

FOR THE  
IB DIPLOMA  
PROGRAMME



# Extended Essay

Paul Hoang  
Joseph Koszary



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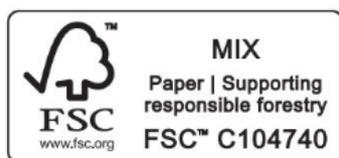
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# Introduction

## How to use this book

Welcome to the extended essay (EE) for the IB Diploma.

This book will help prepare you for your EE in an efficient and logical way. Each chapter of the book looks at a different aspect of the EE in detail, while different activities and practice exercises are also included to help you check your understanding.

To ensure you aim for your best grade in the EE, this book:

- includes an opening infographic spread in each chapter
- builds skills for success through a range of strategies and detailed expert advice, such as formulating effective research questions for the EE
- covers all the IB requirements with clear and concise explanations, such as the assessment criteria and rules on academic integrity
- demonstrates what is required to get the best grade
- adds reference to the IB learner profile and approaches to learning (ATL) skills.

Key features of this guide include:

### Expert tip

These tips appear throughout the book and provide guidance on steps you can take and key considerations to help you boost your final grade.

### Common mistake

Potential pitfalls are highlighted for students in the form of 'Common mistake' boxes. Watch out for these!

### Tasks

A number of short tasks are included in the chapters. These tasks give you the opportunity to apply your knowledge in example situations, reinforcing your learning and further preparing you for your EE.

### Definitions

◆ Definitions of important terms are provided in the chapters.

### Chapter summary

At the end of each chapter, key knowledge is distilled into a concise checklist to help you review everything you have learned over the previous pages.

### ATL ACTIVITY

ATL skills activities get you to think critically about real-world applications of topics.

### END-OF-CHAPTER QUIZ

At the end of each chapter, a short quiz is included to test the knowledge you have learned and help consolidate your understanding.



The IB learner profile icon indicates material that is particularly useful to help you towards developing the following attributes: to be inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk-takers, balanced and reflective.

## Criterion C Analysis and line of argument

6  
marks

**Guiding question:** Does the student analyse the information presented in the essay and produce a coherent line of argument?

Analysis:

- How deep is your analysis?

Line of argument:

- Have you analysed your research effectively, and maintained a clear focus on the research question?

## Criterion D Discussion and evaluation

8  
marks

**Guiding question:** Does the student discuss the findings and evaluate the essay?

Discussion:

- Is your argument reasoned, effective and focused, and developed from your research?

Evaluation:

- Is your conclusion consistent with your argument? (If it is a good one, it may throw up other questions.)

## Criterion E Reflection

4  
marks

**Guiding question:** Does the student evaluate the effect of the extended essay learning experience on them as a learner?

Evaluative:

- Do your reflections show intellectual and personal engagement?

Growth:

- How thoroughly have you considered ideas and actions in response to setbacks experienced in your research process?

# 1

## Understanding the assessment criteria

### Definitions

◆ **Assessment objectives (AOs)** define the overall goals, skills and knowledge students should be able to achieve through their learning and completion of a task. They have been used by the IB to help guide the design and development of the extended essay. There are four AOs for the extended essay.

◆ **Assessment criteria** are the more specific standards or requirements used to actually grade or mark a student's achievement of the overall AOs. They are more detailed than the AOs and are less 'behind-the-scenes' and more 'front-and-centre' so as to be focused on by the students, supervisors and examiners. The assessment criteria of the EE deliberately encourage a variety of approaches and responses due to the variety of subjects they can be written in. There are five assessment criteria for the EE.

### The new assessment criteria

Your extended essay (EE) is a journey of intellectual discovery. Like many journeys, it can be easy to take a wrong turn and go off course. One of the most important ways of navigating this journey is by using the **assessment criteria**. They are an invaluable tool that you must keep in focus throughout the process of researching, developing and writing your EE. This chapter will help you gain a deeper understanding of how you will be assessed and therefore how to produce a successful EE.



■ **Figure 1.1** The assessment criteria are your compass

Your EE is externally assessed by an examiner using five assessment criteria and will receive a mark out of 30. These criteria are generic, meaning they can be applied to all EEs in the different subject areas and to interdisciplinary EEs. Further guidance on interpreting the criteria within each subject can be found in the 'Subject-specific guidance' section of the *IB Extended essay guide*, and more details on how the criteria can be interpreted in an interdisciplinary EE can be found in **Chapter 9 The interdisciplinary extended essay**.

The assessment criteria are as follows:

■ **Table 1.1** Assessment criteria for the extended essay

Criterion	Criterion focus	Available marks
Criterion A	Framework for the essay	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	4 marks
		<b>30 marks</b>

### Task 1

Highlight key words from the assessment criteria. Do some 'visual thinking' by creating a mind map or diagram of these key words. Show visually how they connect, how they might be grouped and the connotations of each word. Look up definitions of any that you are unsure of. This will help you to gain a better understanding of each of the assessment criteria used to mark your essay.

# Summary of changes to the assessment criteria

The assessment criteria have changed from the previous iteration of the EE. This is something you need to keep in mind when looking at old resources, websites or exemplars from the previous version of the EE.

Below is a summary of the main changes:

■ **Table 1.2** Summary of main changes to the assessment criteria

Previous version	May 2027 onwards
Total number of marks is 34	Total number of marks is 30
Criterion C 'Critical thinking' marked out of 12	Split into criterion C 'Analysis and line of argument' marked out of 6 and criterion D 'Discussion and evaluation' marked out of 8
Criterion D 'Formal presentation' marked out of 4	Merged into criterion A 'Framework for the essay' as the strand 'structure', which contributes to a total mark out of 6 for the criterion
Criterion E 'Engagement' marked out of 6, based on three written reflections produced after each of the corresponding three mandatory reflection sessions on the reflections on progress and planning form (RPPF)	Criterion E 'Reflection' marked out of 4, now based on one reflective statement written on the <b>reflection and progress form (RPF)</b> after the <b>viva voce</b> , with a focus on the growth of the learner and an emphasis on skills development and transfer

## Definitions

◆ **Mark bands** 'zoom in' even further and are used to break each of the five assessment criterion into level descriptors. These descriptors describe how well each criterion may have been achieved. Each of these descriptors corresponds to a range of marks to differentiate student performance.

◆ **Reflection and progress form (RPF)** is a form that is sent off to the IB alongside your extended essay. It records when your three mandatory reflections took place and, most importantly, includes your reflective statement of up to 500 words. More details on this can be found in **Chapter 7 The importance of reflections**.

◆ **Viva voce** means 'with the living voice' and is a discussion that takes place as part of your third and final mandatory reflection session at the end of the extended essay process. It involves a reflection on the entire process and can be used to generate many of the ideas that end up in your RPF reflective statement.

## Expert tip

The IB expects the criteria to be a useful resource to consult throughout the entire process of developing the EE. With this in mind, make sure you use the assessment criteria to help inform you of what to include when writing the extended essay. It is important that you know how you will be assessed for this compulsory component of the Diploma Programme (DP).

## The assessment objectives

To clarify, **assessment objectives (AO)** define the overall goals of a task; assessment criteria zoom in and are used to measure how well you have achieved these goals; and **mark bands** zoom in even further and provide detail on how to measure your achievement of the criteria and award a final mark. See the definitions of these terms for more detail.

The five assessment criteria used by the examiner to produce your final mark out of 30 are based on the following four assessment objectives for the EE:

- Knowledge and understanding
- Application and analysis
- Synthesis and evaluation
- Communication of research.

These AOs are essentially the 'behind-the-scenes' overall aims of the EE, and you will need to achieve all of them to score highly. The assessment criteria, on the other hand, go into more specific detail and are used to measure to what extent you have achieved these objectives using the mark bands. Many of the terms and strands used in the assessment criteria come from these AOs, so it is worth developing an understanding of them before fully exploring the more specific assessment criteria that will be applied to your EE by the examiner.

## Task 2

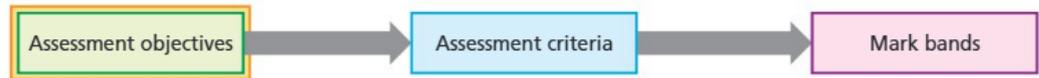
Rank the four assessment objectives (AOs) in order, starting with the ones you think you are most confident with. For the bottom two, jot down some ideas about how you might go about improving in these areas.



