have choices that are scaled

or

require the respondent to prioritize items.

To collect **qualitative** data, the survey must ask open-ended questions, which allow the respondents to write their own answer.

#### Sample size and selection

When collecting data from groups of people, make sure that:

- the sample is large enough to generate meaningful data
- it is clear how and why you selected the participants.

In your analysis, no matter what size sample you survey, you must be clear about how representative the sample is. For example, a sample of 1,500 students at your school yields data about students at your school only, and students of a specific age range. These data cannot be used to suggest that students of a similar age in other schools in your own country, or elsewhere, have similar attributes or views. You might be able to suggest that this could provide fruitful grounds for further research, but you would not be able to extrapolate beyond the evidence obtained from your particular sample.

### **Considerations for primary research**

Whichever method you use, primary research must be well structured and collect data relating to people, events or objects. The data collected must be:

- measurable or observable
- relevant
- reliable
- replicable.

Questions for you to consider include the following.

- What do you want to find out from your primary research?
- How will this relate to the findings from your secondary research?
- How will the data collected relate to the research question you have posed?
- What is the best method of collecting relevant and reliable data, and from where?

 Are there any ethical or legal considerations to take into account related to using your primary method?

Analysing primary research includes:

- analysis of the data collected
- looking for potential connections between the different sources of information used, e.g. secondary and primary research.

You should spend time researching:

- · what different primary data collection methods might be used
- how to use the different methods to obtain reliable results
- how to use the results as evidence to support your essay's argument.

Your supervisor or subject-specialist teachers will be able to guide you here. Considering the advantages and disadvantages of different research methods is an essential part of the planning process. This will help ensure that you collect the data and information you need to explore your research question. In the text of your essay, it can be useful to discuss your reasons for choosing the method(s) you selected.

### Problems arising from primary research

Some primary research fails for predictable reasons.

- The survey sample is too small or poorly controlled; therefore, you cannot reach any conclusions relevant to the research question.
- The survey or interview questions do not take proper account of the secondary research findings or the research question, and so do not lead to relevant conclusions.
- Unacceptable methods have been used to collect information. The following are examples where IB regulations and ethical guidelines may have been breached.

Using a recording device without the interviewee being aware that the interview was being recorded.

Taking photographs in prohibited areas.

Downloading copyrighted music to demonstrate how it is has been put together.

• You have otherwise used a research method that is not appropriate or not permitted for the subject in which you are submitting your extended essay.

# Compiling and organizing your data and information

How you compile and organize your information will, to a large extent, be determined by the method(s) you have chosen and the conventions of academic writing in your subject.

If your collection of data is based on quantitative research, you will probably need to present it in an appropriate graphical form, for example, in tables, graphs, charts, maps.

It may be more difficult to present qualitative data in graphical format, especially when it involves answers generated by open-ended questions. Instead, you might quote from some of the responses to suggest that they are typical or atypical examples of comments made, or to support the points you are making in the essay.

As you gather data, start to analyse it. Consider what it tells you, what it means, and whether and how it supports the points you will be making. Also consider whether you have enough data and information or if more research is needed, whether secondary or primary. This may be necessary if the data fail to support your argument, or even contradict it.

You can use an appendix to include supplementary material, for example, the transcript of an interview, a list of survey questions or a set of raw data. But be aware that examiners are not required to read

information presented in an appendix or in non-bibliographical footnotes. If the information is essential to your argument or discussion, it must be included in the text of the essay itself.

# Writing your essay: The documentation and presentation stage

## A step-by-step approach

Writing your essay can be considered the "documentation stage" of your project, which can be broken down into steps. The writing phase is the final stage, after the pre-research and research stages.

Essentially, the process of completing these stages is iterative. However, you may already have tentatively started writing the essay even before you have all the data you need or might be using. Meanwhile, as you write and reflect, new questions may come to mind. These will need to be answered and, therefore, you will be carrying out further research again.