■ **Figure 1.3** Understanding requires deeper thinking and drawing connections



■ **Figure 1.4** Application means putting things into practice



■ **Figure 1.2** Look at the assessment objectives, assessment criteria and mark bands

There are some key terms in these assessment objectives that you need to understand. In the following section, there is a quick description of each AO, along with some of the main ways they should be demonstrated as you develop your EE. Some of the assessment objectives have been kept together in their pairings (such as knowledge and understanding), while others have been separated out (such as application and analysis) for a clearer definition of each.

### ■ Knowledge and understanding

In simple terms, 'knowledge' is the gathering and accumulation of facts and information. This is sometimes referred to as 'lower order thinking' as it primarily focuses on gathering and recalling information. 'Understanding' goes beyond this basic recall and requires a deeper comprehension of the significance of this information in terms of its meaning, context and interconnections.

EE assessment criteria link: Criteria A and B

Knowledge and understanding is a core element of your EE. In assessment criterion A (Framework for the essay), your knowledge and understanding is shown through coming up with a relevant and purposeful research question. When explaining your research methods for the EE, you will also be showing knowledge and understanding of your subject area(s). More substantially, for assessment criterion B (Knowledge and understanding) you will use research to establish the deep knowledge of the subject matter needed for your analysis. In addition, your use of relevant terminology when dealing with this subject matter will help to further demonstrate your knowledge and understanding of the topic.

**Knowledgeable:** The EE is an excellent opportunity to explore knowledge in more depth and with more independence than may be possible in other areas of the IB Diploma Programme. Consider it an opportunity to become something of a specialist on a particular topic by becoming particularly knowledgeable about it.

### ■ Application

Application involves knowing something in abstract and being able to apply, or use, it in practice. This often means taking learned material and knowledge and using it in new and concrete situations.

EE assessment criteria link: Criterion C

Criterion C (Analysis and line of argument) requires application. Most pertinently, you will need to apply your knowledge of research methods to gather the information necessary to form your lines of argument in the essay. For example, a geography EE may involve applying knowledge of how to take water samples in a scientific manner to gather necessary primary research data. You will also need to be able to apply your knowledge of the terminology and concepts of your subject to your research when developing insights and discussing your lines of argument.

## ATL ACTIVITY

**Thinking skills**  
Analysis is just one aspect of the thinking skills you will demonstrate in the extended essay process – in what other ways do you think you will be using thinking skills in the EE?

## ■ Analysis

This is a higher order thinking skill that is focused on taking the bigger picture and then being able to recognize patterns, connections and structures within it. In simple terms, this means seeing how the ‘whole’ is created by the ‘parts’.

EE assessment criteria link: Criterion C

Once you have gathered your subject matter or information (this should come from secondary sources and primary research where appropriate and permitted), you need to show that you can analyse it to gain marks for criterion C (Analysis and line of argument). This means you must identify what is relevant, consider patterns and connections, and then use this to form arguments and conclusions that help answer your research question.

## ● Expert tip

‘Primary research’ is original data you have gathered through first-hand research such as experiments. ‘Secondary research’ is data gathered by others. Note that secondary research (including a review of the literature available on your chosen topic) is a requirement for any extended essay, regardless of pathway or subject(s) chosen. Note that most DP subjects allow you to use primary research sources as well, so long as these are appropriate to the research question and add value to the essay. If you intend to use primary research in the EE, check the subject-specific guidance to find out the rules on collecting primary research in your chosen subject(s).

## ■ Synthesis

This means combining various elements and creating something new. It is built on the skills mentioned previously: you take your knowledge and understanding, apply it, analyse it, and then combine all these elements to form your own ideas and conclusions. This is an integral element of the EE as you should not simply be repeating what others have said, but should be forming your own arguments and interpretations.

EE assessment criteria link: Criteria C, D and E

In the context of the EE, this primarily involves taking your analysed subject matter and coming to new conclusions that help answer your research question. This is important as it shows you have gone beyond simply *describing* existing knowledge; you have *synthesized* your own interpretations and drawn your own conclusions. This aligns with assessment criterion C (Analysis and line of argument), assessment criterion D (Discussion and evaluation) and assessment criterion E (Reflection).

## ■ Evaluation

This means making judgements about the value of the material for a given purpose or of a particular approach you have taken. It therefore requires an awareness of the strengths and limitations of material and/or of an approach to research. It shows that you are being critical and academic rather than simply taking things at face value. You should show that you have considered the significance, quality and merit of different sources of information, conclusions you come to, and different approaches you have taken in the course of developing your EE.

EE assessment criteria link: Criteria C, D and E

The evaluation assessment objective particularly shows up in assessment criterion D (Discussion and evaluation), which assesses an important aspect of the EE. Being evaluative shows you are being mature, academic and critical by considering the strengths and weaknesses of your own work and the work of others. This includes evaluating your research by gauging the effectiveness of your research methods and the merits of any primary and/or



■ **Figure 1.5** Judging the quality of research approaches and materials is an integral part of your evaluation

secondary sources you come across or come up with. You will also evaluate the conclusions you come to when answering your research question. Finally, on the reflection and progress form (RPF), you will have to evaluate your experience of the extended essay process as a whole by writing a single reflection statement (see Chapter 7 The importance of reflections for more details).

## Common mistake

A common mistake is that students underestimate the importance of evaluation, often adding only a token evaluation paragraph towards the end of their essay. Instead, you should evaluate throughout the essay. This is particularly important whenever you have made a choice – consider *why* you made that choice and how effective the outcome has been. For example, why did you choose a particular research approach and how effective was it? Why did you use a particular secondary source and how effective was it?



**Reflective:** Evaluation is a significant aspect of reflection (assessment criterion E). Consider the strengths and weaknesses of everything, from your sources to your own approach to the process of developing your EE. Getting into the habit of reflecting and evaluating will ensure you become an effective lifelong learner.

## Task 3

Now you have a clearer understanding of the terminology used in the assessment objectives, list a time when you have used each of the skills in your DP studies. You will likely find that you have already gained significant experience.

## Communication of research

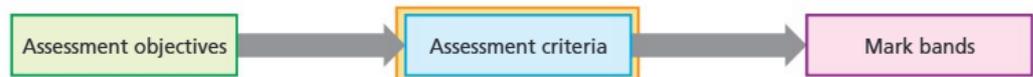
This assessment objective is about effectively presenting and sharing your findings, conclusions and the implications of your research. Complex inquiries can be challenging to present in a clear way, so thinking about how you communicate your exploration is another aspect of how you will be assessed.

EE assessment criteria link: Criterion A

You will be communicating your research through the extended essay itself and need to do so in a formal and academic style that is fit for a 4000-word research project. This includes using the structural and presentational conventions of academic essays in your chosen subject area(s). These structural aspects, along with an appropriate research question and research methods, form the foundational framework of the EE referred to in criterion A.

## Breakdown of the assessment criteria

Now that you have a clearer understanding of the assessment objectives and the language used, it is time to look at the five assessment criteria. Remember, these assessment criteria are the ones actually used by the EE examiner to award marks for your essay and establish your final grade. Criteria A, B, C and D are applied to the extended essay itself, and criterion E is applied separately to your reflective statement on the RPF.



■ **Figure 1.6** It is important that you understand the assessment criteria

On the following pages, you will find each criterion broken down and explained using these headings:

- **Guiding question:** This is the question the EE examiners will be asking themselves when they look at each assessment criterion. It is helpful to consider how the examiner will perceive your EE as an outsider with no prior knowledge of you as a learner.

- **Strands:** Each assessment criterion is divided into sub-sections to add specificity and make it easier to apply to the essay. Strands represent the key focus of each assessment criterion that you need to consider in turn when producing your EE.
- **Overview:** This is a broad explanation of the overall assessment criterion and its significance.
- **Strands breakdown:** This section explains each of the strands to help you understand what the EE examiners are considering when awarding marks. Each of these comes with some useful tips from an EE examiner and IB EE Workshop Leader to help you perform better in each area.

## ■ Assessment criterion A: Framework for the essay (6 marks)

**Guiding question:** Do the research question, research methods and structural conventions provide an effective framework for the essay?

**Strands:** Research question; research methods; structure.

**Overview:** This assessment criterion addresses the foundation and presentation of the essay. The research question (RQ) forms the foundation of your EE. Its quality, research methods and structure are evaluated under this criterion. See [Chapter 2 Developing a suitable research question](#) for further details.

### Strands breakdown

**Research question:** Your research question is central to your EE and sums up what you are investigating.

Top tips for the research question:

- Your research question may evolve as you go through the process of developing your EE – do not feel confined by the initial research question; it can change as your thinking and understanding changes.
- The RQ needs to be focused and suitable in scope for a 4000-word essay. Make sure it is narrow enough to avoid needing more than 4000 words to do it justice.
- Clarity is important – the RQ should be sophisticated, but not overly wordy or complicated. Remember, you can expand on it in the introductory section of your EE if you feel it needs further elaboration.
- The RQ should allow for the development of a strong line of argument. The best EEs argue a conclusion that clearly answers the research question based on a broad range of relevant evidence.
- The RQ should be academic. This means it should not lead to a self-evident answer that is obvious from the question itself. Instead, it should clearly require thorough research, analysis and a well-constructed line of argument to be effectively answered.
- See [Chapter 2 Developing a suitable research question](#) for more detailed advice.

### ● Expert tip

As you write your EE, ensure you maintain focus on your RQ throughout the essay. You should do this explicitly by linking your work to the RQ at various points throughout, and not only in your conclusion.

### ● Common mistake

Many students mistakenly believe that using complex language makes a better RQ. In reality, the most effectively phrased research questions are those expressed with clarity and simplicity. Avoid over-complicating the phrasing of your RQ.

## Task 4

Find an EE RQ suitable for one of your subjects (you can use an internet search engine, look elsewhere in this textbook or find one in the *Extended essay guide*). Consider each of the top tips on research questions on the previous page – does the RQ tick (✓) each and every one of them? How could it be improved? Jot down some notes. This experience will help you when it comes to forming your own research question for the EE.



■ **Figure 1.7** Research methods relate to how you research, including generating primary data

### Definitions

#### ◆ Research methods

are the specific tools and procedures used to actually collect and analyse data.

#### ◆ Research methodology

is the broader research strategy you take and the rationale for doing so. This 'lens', or approach you take to researching, helps determine which research methods you use.

**Research methods:** This assesses how you went about your research. **Research methods** are the specific tools and procedures used to collect and analyse data, and they will vary significantly depending on your subject area. For example, a Language A essay will focus on researching critical commentary of a text on academic databases whereas a biology essay will likely involve practical experiments and the use of relevant primary data.

Top tips for research methods:

- You should show you have drawn on research methods that are suitable for the subject(s) your EE is registered in. This will vary depending on your chosen subject area or interdisciplinary subject areas. They generally fall within the categories of primary research (such as questionnaires/surveys, interviews and experiments) and secondary research (such as literature-based research, including databases, government publications and academic journals).
- Summarize your **research methodology** in the introduction. You also need to explain which research methods this methodology involves and how they are connected to your subject.
- There should be evidence showing how you applied your chosen research methods. This links back to the *application* element of the 'application and analysis' assessment objective (AO) discussed earlier in the chapter.
- For secondary research, there should be enough sources of suitable quality to allow effective research using your chosen methods. The sources should be of an academic nature and reliable (see Chapter 5 Citation and referencing for more details).

**Structure:** This covers the broad structure of your response as well as the presentational details. It assesses whether you have communicated your research appropriately and effectively. As explained in the 'communication of research' assessment objective (AO), you must use the structural and presentational conventions of your subject area.

Top tips for structure:

- Academic essays follow a broad, three-part (introduction, main body and conclusion) structure.
- Within these sections, particularly the main body, you should consider subheadings and sub-sections to keep your essay clear and organized.
- Structure within your paragraphs is also important. One such common structure is PEEL paragraphs: Point, Evidence, Explain, Link back to RQ.
- Consider whether your subject has any specific structural conventions, for example maps with legends and scales, labelled diagrams, and so on.
- Consistently use a recognized and well-organized citation and referencing system throughout your essay.
- See Chapter 3 The formal presentation of the extended essay for more detailed advice about the structure of the EE.

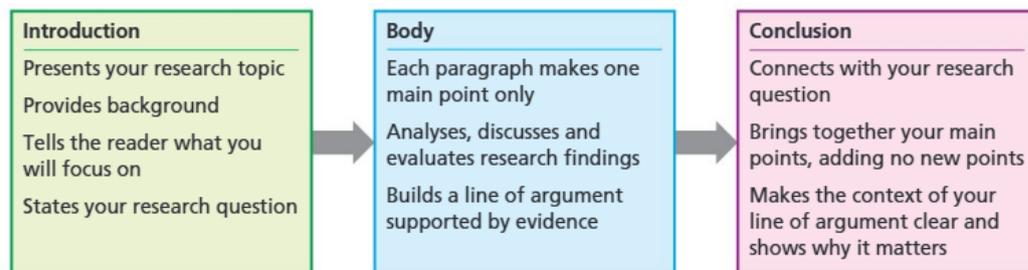
## Expert tip

A focus on the outline of your argument, academic context, scope, worthiness and methodology in your introduction can help with assessment criterion A (Framework for the essay). Using these key words and providing some concise detail will signal to the examiner that you have evaluated your research question and approach effectively, therefore helping you gain marks in assessment criterion A.

## Common mistake

It can be tempting to demonstrate the vast depths of knowledge you have accumulated from the research process. However, restraint is needed – your research question will be narrow, and the word count limitations require you to be selective with what you include. Only incorporate knowledge that is directly relevant to answering your specific research question.

- Further advice on any specific structural conventions for your EE subject(s) can be found in the ‘Subject-specific guidance’ section of the IB *Extended essay guide*.



■ **Figure 1.8** Structure of the extended essay

## ■ Assessment criterion B: Knowledge and understanding (6 marks)

**Guiding question:** Does the student demonstrate knowledge and understanding of the subject matter used in their research?

**Strands:** Knowledge; understanding – terminology; understanding – concepts.

**Overview:** To best understand this assessment criterion, it helps to explore the difference between knowledge and understanding. ‘Knowledge’ is having the information and facts obtained through study and research. ‘Understanding’ is being able to make sense of this knowledge and grasp its significance. In simple terms, your research is gaining the knowledge, while your understanding is comprehending what you have found.

**Strands breakdown**

**Knowledge:** This refers to you demonstrating that your research methods (see assessment criterion A) have been used to explore the topic and build your knowledge of its subject matter. This can come from secondary sources and, where appropriate to your research question and permitted in the subject, primary research. In all cases, your research must be relevant to the topic and should support the development of your arguments. This knowledge should be carefully selected and effectively used to address the research question.

**Top tips for knowledge:**

- While you are doing your research and reading, have a system for recording what might be relevant for your essay and bibliography. This should include the citation details and a summary of why the source might be useful to you.
- Read a wide variety of material: textbooks and internet searches are a start, but you should also go beyond this by looking at sources such as academic journals and books.
- Being selective is important. Once you have gathered knowledge from your secondary and (where the subject permits) primary sources, you need to evaluate and be selective with what is relevant to your topic and research question – do not exhaustively include all your background knowledge in your EE.
- As the focus of your essay may be outside of the contents of the relevant subject guide (syllabus), any subject matter or concept not specifically used in the subject guide can also be used, if relevant, to demonstrate your understanding in your RQ in the EE.

- To achieve top marks, you are required to show comprehensive and relevant research materials have been used to establish knowledge. This means that your research, whether it is primary or secondary, is detailed (or ‘comprehensive’) and clearly related (‘relevant’) to your research question. Essentially, your research needs to have clearly led to a deeper and more effective knowledge of your topic and has enabled you to draw conclusions that answer your research question.



■ **Figure 1.9** Make sure you understand and use the specific language of your subject

**Understanding (terminology):** Every subject has its own specialized terminology, often referred to as jargon, which is used and understood by experts in that field. You need to show you are fluent with the terminology of the subject area to be able to effectively explore the topic in the context of your RQ.

Top tips for understanding (terminology):

- Making a list of relevant subject-specific terminology to draw on can be useful when writing your essay. This also demonstrates fluency with the academic language of your chosen subject area(s).
- When drafting your essay, colour-coding any use of terminology can visually ensure consistent use of subject-specific terminology throughout your response. Note that the final version of your EE should not include colour-coding or highlighted text.

## Task 5

To show how quickly you can build up an understanding of terminology, make a list of terminology related to the extended essay that you have come across so far in this guide. Once you have done so, continue to add to it as you go through the later chapters in this book. This jargon will serve you well when you go through the process of developing your EE and when you are looking back and reflecting on it.

## Common mistake

Terminology usage needs to be relevant and purposeful. It can sometimes be tempting to use as much terminology as you can, but this can often compromise clarity. Ensure terminology is used in a way that adds to your line of argument and does not overload your response with technical language, making it difficult to follow your line of argument.