Your extended essay is a formally written research paper and you should do your best to present it as professionally as you can. At the same time, it is an essay presented for assessment, so keep the generic guidance and the specific guidance for your subject(s) in mind as well.

One of the tactics used by good or active readers is prediction of what the text they are about to read will say. Active readers will use the title and (for the extended essay) the research question to think about what they are about to read and what it may be likely to say. A good table of contents will give clues about the direction of the essay (as would the abstract in an academic article). Active readers will glance through this and then the essay itself, noting section and subsection headings, captions of illustrations and graphics. They might also skim through the introduction and the conclusion. These features of the essay all act as signposts. Active readers use them to make predictions about the text and to awaken their prior knowledge of the topic. This helps their understanding of what they are about to read more closely and, in the case of extended essay assessors, what they are about to mark.

In summary, the more you help your reader and the more signposts you provide, the more you help vourself.

You can review your writing with signposts too. Use **PEELL** or a similar technique to structure the points you make throughout your essay, as follows.

- **P**—State the **Point** you are making.
- **E**—Provide **Evidence** (e.g. a quotation, paraphrase or summary, data, other information) to support the point.
- **E**—**Explain** how the evidence supports the point.
- L—Link the point to your research question.
- L—Link a point to the next point in your argument; alternatively, start the next point with a link to the
  previous point.

As you analyse the data and information you are collecting, decide how you are going to use them and where they will fit in the essay. Expand on your outline. You might also consider whether there is enough information to support some of your points; if not, you may decide to discard them.

At this stage, it can be useful to consider how many words you might be using for each of your main sections. This can guide you as to whether you need to find more evidence or perhaps split a large section into smaller chunks. You might need to think about broadening or narrowing your topic and research question.

When it comes to writing the essay, include only graphics, tables and other information that support the points you are making (or are arguing against) in the text. Be sure to refer to the graphic in the text. If you do not refer to the graphic, then it is not supporting your points and it should not be used in your essay.

Be aware of writing conventions in your subject. In some subjects, much evidence is based on direct quotation from primary and secondary sources. In other subjects, direct quotation is rarely used and

summarizing and paraphrasing of what other people have said and found is far more common. If you are summarizing or paraphrasing someone else's thoughts and ideas, especially if your summary continues through several sentences, be sure to make clear:

- where your summary starts
- that you are continuing to summarize
- where your summary ends
- that only one source is responsible for all this.

Citation tip: You can often make your essay more readable by using a citation in the text, making the citation part of the narrative, instead of using parenthetical citation.

For example:

As Greta Thunberg declared, "This is the biggest crisis humanity has ever faced" (2019).

"This is the biggest crisis humanity has ever faced" (Thunberg, 2019).

As well as being more readable, the first example alerts the reader to the name of the author of what has been said, arguably making the quote seem even more powerful. The second example perhaps makes the author less important, more of an afterthought.

Ask the advice of your supervisor or librarian about whether this device might be useful for selected quotations in your subject. Remember that you should cite quotations; in this case, a full citation could read as follows:

Thunberg, Greta (2019). "I have a dream that the powerful take the climate crisis seriously. The time for their fairytales is over". Address to US Congress, 18 September 2019, quoted in The Independent newspaper. https://www.independent.co.uk/voices/greta-thunberg-congress-speech-climate-change-crisis-dreama9112151.html

For sciences essays, bear in mind that the extended essay really is an essay, not a lab report. It should be presented as continuous text. Long lists, such as lists of equipment or material used, are best included in an appendix (remembering, too, that the examiner is not required to read appendices). In the essay itself, the main steps taken to perform an experiment should be presented as text and not as a list.

Another vital difference between academic essays and lab reports is that in lab reports, an evaluation section follows the conclusion, and is often limited to discussion of the research and an explanation of why results were perhaps not quite as expected. In an essay, your conclusion should come last, apart from nontextual matter such as the bibliography and any appendices; the conclusion should conclude the essay. You should weave your evaluation into the text of the essay itself, evaluating your sources and your methods and results at appropriate points in the discussion.