**Understanding (concepts):** These are the key ideas around which the knowledge is developed. You can also think of these ideas as the categories, labels or lenses through which the knowledge can be organized and explored. For example, in English A the key concepts are communication, creativity, culture, identity, perspective, representation and transformation; any of these could be used to centre your focus on when studying a particular text. This makes it easier to draw links between ideas and analyses, as well as to come to conclusions.

Top tips for understanding (concepts):

- Concepts are key for drawing connections and can often help establish links between different disciplines and subjects. For example, ‘sustainability’ can be used as a conceptual lens to categorize knowledge in geography, design technology, business management, economics, biology and many other areas.
- You should familiarize yourself with the concepts and frameworks associated with your area of study. Some may have been explored in the classroom, while others may be new to you as you show academic initiative when exploring an area of academic interest. Note that the IB does not give a specific number or list the types of concepts that you should use in the EE. Instead, use and explain the most relevant concept(s) effectively to demonstrate your understanding of the subject matter and topic under investigation.
- Providing clear definitions of the concepts being used in your EE can help to gain marks for assessment criterion B. Include clear definitions in your introductory section of the essay.

## Task 6

Research the key concepts for your Diploma subjects of study. Map out these concepts and see whether there are any subjects that have the same concept. If your subjects do not have any identical concepts, which ones have similarities? You might find some interesting interdisciplinary links that could inspire you into taking the interdisciplinary pathway when developing your EE.



■ **Figure 1.10** A good essay will rely on well-researched and specific-subject knowledge

- Mention your chosen concept(s) throughout your essay and include examples that are relevant to the discussion and your RQ.
- Using concepts shows that you can deal with and process your knowledge. It is an example of higher order thinking skills and shows that you are analysing and interpreting your knowledge.

### ■ Assessment criterion C: Analysis and line of argument (6 marks)

**Guiding question:** Does the student analyse the information presented in the essay and produce a coherent line of argument?

**Strands:** Analysis; line of argument.

**Overview:** Once you have gathered knowledge and information through your research, you need to do something with it. The guide describes this as having your research and then bringing out ‘its essential elements and structure’. Essentially, you sort out which findings from your research are relevant to your EE. These findings then need to be analysed and used to form a developed line of argument that leads to your conclusions that answer the research question.

#### Strands breakdown

**Analysis:** This is where you go beyond simply summarizing and describing knowledge and show that you can do something with it. This is built on and aided by the skills assessed in criterion B, where you show you can research knowledge, organize it into concepts and use subject-specific terminology when dealing with it. This organized knowledge now needs to be examined in depth using critical thinking and reasoning to draw your own conclusions.

**Top tips for analysis:**

- Effective analysis in the EE requires critical thinking – you should be making connections and gaining deeper insights about your subject matter (both the topic and RQ). Chapter 8 Showing evidence of critical thinking expands on this in more detail.
- Having a sophisticated understanding of tools and theories associated with your topic that you can then apply to your RQ is a way of demonstrating clear analysis. You may want to discuss relevant subject-specific tools and theories with your supervisor when developing your EE.
- The understanding of concepts from assessment criterion B is important for underpinning your analysis.
- The understanding of subject-specific terminology from assessment criterion B is also important to ensure that you can express your analysis in a sophisticated and articulate manner, thereby avoiding being highly descriptive.

**Line of argument:** For this strand, it is important to remember you are answering a research question: an inquiry that has been chosen because of your passions and curiosity. To answer the RQ effectively, there should be a guided structure to your essay where you guide the examiner through your thinking to generate clear conclusions that go at least some way to answering your question.

**Inquirers:** The DP is about nurturing your curiosity. If you are not excited by exploring and answering your research question, you have not come up with an effective topic for you as a learner. See Chapter 2 Developing a suitable research question for more advice about this.

**Top tips for line of argument:**

- Engage the reader. Though it may sound strange, your essay should *engage* the examiner. Each EE examiner reads dozens of essays, so having a clear, well-crafted line of argument



will make it easier for examiners to follow your reasoning. You must remain broadly academic and formal in your language, but there is leeway for your 'voice' to come through and for the occasional flourish.

- Think 'development'. Early sections of your essay should set the scene and establish the necessary knowledge and terminology. You should then guide the examiner through a logical flow of analysis. Finally, you should draw everything together in your conclusion.
- Your line of argument should show clear links between your overall research question, the findings of your research and the conclusions you come to. Showing how these elements are connected and relevant to each other is an important part of creating a cohesive and effective response.
- Maintain and defend your arguments consistently throughout. The essay should consistently be focused on addressing and answering your central research question.
- Consider subheadings and discourse markers (or 'signposts') that make clear when you are moving on in your thinking and how the sections are connected.

### Expert tip

Students often think that evaluation and evidence of critical thinking should appear in a separate paragraph at the end of their essays. In fact, the best evaluation is integrated into the arguments presented throughout an essay instead of being placed as an isolated section.

### Task 7

Using an exemplar essay in one of your subjects of study, skim read the essay and make notes on the following questions:

- How did the writer guide the reader through their argument?
- To what extent did they maintain focus on their overarching research question?
- Did you find it easy to follow the writer's thought process and line of reasoning as they argued their conclusions?
- What worked and did not work in terms of making it effective?

Reflect on these answers to develop your own extended essay.

## Assessment criterion D: Discussion and evaluation (8 marks)

**Guiding question:** Does the student discuss the findings and evaluate the essay?

**Strands:** Discussion; evaluation.

**Overview:** This assessment criterion is worth the most marks. It primarily covers the discussion of your findings and an evaluation of the effectiveness of your essay in addressing the research question. Communication is key here: there is little point researching and developing interesting interpretations if you then struggle to communicate them in the essay – the months of hard work needs to be clearly expressed in your EE for the examiner to appreciate your efforts.

### Strands breakdown

**Discussion:** Having considered your research, selected what is relevant and analysed it, you need to discuss your opinions and conclusions based on the evidence gathered and presented in the essay. This should be clear and compelling, in part aided by the underlying structure of the line of argument, which is also assessed in criterion C.

**Top tips for discussion:**

- Your discussion should be balanced and of an academic nature, being clearly rooted in the evidence presented in the response. Avoid bias but show an awareness of bias in any material that you draw upon by evaluating it (see the next strand).
- Clarity is important – your ideas should be clearly and compellingly expressed.

## Common mistake

Avoid using a thesaurus and do not just use the most complicated words you can think of. Explaining complicated ideas with clear and simple language will result in a more elegant and easy-to-follow essay.



■ **Figure 1.11** It takes a critical mind to evaluate your own writing

- Discuss why you chose your particular line of argument and show that you have considered alternative perspectives.
- Ensure that your discussion remains balanced by incorporating different opinions and perspectives.
- Engage the reader – as explained in assessment criterion C, some sense of ‘voice’ can go a long way to making your exploration compelling and uniquely your own.

## Task 8

Though only a part of the discussion strand, let’s consider your ‘voice’. Make notes on your social voice and your academic voice in a mind map. For example, do you tend to use humour when speaking socially? Do you use lots of slang? Academically, do you tend to use lots of complicated words? Do you write long sentences or simpler ones for clarity?

It is important you have a sense of your own style before embarking upon a 4000-word essay. Consider what works well regarding your essay writing style and what might need tweaking to suit such a long response. Also consider what will provide a sense of ‘voice’ in your essay.

**Evaluation:** Your discussion should extend to evaluating the effectiveness of your essay in regard to addressing the research question. This is an important part of writing academically and shows that you are approaching the task with a mature and critical mind.

Top tips for evaluation:

- Evaluation should take place throughout your essay, not just at the end. Discussing the scope of your essay in your introduction, critically assessing the strengths and weaknesses of your analysis and secondary sources in the main body, and weighing the merits of different positions as you analyse all come under the umbrella term of ‘evaluation’.
- Consider the strengths and limitations of your research materials – what is effective about your exploration and where do its limitations lie? This can apply to any primary and secondary research that you have conducted to address the research question.
- Show an understanding of the explicit and implicit perspectives and arguments presented by the authors of secondary sources. Critically engaging with sources will help you maintain academic rigour.
- When evaluating your overall essay, discuss whether or not you were ultimately able to answer the research question effectively and whether your research methods were well chosen.

## Expert tip

Students are encouraged to use a researcher’s reflection space (RRS) to help with their reflections. The RRS can take any suitable form, such as illustrations, journal entries or even an online blog. Your personal opinions, feelings, values and other comments in relation to the research question and topic being studied can be recorded in the RRS. See **Chapter 7 The importance of reflections** for further details and suggestions about using the RRS.

In addition, there are very clear rules about the word count and formatting of the essay, and these must be closely adhered to. See **Chapter 3 The formal presentation of the extended essay** for further details of the formal requirements for presentation of the EE.