At the beginning of the essay, you posed a research question. Ensure that you address the question in your conclusion. You might not be able to give a definitive answer to the question because there may not be one, a potential reason why your topic promotes argumentation. You might not have an answer at all, but you do need to address the research question. Not having a definitive answer should not compromise your capacity to perform well, as determined by the assessment criteria: as long as your discussion and argumentation are strong.

## Word count

Extended essays should be 4,000 words long or fewer. The examiner will stop reading an essay once the 4,000-word mark is reached. Anything after the word limit will not be read and will not count towards your mark. If your essay is longer than 4,000 words, the examiner might not even reach your conclusion or could miss some of your argument.

The following are some key points to consider in managing your word count.

Your document's software application probably has a feature that will give you a total word count. Keep an eye on this regularly.

- 2. Note that some elements of your essay do not contribute to the word count. Check the "Writing your extended essay" section of the Extended essay guide for a list of these elements. Count the words you have used that are excluded from the word count, and then deduct this number from the total given by the software. This revised number needs to be reported on your essay's title page: it should be 4,000 words or fewer.
- 3. While there is an upper limit on the number of words you can use, there is no lower limit. Be aware, however, that you may be inadvertently penalizing yourself by making your essay too short, failing to get the highest marks available. If your essay is too short, you might not have said everything that might be said in answering your research question. Or, you might have chosen too narrow a topic and you may need to revisit both the topic and the research question.
- 4. It is worth noting that extended essays in mathematics tend to fall short of 4,000 words. This is because mathematics essays often make use of many equations and formulas, and these are not included in the word count. In most other subjects, it will be more likely that you could make full use of the 4,000-word limit.
- 5. Sometimes raising the word count can be more difficult than reducing the word count. This might indicate that you need to widen your topic and research question—or even rethink your essay entirely because currently it is not comprehensive or thorough enough.
- 6. Once you have completed the draft of your essay, again check the number of words you have used and edit the essay as necessary. Do this before submitting it to your supervisor for feedback, and again before the final submission of your work for upload.

Some of the techniques and strategies in table 5 may also be helpful.

Table 5
Word count techniques and strategies

Reducing the word count	Raising the word count
Do all the points you make address the research question? If they add nothing to your investigation, these should probably be the first content to cut.	Have you offered sufficient evidence to support the points you are making? Can you find more (and possibly better) quotations to support your points?
Can you shorten some of the evidence you use to support the points you make? Can you omit some words from your quotations and still support the point? (If so, show that you have omitted words by using an ellipsis ()—three dots to replace the words omitted.)	Have you explained how each of your points address the research question?
Instead of shortening long quotations, can you summarize them by paraphrasing?	Can you add further relevant material to your review of the literature?
Does some of the evidence you have used echo something said earlier? Perhaps replace it, e.g. "Park (2020) came to similar conclusions" or "Lee (2019) and Park (2020) both suggest that". This may work especially well in your review of the literature.	Is there more counterevidence you might use, other people's findings and opinions? Can you rebut the counterevidence, and show why you believe it is not valid?  It may be that your topic is too narrow and your research question too fine, in which case you may need a major rethink.
Are your explanations of evidence you have used too long? Can you shorten these?	
Will your conclusions still be valid if you omit some points altogether? Perhaps leave out some of the less important points you have made.	

Reducing the word count	Raising the word count
Strategies such as shortening sentences (omit conjunctions), omitting adjectives and adverbs, and using active rather than passive voice can be useful, but tend not to reduce the word count by large amounts.	
It may be that your topic is too wide and your research question too broad, and you need a major rethink.	

## Proofreading

Perhaps the hardest part of the writing process is reviewing and checking your essay. You might feel so relieved to have finished that you find it hard to motivate yourself for this final step: a thorough proofread. Nevertheless, "polishing" your work to make it "shine" is time well spent. Proofreading can be tedious, but it really is worthwhile. This is a task you must do yourself; you cannot allow others to proofread, correct or edit the essay for you. You can use software to check your grammar and spelling, but it can sometimes give you wrong advice or leave decisions for you to make.