**Communicators:** Expressing yourself and sharing perspectives is important in education and beyond. The EE is an excellent opportunity to show you can communicate with your supervisor and with the wider academic community and can express an academic inquiry in a 4000-word response.



■ **Figure 1.12** Reflection is a key component of the extended essay

### Expert tip

Details of the assessment criterion you have just read are generic guidelines on how to interpret the assessment criteria for all EEs. Make sure you also read the subject-specific advice given in the *Extended essay guide* in relation to your chosen subject(s). You should then discuss this with your EE supervisor to help you to better understand each assessment criterion in the context of your chosen topic and the research question.

## ■ Assessment criterion E: Reflection (4 marks)

**Guiding question:** Does the student evaluate the impact of the extended essay learning experience on them as a learner?

**Strands:** Evaluative; growth

**Overview:** Unlike assessment criteria A to D, this assessment criterion is not applied to your actual essay. It is instead used to assess your reflective statement on the RPF. This is where you reflect not on the subject matter of your essay, but the broader experience of developing your extended essay in general. This reflective statement is based on the three mandatory reflection sessions you undertake as part of the EE process and is no more than 500 words long. Chapter 7 *The importance of reflections* looks at this in more detail.

Note that zero marks will be awarded for assessment criterion E if the RPF is blank or if the reflective statement is written in a language other than that of the accompanying essay.

### Strands breakdown

**Evaluative:** The key word here is ‘value’. You need to consider the value of the experience and its impact on you as a learner, with explicit examples of how you have been able to develop and transfer skills.

**Top tips for reflection (evaluation):**

- Consider obstacles you had to overcome and how you adapted when faced with challenges.
- Consider using vocabulary from the IB learner profile and ATL skills when discussing how you used and enhanced your skills (refer to Chapter 7 *The importance of reflections* for further guidance on this).
- Give specific examples of how you have been able to transfer skills developed over the course of completing the EE in other contexts.

**Growth:** Reflect on your growth as a consequence of completing the extended essay.

**Top tips for reflection on growth** include asking yourself questions such as:

- Were there any changes in your perspective on your topic as you researched, expanded your knowledge and performed analysis? How did these changes in perspective impact your decision making?
- How might your experiences and insights shape your future thinking?
- How do you envisage transferring the skills and lessons you have learned to other circumstances, including future studies, career or life in general?

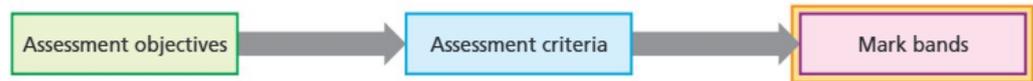
## ● Task 9

Let’s do some ‘prelection’. Think back to extended pieces of work you have had to complete. Write down notes for the following prompts:

- To what extent can you maintain focus when working? What holds you back? For example, you might need to turn off your phone because you can never quite resist the temptation to check your latest notifications.
- What do you typically struggle with most when writing academic essays? For example, you might find the planning stages difficult, whereas the eventual writing of the essay itself often comes quite naturally.
- Is there a common target in your essay writing that has come up regardless of subject area? For example, do your essays tend to have paragraph topics that stray from the focus of your essay titles?
- What are your particular strengths that will help you with the EE? For example, you might be someone who is very good at scheduling your time between various tasks without becoming overwhelmed.
- What are your areas for improvement that may make the EE more challenging? For example, you might have little experience with researching secondary sources.

# The marking process

Now that you understand the assessment criteria, you need to know how they are used to determine your final mark.



■ **Figure 1.13** How is your final mark determined?

## ■ The best-fit approach



■ **Figure 1.14** Examiners will adopt a 'best-fit' approach to marking

Examiners are instructed to use a 'best-fit' approach in the assessment of your EE. The IB provides mark bands (for example, criterion A is broken down into 1–2, 3–4 and 5–6 mark bands) to judge the level of your responses, and examiners assess your EE using the different mark bands for each assessment criterion. The best-fit model allows examiners to use their judgement in crediting you for what is in your essay instead of penalizing you for what might be missing. The various mark bands can be found in the *Extended essay guide*.

The aim of the best-fit approach to marking is to find the level descriptor that most accurately conveys your level of attainment. It means that the mark you are awarded (for each assessment criterion) is the one that most fairly reflects the balance of achievement against the various mark bands. It is not necessary for every indicator of a level descriptor to be met for that mark to be awarded, hence the phrase 'best-fit' approach. The EE examiners will use their professional judgement to credit you for what is in your essay.

It is also worth remembering that you can gain the highest mark band descriptor for each assessment criterion without having to write a faultless essay. Examiners are instructed to mark positively and to award the highest levels where appropriate – this is good news for you as a candidate!

## ● Common mistake

The internal assessment (IA) and EE are distinct and different components. Do not assume that what is acceptable for an IA is also permissible for an EE, even within the same subject. For example, the use of a prescribed key concept is required in the Higher Level Business Management and Economics IAs, but this is not a formal requirement in the EE. Reading the EE subject report for your subject will help you to avoid making any self-penalizing mistakes. These reports summarize feedback from EE examiners in each subject area and can be a useful resource to read through. If you struggle to access any, your supervisor should be able to provide them for you (but remember, older reports from before 2027 will be based on the previous format of the EE – they will still be broadly useful, but elements such as the mark scheme have since changed).

## ■ Grading the extended essay

Once the examiner confirms your marks for the EE, you are awarded a grade according to the grade boundaries and **grade descriptors**. Although the boundaries can change from year to year, the descriptors provided later in this section will remain the same.

Remember, you must achieve a grade D or higher in both your theory of knowledge (TOK) and EE to be awarded the IB Diploma. In combination with your grade for TOK, you can earn up to three points toward the total score of your IB Diploma, as shown in Table 1.3 over the page.

### Definition

◆ **Grade descriptors** describe what qualities an essay at each of the final grades should exhibit.

## Expert tip

Refer to these descriptors throughout the entire process. Towards the end of developing your EE, think of each quality as a kind of checklist and see which grade your EE is getting the most ticks in. This will give you some sense of what grade your EE would likely receive if submitted in its current state, and what areas you can focus on improving before final submission.

■ Table 1.3 The TOK–EE Matrix

		Theory of knowledge (TOK)				
Extended essay	Grade awarded	A	B	C	D	E or N
	A	3	3	2	2	Failing condition
	B	3	2	2	1	
	C	2	2	1	0	
	D	2	1	0	0	
	E or N	Failing condition				

The grade descriptors for each grade level follow below. The full details can be found in the *Extended essay guide*. They are a bit more general than the mark scheme, and remember it is the mark scheme that will be used by the examiner to come to a final mark for your essay.

So, what are the descriptors actually used for? Your supervisor will provide a predicted grade to the IB when your EE is submitted (they will not, however, provide a mark out of 30). To do this, they look at the grade descriptors and see which your EE best fits into. Also, senior examiners will use the grade descriptors to set the grade boundaries, ensuring that the essays within particular marks fulfil the qualities described in each descriptor.

## ■ Grade A

**Key words:** Effective, excellent, consistent, sustained.

**Overview:** This is the top grade and is reserved for extended essays that score towards the very top end of the mark scheme. Students achieving this grade will have fully engaged with the process and will have produced an excellent essay. The learning objectives earlier in the chapter provide a neat summary of what you need to do well to achieve such a grade: you will have demonstrated excellent knowledge and understanding, application and analysis, synthesis and evaluation, and communication of research.

**Qualities:**

- The student demonstrates effective research skills, resulting in a well-focused and appropriate research question that can be explored within the scope of the chosen topic.
- There is effective engagement with relevant research areas, methods and sources.
- There is excellent knowledge and understanding of the topic within the wider context of the relevant discipline.
- There is effective application of source material and correct use of subject-specific terminology and/or concepts that further supports this.
- Conclusions are consistent, relevant and thoroughly analysed.
- Arguments demonstrate sustained reasoning and are effectively supported by evidence.
- Research is critically evaluated.
- Coherence, consistency and effective use of structural conventions support readability to an excellent degree.
- Reflection on the extended essay learning experience is consistently evaluative and includes specific examples.
- Reflection shows consistent evidence of the learner's growth and transfer of learning.

## ■ Grade B

**Key words:** Appropriate, good, mostly, reasonably.

**Overview:** A grade B means that you have done everything well and some things excellently. As you can see from the key words, many qualities will be considered 'good', with the others being 'mostly'. This will result in a strong EE that shows you have engaged with the process and fulfilled the learning objectives effectively, if imperfectly.