You need to check that the essay is coherent and that it flows: is the body of your essay well organized, with one point leading to the next, and one section leading to the next? You may have written a draft introduction months before you got to the conclusion: does that introduction really introduce the essay now and what you have done, or did you make changes along the way, changes that need to be reflected in a revised introduction? Is the conclusion supported by the evidence you have presented?

You might find it useful to record yourself reading your essay aloud, and then listen to the recording with your essay in hand. Make note of any points in the reading where you seem to stumble or hesitate—because these may be places where your meaning is not clear, even to you, the writer of the essay. Reading aloud is a way of taking a more objective view of your essay.

When you are checking for grammar, spelling and other mistakes, once again, objectivity helps. Make a "sandbox" copy of your essay (save it with a different filename—or add "sandbox" to the filename) and then try:

- enlarging the font(s) so that the line breaks are in different places
- changing the font(s)
- changing the font colour(s).

If you know you make common errors (such as confusing "there" and "their"), then use your software's search function to look for these words and make sure you have used them correctly.

Try printing the essay on paper: reading from a printed version uses different eye muscles and parts of the brain compared with reading on a screen, so this will help you to view your work from a fresh perspective.

Make a note of all the changes that need to be made and be sure to make these changes in your actual copy of the essay, not just in the sandbox copy.

When you are almost satisfied that your essay is ready for submission, save it as a PDF file and proofread this. Word-processing software—such as Google Docs, Microsoft Word, Pages—may generate slightly different versions when read in different operating systems with different settings. Also, the page numbering of your file may be different when viewed on a page set, for example, to US letter size or A4 size, and text boxes and illustrations may be presented differently in print to what you see on your screen. But PDF files are the same for all readers, both on-screen and in print, so be sure to check your PDF for the following elements.

- Does the table of contents show the correct page numbers for the sections?
- Are illustrations and graphics placed where you want them?
- Are the captions of these illustrations in the right place?

- Is the font(s) consistent throughout?
- Is line spacing consistent throughout?
- Have you avoided "widows" and "orphans"? These can hinder readability of your essay. "Widows" are
  single words or lines at the top of a page that have become detached from the rest of the paragraph
  on the previous page. "Orphans" are section or subsection headings, or other single lines, found alone
  at the foot of a page, with the rest of their associated text on the following page.

If you need to make changes in the file to correct any of these issues, be sure to make another PDF version of the file and fully check this new and final version again. Once you are satisfied with the PDF output, save this once more—perhaps adding "final" to the filename—and submit this, your final extended essay PDF.

You are now ready to turn your attention to the final reflection session and writing up your reflection and progress form (RPF).



## The assessment criteria and your extended essay

The examiners use the assessment criteria to appraise your extended essay and give it a mark. You will therefore benefit from understanding what is expected for each criterion and using that understanding to help you do your best work. Think of the assessment criteria as a framework that teaches you about the essential elements of an academic essay. It is a framework that will continue to be useful to you as you move on to higher education and then the world of work.

## Understanding the assessment criteria

Using criterion A as an example, figure 10 demonstrates what to look for in the assessment criteria.

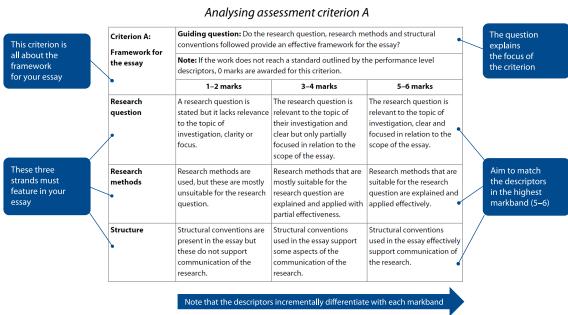


Figure 10

#### How do examiners apply the criteria?

- Examiners will look for evidence for a criterion throughout your essay. In other words, it is not expected that you respond to the criteria in a linear or ordered way.
- Examiners will use a "best-fit" approach to decide the appropriate mark for each criterion. The overall mark awarded for a criterion is a holistic judgement reflecting the overall standard of work you have demonstrated for that criterion.
- Examiners will read the level descriptors for each strand, starting with the highest level, until they arrive at a descriptor that most appropriately describes the level reached by your work.
- Examiners will mark positively, giving you credit for what you have done; you will not be penalized for not doing what you could have done or should have done.

For further advice on using the assessment criteria to help you write the extended essay, see the following presentation.

Using the assessment criteria

# Approaches to learning and your extended essay

Approaches to learning skills	Brief description	Points to consider
Thinking skills: Metacognition	Improving metacognition (awareness and understanding of your own thought processes) through your extended essay experience provides a foundation for improving all other skills.	<ul> <li>The extended essay is a space where you can improve metacognitive awareness, helping you to become more aware of the ways in which you process information, find patterns, build conceptual understandings and remember key facts and ideas.</li> <li>Once you are aware that you are using techniques and strategies to perform the tasks associated with your extended essay, you are encouraged to consider whether there are more effective or efficient ways to achieve those same outcomes.</li> <li>You are also encouraged to try new ways of learning and to evaluate the results.</li> </ul>
Thinking skills: Critical thinking	Critical and creative thought is an integral aspect of writing an extended essay.	<ul> <li>In the extended essay, you can demonstrate a deep understanding of a specific area of research, examining it critically as you develop your discussion and argument.</li> <li>As you carry out your research, you engage with different sources of information and data and are exposed to a range of new perspectives.</li> <li>You need to engage with your research in an</li> </ul>
		<ul> <li>analytical and evaluative way.</li> <li>To provide a balanced perspective, you must be critical of the sources you use, and also try to think of ways your own arguments could be critiqued.</li> </ul>
		You must be self-critical of your own work and be able to derive counterarguments and evaluate whether your research methods are as effective as they could be.
		<ul> <li>You should propose how any limitations could be reduced and how you could extend your research to provide a clearer answer to your research question.</li> </ul>
Thinking skills: Reflection	Reflection throughout your extended essay experience allows you to become aware of the	<ul> <li>Writing RRS journal entries and keeping track of research undertaken and interviews carried out will be an invaluable reflection aid at the end of the process.</li> </ul>
	approaches to learning skills you have developed and how you can transfer	Consider how you demonstrated strengths yet found other areas challenging in the extended essay process. For example, how did you learn

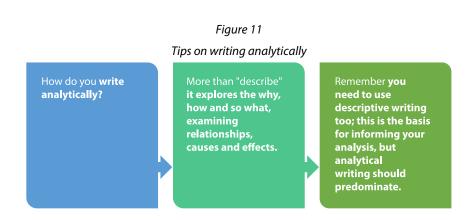
Approaches to learning Brief description skills		Points to consider	
	these skills into other areas of your studies and use them in the future.	<ul> <li>from mistakes and improve the way you research and write?</li> <li>One good point of focus for the three mandatory reflection sessions is what you are learning from your extended essay experience as a researcher and writer.</li> <li>Reflection is developed through structured reflection sessions with supervisors. These allow you to articulate what you have learned and to identify how you can transfer skills learned to other areas of your studies and potential future experiences.</li> </ul>	
Research skills	Training in the research process, including information literacy and media literacy skills, is vital for every student engaged in the inquiry-based learning underpinning the extended essay.  Feeling overwhelmed by information is natural, but by developing your research skills you can learn to narrow down the scope of your research and manage efficiently the volume of information it produces.	<ul> <li>The research methods chosen need to be appropriate for your area of inquiry and choice of topic. You will also need to undertake a literature review that informs your knowledge and understanding in context and helps you to make choices about the relevance, reliability and validity of secondary source materials.</li> <li>To be an ethical researcher, it is important that you align with the principles and practices of academic integrity, following guidance from your supervisor.</li> <li>Read the Extended essay guide and support material carefully to understand what is involved in primary and secondary research and how these inform your extended essay.</li> <li>Research will help you to find different perspectives on your topic.</li> <li>Using an effective citation and referencing system is vital.</li> </ul>	
Communication skills	In the extended essay, communication skills mostly concern giving a well-considered response to your research question accurately, reliably and concisely, in written form. You also need to be able to communicate your needs to your supervisor and be a good listener to any advice they share with you.	<ul> <li>Possible communication pathways experienced in the extended essay include student–expert communication, student–supervisor communication, and written communication.</li> <li>You may need to reach out to send well-designed surveys to people and contact experts for interviews. This involves always using an appropriate tone or register, being responsive to any queries and being proactive in following up if needed.</li> <li>For interviews, be organized, prepare questions beforehand, be proactive in asking follow-up questions and maintain a positive tone or attitude, respectful of the interviewee.</li> <li>During sessions with your supervisor, develop your ability to communicate your research</li> </ul>	