**Qualities:**

- The student demonstrates appropriate research skills, resulting in a research question that can be explored within the scope of the chosen topic.
- There is reasonably effective engagement with relevant research areas, methods and sources.
- There is good knowledge and understanding of the topic in the broader context of the relevant discipline.
- There is reasonably effective application of source material and reasonable use of subject-specific terminology and/or concepts.
- Conclusions are consistent and accurately analysed.
- Arguments demonstrate reasoning and are often supported by evidence.
- Research occasionally shows critical evaluation.
- Coherence, consistency and the use of structural conventions support readability to a good degree.
- Reflection on the extended essay learning experience is partially evaluative and includes specific examples.
- Reflection often shows evidence of the learner's growth and transfer of learning.

## ■ Grade C

**Key words:** Demonstrates, partially, some, attempted.

**Overview:** A key word that stands out from this descriptor is 'attempted'. Though not everything may have been successful, you will have shown an awareness of the requirements for the EE and made a solid attempt at all of them, even if some ended up being unsuccessful. The basics are present, but you will have some clear areas for improvement in the future.

**Qualities:**

- The student demonstrates evidence of research undertaken, leading to a research question that is not necessarily expressed in a way that can be explored within the scope of the chosen topic.
- There is partially effective engagement with mostly appropriate research areas, methods and sources. However, there are some discrepancies in these processes, although these do not interfere with the planning and approach.
- There is some knowledge and understanding of the topic within the broader context of the discipline, and the knowledge is mostly relevant.
- There is an attempt at applying source material and appropriate terminology and concepts, along with an attempt to synthesize research results, with partially relevant analysis.
- Conclusions are partly supported by the evidence.
- Arguments are descriptive rather than analytical.
- There is partially successful evaluation of the research.

- The essay lacks coherence and consistency at times, and structural conventions are irregularly applied, but this does not significantly hinder readability.
- Reflection on the extended essay learning experience is descriptive and includes some specific examples. Reflection occasionally shows evidence of the learner's growth and transfer of learning.

## ■ Grade D

**Key words:** Lack of, at times, some, limited, some relevant, irrelevant.

**Overview:** This is the lowest grade that can be achieved without an automatic failing of the IB Diploma. There will often be unsuccessful attempts at most qualities of an effective EE, though some may be lacking entirely, as seen in the first bullet point below, which refers to a 'lack of research'. Typically, students achieving this grade will not have engaged with the EE process as much as necessary and may have failed to act on advice from their supervisor.

**Qualities:**

- The student demonstrates inadequate research, resulting in unsatisfactory focus and a research question that is not answerable within the scope of the chosen topic.
- At times there is engagement with appropriate research, methods and sources, but discrepancies in those processes occasionally interfere with the planning and approach.
- There is some relevant knowledge and understanding of the topic in the wider context of the discipline, but at times the knowledge is irrelevant.
- There is an attempt to apply source material, but inaccuracies in the use or underuse of terminology and concepts are evident.
- There is irrelevant analysis and inconsistent conclusions as a result of a descriptive discussion.
- There is a lack of evaluation.
- The limited coherence and consistency of the essay and absence of structural conventions hinders readability.
- The reflection on the extended essay learning experience is descriptive.
- Reflection on the learner's growth is limited to a description of the process, and there is no evidence of transfer of learning.

## ■ Grade E (a failing condition)

**Key words:** Little or no, limited, lack of, ineffective, inconsistent, inaccurate.

**Overview:** An essay achieving this grade has been particularly ineffective, and essays awarded this grade are rare. If an EE gets an E, the student fails the IB Diploma. It is unlikely a grade like this would be a surprise as a supervisor would have flagged the EE as a grave concern throughout the process and before submission. By following your supervisor's guidance and putting genuine effort into your EE, you will be well on your way to achieving a good grade.

**Qualities:**

- The student demonstrates minimal or no research, a lack of focus and an ineffective research question.
- There is a generally unsystematic approach and a resulting unfocused research question.
- There is limited engagement with limited research and sources.
- There is generally limited and only partially accurate knowledge and understanding of the topic in the wider context of the relevant discipline.

## Expert tip

Remember that being awarded an E grade for the extended essay will automatically result in you failing the overall IB Diploma. Work closely with your supervisor to ensure this does not happen to you!

- There are ineffective connections in the application of source material, and inaccuracies in the terminology and/or concepts used.
- The results of research are summarized with inconsistent analysis.
- There is an attempted outline of an argument, but one that is generally descriptive in nature.
- The lack of coherence and consistency and absence of structural conventions significantly hinders readability.
- Reflection on the learning experience of the EE is very limited, with no evidence of transfer of learning.

A final note is that the grade boundaries are not pre-set but are arrived at following the marking of the EEs for a particular examination session. Historically, these grade boundaries have remained stable, given that the nature of the EE does not change. Nevertheless, the IB has been known to change the grade boundaries when necessary, such as during the global Covid-19 pandemic. Therefore, grade boundaries are not available until following the first examination of the new *Extended essay guide* in 2027.

## Chapter summary

- There are four assessment objectives and five assessment criteria for the EE.
- The assessment criteria are applied holistically, meaning evidence of each criterion should be shown throughout the whole essay.
- The assessment criterion that is worth the most marks is criterion D (Discussion and evaluation) – worth 8 marks out of 30.
- An E grade in the EE is a failing condition for the whole IB Diploma.
- It is strongly recommended that you record your reflections (of the whole EE process) in your researcher's reflection space (RRS). At the end of the process, you will write a reflective statement on the reflection and progress form (RPF). The RPF has a word limit of 500 words and is worth up to 4 marks.
- Examiners will mark your EE using the best-fit model – you will be credited for what is in your essay, instead of being penalized for what is missing.
- The best-fit approach means that it is not necessary for every indicator of a grade descriptor to be met for that mark band to be awarded.
- The assessment criteria and maximum marks per criterion are shown in Table 1.1 at the start of this chapter. They add up to the overall maximum of 30 marks for the EE.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	The research question for your EE must be phrased as a question.		
2	The assessment criteria are all worth equal marks.		
3	The reflective statement on the RPF is not assessed as the mandatory reflection sessions do not carry any marks.		
4	You are strongly recommended to complete a researcher's reflection space (RRS).		
5	A grade E in the EE is no longer a failing condition.		
6	Essays that are descriptive in nature do not score highly.		
7	The maximum word limit for the reflection component of the assessment (the RPF) is 500 words.		
8	The maximum number of words for the extended essay is 4000 words.		
9	The EE is marked out of a total of 30 points.		
10	The IB recommends supervisors spend 5 hours with each candidate.		

## Chapter 2

# Developing a suitable research question

**Is your research  
question ...**

... clearly stated?

... focused enough  
to be answered in  
4000 words?

... open to amendment  
or change if your research  
takes you in a different  
direction?

... likely to lead to  
an interesting and  
engaging answer?

... genuinely a question,  
rather than a statement,  
which could lead to an essay  
that is descriptive rather  
than investigative?

... on a topic that really  
interests you?

... a good balance of not being  
too simplistic, which could  
lead to an answer that is obvious  
from the start, or too complicated,  
which could be impossible  
to draw a conclusion from?

... factual (rather than  
hypothetical, which can  
be difficult or impossible  
to answer)?

## **Does your research question ...**

**... invite a critical examination of the topic in respect of integrating knowledge, concepts, theories, perspectives or methods, or a combination of these?**

**... encourage analysis, evaluation and synthesis (rather than description, unsupported generalizations and value judgements)?**

**... relate specifically and clearly to an IB Diploma subject, or two DP subjects for the interdisciplinary essay?**

**... lend itself to a sufficiently wide range of sources?**

**... meet the demands of the five assessment criteria?**

# 2

## Developing a suitable research question

### Purpose of the extended essay

Before developing a suitable research question (RQ), it is important to remind yourself why you are creating one.

The extended essay is an incredible opportunity to explore a topic that *you* are interested in. Throughout your schooling, though there may have been a degree of choice, you will primarily have been following curricula and topics of study that were chosen by others. The extended essay hands control over to you, allowing you to choose an area of interest and really delve into it in a way that will prepare you for the independence of further study at university or of being an adult in the workplace. This is expressed best in the four aims of the EE:

- experience the excitement of intellectual exploration
- engage in student-led academic research on a topic of personal interest
- develop skills in research, thinking, self-management and communication
- reflect on the learning experience of doing an extended essay.

You should see the EE as an exciting opportunity. By following the advice in this textbook, you will help to ensure the EE experience is an incredibly rewarding one that will also develop skills you will find useful in the future.