Approaches to learning skills	Brief description	Points to consider
Social skills: Collaboration	As you work on your extended essay, it is important that you are adept at both peerrelated and teacherrelated social communication. These skills are closely linked to attributes of the IB learner profile, such as being caring, principled and open-minded.	<ul> <li>ideas, progress, successes and challenges, both orally and as a summative reflection on your RPF.</li> <li>Be proactive in updating your supervisor on your progress and be responsive to their questions.</li> <li>In your extended essay, demonstrate your ability to communicate your findings on a research topic of your choice in a specific way, in the format of an academic paper.</li> <li>Formulate your arguments clearly and coherently and make well-evidenced conclusions.</li> <li>Be clear and concise when writing; in your essay and RPF, you are working with word limits.</li> <li>Your RRS can make use of a range of different communication techniques, digital and otherwise, to record your thoughts, ideas, progress, timelines and arguments.</li> <li>There are strong links between social skills and the affective skills associated with selfmanagement, which is an important part of the extended essay experience.</li> <li>You are managing a substantial task, not only in terms of workload and timelines but also in terms of intellectual challenge.</li> <li>Supervisors can assist by suggesting a variety of strategies to help support and guide you through the process.</li> <li>Developing a good working relationship with your supervisor is an important aspect of your skills development in this area.</li> </ul>
Social skills: Affective skills	Affective skills provide you with the resilience to overcome hardship, enabling you to maintain your strength of character for long-term learning throughout your extended essay experience.	<ul> <li>Here are some useful practices.</li> <li>Managing states of mind</li> <li>Practising focus and concentration</li> <li>Practising strategies to develop mental focus</li> <li>Practising strategies to overcome distractions</li> <li>Demonstrating persistence and resilience</li> <li>Practising delayed gratification</li> <li>Emotion management</li> <li>Practising strategies to reduce stress and anxiety</li> <li>Practising self-motivation</li> <li>Practising analysis of failure and attributing its causes</li> </ul>

Approaches to learning skills	Brief description	Points to consider
Self-management skills:	Supervisors provide	<ul> <li>Practising and managing self-talk</li> <li>Practising positive thinking</li> <li>Practising "bouncing back" after adversity, mistakes and failures</li> <li>Practising dealing with disappointment and unmet expectations</li> <li>Practising dealing with change</li> </ul> Aspects of the extended essay that develop your
Organization	support and guidance, but the overall extended essay experience is owned and driven by you. As such, being able to navigate the research and writing of the essay independently is important.  Immediate benefits of these skills are recognized when you move on to university and the workplace, where you are expected to manage your workloads and competing priorities.	<ul> <li>Aspects of the extended essay that develop your self-management skills include:         <ul> <li>establishing a schedule of achievable deadlines, managing expectations</li> </ul> </li> <li>guidance and support regarding study techniques, such as time management, notetaking, mind mapping and digital behaviour</li> <li>maintaining an RRS as a planning and progress tool</li> </ul> <li>supervision and reflection sessions that provide you with an opportunity to discuss your progress.</li>

# How to write analytically

No matter what the pathway, subject(s) or topic, when you are writing your extended essay you need to be analytical, not just descriptive. Being able to write analytically will help you to produce an essay that you will be proud of (see figure 11). In particular, it will help you to address assessment criterion C (analysis, line of argument) and criterion D (discussion, evaluation).



Descriptive writing		Analytical writing	
	What? Where? Who?	• Why? How? So what?	
	Presents research	Engages with research to develop and evidence an argument	
•	Provides pieces of information	<ul> <li>Explores relationships and patterns connecting the pieces of information</li> <li>Uses these connections to support an argument and draw conclusions</li> </ul>	
•	Provides context or background	Digs deep into the significance and meaning of facts and ideas	
•	Explains ideas or theories	Applies ideas or theories and evaluates their strengths and limitations	

#### **Examples of analytical writing**

- "Toksvig's poem differs from both Shire's and Gonzales' in that it gives voice to many refugees. This is
  made clear by the many different items that the refugees decide to take with them such as a rosary,
  hijab, turban and a Virgin Mary necklace."
- "Further, the fact that the account is from an actual colonial officer substantiates the position that violence was accepted by both the colonial rulers and the people. Thus, violence was a legitimate and accepted tool of political oppression among Nigerians."
- "Examination of the findings leaves it unclear whether use of social networking sites contributes to
  the experience of anxiety, or the opposite. It is also unclear whether there are other variables that
  influence this relationship. These areas of uncertainty imply that not every individual who excessively
  uses social networking sites will develop anxiety, even if there is a correlational trend in the general
  population."
- "By means of a ritualistic condition of presence, Marina Abramovic represents herself as a mirror to her viewers, inciting them to oppose their apprehension as a technique of self-purification. Her work induces a two-way exchange between the crowd and herself, so constituting her prime source of stimulus throughout her career."
- "The fact that the interviewee did not identify his hip-hop art as an act of rebellion reflects theorist
   Scott's notion that most defiant groups exist between the poles of conformity and rebellion.
   Furthermore, the internalized nature of hip-hop transcripts means that even those artists who refuse
   to produce transcripts do not identify their acts as rebellion."

# The argument development model

An important feature of your extended essay is the argument you present to the reader, an argument that clearly **stems from your research question**. You may want to amend the argument as you move forward with the writing process. However, in the early stages, and perhaps when reviewing your progress, consider the model in figure 12 to shape your thinking and planning.



Figure 12 A process for the argument development model

or position you will take

reasoning you will follow

evidence from your findings

Plan how your argument will unfold in the

refine your claim or position

# Final checklist: Have you done everything?

In your final extended essay that you are ready to submit, please check the following.

- Is it clear that you have responded to your research question with thorough analysis, discussion and evaluation?
- Are you satisfied that your line of argument is clear to the reader?
- Are you satisfied that your extended essay aligns with the principles and practices of academic integrity?
- Have you chosen a font suitable for on-screen reading?
- Do the font size and line spacing facilitate on-screen reading?
- Does your title page include the following?

Your candidate code

Your research question

The DP subject(s)

The interdisciplinary framework (if applicable)

The word count

- Have you prepared an accurate table of contents, with page numbers that match the page numbers in the text of your essay?
- Are all diagrams, tables and images appropriately numbered and labelled?
- Does the essay have no more than 4,000 words?
- Have you proofread the text for spelling and grammar errors?
- Have you checked that any material presented in the appendices is relevant and necessary?
- Is your RPF complete and ready for submission? Is it no more than 500 words long and written in the same language as the essay?



# Updates to the publication

This section outlines the updates made to this publication over the past two years. The changes are ordered from the most recent to the oldest updates. Minor spelling and typographical corrections are not listed.

# Changes for November 2025

## Support materials for students > Your extended essay and the DP core

#### "Inquiry and the extended essay"

Alignment of language with other IB documentation.

Advice regarding the IB inquiry cycle has been updated to align with a change to the associated graphic (figure 8).