#### ATL ACTIVITY

##### Self-management skills

Independence is valuable when managed correctly. Over the process of the EE, what self-management skills do you think you will need to be using? See the back of the book for some suggestions.



**Inquiry**

- Based on inquiry and research
- Tools for developing critical thinking
- Vehicles for intellectual discovery and creativity
- Focuses on analysis of issues or problems



**Agency**

- Encouraging of student agency
- Student-driven
- Products of a student's own initiative
- Reflective of personal experiences and interests



**Skills**

- Opportunities to develop communication, writing, oral and presentation skills
- Facilitated by good management skills
- Inclusive of academic integrity
- Centred on a detailed, extended, in-depth process of learning

■ **Figure 2.1** Common features of research projects

You are ultimately producing a 4000-word academic exploration of a topic of personal interest. As shown in Figure 2.1, you will be harnessing skills developed during your years of schooling: research, self-management, agency and reflection. If you have completed the PYP and MYP, you will have had some very useful experience practising these skills in the PYP exhibition and the MYP personal project. The extended essay takes things to the next level. Some of the benefits of the EE to consider before you embark on developing your research question follow.

## A culmination

The EE represents the culmination of your education up until this point – a chance to exercise all of the skills you have built up over years of study. There is a reason this task comes after many of you have come through the PYP and MYP and are completing the DP – you are on the verge of heading out into the world, perhaps going on to further study or into the workplace, and now is the chance to show you are ready for it.

## Passion and curiosity

You have chosen your six subjects of study for the Diploma Programme and have had some time studying them. You should already have some sense of which subject(s) particularly make you feel passionate. Perhaps you felt strongly about a women's suffrage pamphlet you looked at in your Language A course, or a case study of the impact of climate change in geography. Or perhaps it is curiosity that is guiding you – maybe you keep asking yourself, 'To what extent does magnesium really impact seed germination?' in biology or 'How did that unorthodox advertising campaign for the energy drink company manage to be so effective?' in business management. Either way, you now have the opportunity to actually follow these passions and curiosities in your EE, and with the added academic support of your subject teachers, your EE supervisor and your librarian. This is an example of you having *agency*, an ability to make choices about your education and follow them through in a supportive environment.



**Inquirers:** The EE provides you with an ideal opportunity, through research, to pursue your interest in learning and apply the research and academic skills necessary to investigate a probing topic and research question. Consider how you might be able to demonstrate the skills of an inquiry in your EE. These skills can also be useful for your mandatory reflection meetings with your supervisor (see Chapter 7 The importance of reflections).

## Celebration

Your EE is a celebration too – it is a chance to feel proud of yourself. By the end of this process, you will have produced a 4000-word academic essay that is a testament to your intellectual curiosity and skills as a researcher and writer. On some level, all of the IB learner profile characteristics will be used, and you will see the benefit of your past years of study and schooling.

## University or college preparation

The majority of DP students will continue their studies at college or university. As you progress into higher education, more of the onus is on you to be independent and to be proactive in your learning, with less oversight from teachers and professors. The EE offers an excellent stepping-stone to this next exciting stage of your education.

## Independent

Many of you will soon leave home for university or work, beginning your journey into adulthood. As stated above, independence or 'self-management' is going to be a large part of your future. You will need to structure your time, develop ideas, meet deadlines and generally be a very independent learner. The EE is a chance to show you can do this – you will have some guidance, of course, but the EE is very much a student-led process.



■ **Figure 2.2** Your EE is great preparation for the independence of learning in higher education

## Task 1

Consider how each of the IB learner profile attributes can be applied to the extended essay.

Match the numbered attribute to the correct letter of the connection to the extended essay.

Attribute	Connection to the extended essay	
1 Inquirers	A	Students acquire in-depth knowledge of their topic through exploration of current literature and/or research.
2 Knowledgeable	B	As researchers, students will explore and include an appropriately wide range of points of view.
3 Thinkers	C	By clearly demonstrating the relevance of their topic, students exhibit their personal commitment to making a difference in the lives of others.
4 Communicators	D	Through research, students activate their interest in learning and apply the skills necessary to conduct an inquiry.
5 Principled	E	Students use well-evidenced, considered conclusions on their topic, and reflect on the transformative nature of their EE experience.
6 Open-minded	F	Students explore new areas or novel situations and courageously defend their positions.
7 Caring	G	Students make reasoned analysis of their research topic and apply critical-thinking skills in a creative way.
8 Risk-takers	H	Students show balance by understanding the importance of intellectual development is reinforced by the research process.
9 Balanced	I	As ethical researchers, students exercise academic integrity in all aspects of their work, showing respect for the ideas and works of others.
10 Reflective	J	Students effectively express ideas and information in an academic way.

## Process of developing a suitable research question: The pre-research or exploration stage

The development of an EE can be split into three main stages:

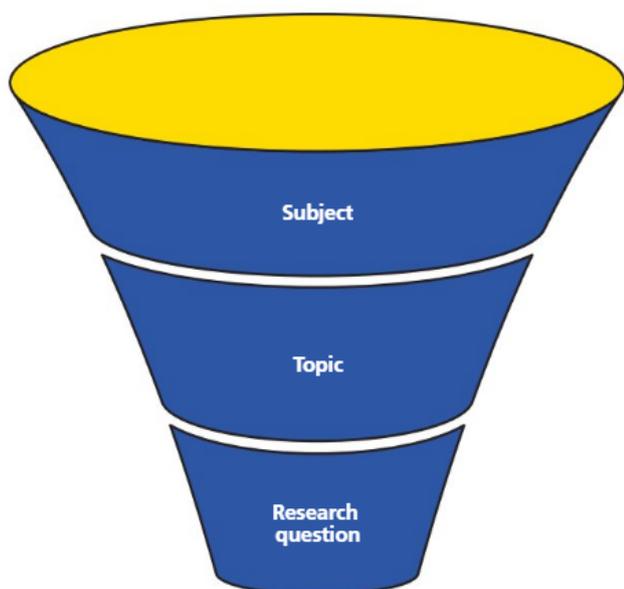


■ **Figure 2.3** The pre-research (or exploration) stage is the first of the three stages of developing your EE

This chapter will guide you through the first of these three stages, focusing on developing an appropriate research question that can be taken forward to the research or data-gathering stage. First, you will establish the basics of what a research question is and is not, before considering what you will need to have in place before beginning the process, how to find areas of interest in your subject(s), and how to develop these into an effective RQ that is viable for the remainder of the EE. Essentially, you need to narrow down from a subject area to a topic to a research question, with each stage being more specific than the previous one.

Remember that you must choose between two pathways for your extended essay:

- 1 Subject-focused pathway
- 2 Interdisciplinary pathway.



■ **Figure 2.4** Establishing your RQ involves a process of narrowing down from your subject area

### Expert tip

You can think of the process of developing an EE as an inquiry cycle, with the following stages:

- **Connect:** Connecting with your passions and curiosity to narrow down your subject area
- **Wonder:** Wondering more deeply about what you would like to find out in your subject area by coming up with a topic and then a research question
- **Investigate:** Gathering secondary research and primary sources (where appropriate and permitted) to help answer your research question
- **Construct:** Constructing meaning through analysis of the gathered sources and creating a plan for your essay
- **Express:** Writing your 4000-word essay
- **Reflect:** The final *viva voce* and writing of the reflective statement (see **Chapter 7 The importance of reflections**), but reflection will of course have taken place throughout the entire process.

## What is a research question?

The research question (RQ) is the central inquiry you aim to answer in your extended essay. It is crucial that you understand what a RQ actually is before you start the process of developing one yourself. It is also worth noting at this stage that even the best RQ can and will evolve throughout the process, and there may even be some false starts that require revising or redefining your question. This is all quite common, so there is no need to panic.

A research question is the query you are intending to address or answer through researching and writing your EE. By framing your RQ as a question, you can develop an argument that ultimately presents an answer to your initial inquiry. Unsurprisingly, it should be central to your 4000-word essay, so coming up with an effective and considered research question is an incredibly important part of the entire process.



**Risk-takers:** In choosing your topic, you are developing an area of inquiry that may well involve a topic or RQ that you do not currently have lots of knowledge and understanding of. Exploring new areas and justifying why you are doing so can be a little intimidating, but taking these sorts of risks is how you grow and develop as a learner and as a person.

Below are some tips for the research question to help you better understand it (also refer to the information on assessment criterion A in **Chapter 1 Understanding the assessment criteria** for further details):

- **Critical analysis:** A good RQ encourages critical analysis rather than shallow, descriptive or narrative responses. It should require use of knowledge, concepts, theories, perspectives, methods, or a combination of all of these in order to come to a justified conclusion.
- **Line of argument:** You need to be able to develop a strong line of argument. You are essentially convincing the examiner of the validity of your response to the RQ. This is an important consideration when developing a RQ as it is explicitly mentioned in assessment criterion C. Refer to **Chapter 1 Understanding the assessment criteria** for further advice about this assessment criterion.

## Definition

◆ A **double-barrelled research question** is one that combines two questions into one, such as, 'To what extent does Yanagihara use structure **and** cultural references to convey the impact of trauma in the novel *A Little Life*?' In this example, analysing both structure *and* cultural references will likely be too much to cover, and each focus could have been a separate EE research question. Keep the focus narrow.

- **Focused:** 'Scope' is something important to consider. It may seem that 4000 words is a lot to write, but you will use up this word count surprisingly fast. Your RQ needs to be narrow enough to be effectively answered in a 4000-word essay. In particular, you need to avoid vague or **double-barrelled research questions** that require you to cover too much within the limits of the 4000-word EE.
- **Sophisticated:** The assessment criteria emphasize the importance of higher-order thinking skills for a successful EE. The RQ should not be so simple that there is an obvious self-evident answer from the outset. Deeper thinking processes can be encouraged by using sentence stems such as 'How significant ...?', 'How successful ...?', 'To what extent ...?' and 'What if ...?' to frame your RQ.

## Common mistake

It is important for you to consider a research question that you can respond to comfortably within the 4000-word count limit of the extended essay. Therefore, you should avoid research questions that are too broad to complete within this limit or too narrow that you are unable to reach the maximum word limit.

## Task 2

Having read the expert tips, can you explain what is wrong with the following examples of research questions? What could you change about them to make them more effective? Make sure you check the answers section of this textbook for more insight into effective research questions.

**Language A:** How have children's advertisements changed over the last 50 years?

**Biology:** How does soap kill the gut bacterium *Lacticaseibacillus casei* Shirota?

**Business management:** How have Oreo's marketing strategies helped them become successful?

## What to have in place before developing your research question

Before beginning the process of coming up with your research question, it is important to have a few things in place. Your EE coordinator will undoubtedly give you some advice and help orientate you into the process at your school, but the advice that follows will also be very useful.

### Researcher's reflection space (RRS)

Think of the researcher's reflection space (RRS) as your learning journal, where you compile your notes, ideas and reflections throughout the EE process. It is good practice to share your RRS with your supervisor during your check-in meetings and formal reflection sessions (see Chapter 7 The importance of reflections for more details about this).

At this stage, you can collect your initial thoughts and any responses to activities you complete from this chapter as you progress through. Your RRS will be invaluable later when reflecting on the development of your research question during the initial reflection session (see Chapter 7 The importance of reflections).

Your school might have a suggested format for the RRS, but here is some further inspiration of approaches you may take:

## Old school

There is a certain charm to physical media, particularly in this age of widespread information technology and online content. If you appreciate the tactile experience of pen and paper, you might want to consider one of the options below. However, when basing a RRS on physical media, there will inevitably be some digital notes and research that you must either print or keep track of digitally alongside your physical RRS.

- **Scrapbook:** A large scrapbook allows flexibility, meaning that you can paste in documents, draw diagrams, handwrite notes and generally get creative with your RRS. This approach is particularly useful for EEs in the arts, including dance, music, theatre, visual arts and film.
- **Notebook:** A smaller notebook or notepad is great for handwritten notes that document your reflection and progress yet still allows flexibility if you want to add small diagrams or doodles.

## The professional

If you envision yourself as a future CEO, dressed in smart business attire and handing out formal business cards, this approach is for you. In that case, use a trusted and reliable form of notetaking.

- **Word processor:** Standard word processors are an obvious choice for the RRS. Cloud-based word processing programs are recommended as they are automatically backed up and can be accessed by multiple users (your supervisor will want to have access, for example). Some software will allow more flexibility with multimedia, so consider your likely needs given your chosen subject area, topic and research question.

## The tech-savvy

As a tech-savvy individual, you likely spend time troubleshooting tech issues for your parents or guardians. Why not leverage your status as a ‘digital native’ and use online platforms that offer greater flexibility and versatility for the RRS?

- **Tablet apps:** More and more apps built around tablets with styluses are blending the best of both worlds: the tactility of handwritten notes with the flexibility of digital documents. Many apps also enable you to embed PDF files, stickers and audio notes to accompany your written ones.
- **Digital whiteboards:** If you prefer an organized yet expensive canvas, digital whiteboard apps are also a good option. Many allow the embedding of videos and PDF files to help collect and organize all your ideas in what is essentially a digital version of a scrapbook.

### **Expert tip**

Remember to have a backup of your work. The easiest way of doing so is to use a word processing platform that keeps your files live and in the cloud such as Google Docs or OneDrive. This has the added benefit of the file being accessible to your supervisor if you provide them with sharing rights.

## The indecisive

Making decisions can be challenging. Throughout the EE process, you will need to make numerous decisions as you develop your EE, but if all the previous options sound applicable to you in their own ways, then why not combine them?

- **Blended RRS:** A blended RRS offers greater flexibility. There is no stipulation from the IB for your RRS to be in one specific document, but you need to ensure you keep things organized as it is easy to lose track of things over such an extended period. You can combine handwritten notes with digital notes, using whichever format best suits each situation, then collating all of this together.

### Task 3

Having read the advice above, you can now create your RRS. You can change the format later, at any time before the *viva voce* (final formal reflection session), but it is important you keep a record of the process from the outset. Any notes you have already made during the EE process can be added to your RRS.



■ **Figure 2.5** A blended RRS can give the best of all worlds

## *Extended essay guide and Extended essay support material*

Now you have your RRS, it is worth taking a moment to be reminded of some resources you will need to read through. The IB has published two documents that are vital for you and your supervisor to refer to throughout the EE process: the *Extended essay guide* and the *Extended essay support material* (first assessment 2027). These documents are very important and will be used by EE coordinators and supervisors to understand what they are aiming for with the EE process at your school. With this latest revision of the EE, both publications are more student-friendly and can be very helpful for understanding the process.

The *Extended essay guide* provides a comprehensive explanation of the task. While reading the entire guide is unnecessary, there are many sections that are relevant to understanding the EE development process. In particular, you should refer to the section towards the end of the *Extended essay guide* that provides subject-specific guidance for your chosen EE subject. This section includes examples of research questions and guidance on how the assessment criteria are particularly applied to EEs in the various subject groups (Language A, Language B, Classical Languages, Individuals and Societies subjects, Sciences, Mathematics and Arts). It is also worth reading the sections on cross-disciplinary subjects, as you may consider the option to write an EE in either environmental systems and societies (ESS) or literature and performance. This allows more flexibility in your RQ as these two DP subjects each combine studies in two subject groups. ESS integrates Individuals and Societies and the Sciences, while Literature and Performance brings together Language and Literature and the Arts. Note that these cross-disciplinary subjects are **not** the same as the interdisciplinary EE, which is covered separately in Chapter 9 *The interdisciplinary extended essay*.

The other main document is the *Extended essay support material*. As the name suggests, it is targeted at supporting students, not just teachers. This document was written by IB teachers experienced in supporting students and teachers through the EE process. As such, it includes ideas, background information and tools that can help students and supervisors alike in getting through the EE process successfully.

So, having set up your RRS, it is time to start generating some more notes with the following task.

### **Task 4**

Skim through the advice given for each of your DP subject groups in the *Extended essay guide*. Make some basic notes on what kinds of RQs are suggested, and any particular advice given. Also read the section on the interdisciplinary EE, as this may end up being the pathway you take when you develop your RQ. These notes will help you in the next stage (narrowing things down).

# Narrowing things down

## ■ Connecting with curiosity and considering topics

The freedom of the EE can be overwhelming. It is therefore important to start narrowing things down. There is no set process for coming to a suitable RQ, but the approach explained below should help you.

Having made notes in your RRS on your six DP subjects, you already have a better sense of what is possible and what is most likely to keep you engaged throughout the EE process. It is time to narrow things down.

We are going to explore three of your six DP subjects in more detail and consider some potential EE topics for them. From these topics, you can develop more specific research questions. Having three is useful on an intellectual level as it provides more variety of thought and options, but it is also useful on a practical level as there is often no guarantee you will get your first-choice subject (depending on the policy of your individual school).

Before narrowing down to your three DP subjects, take the following into consideration:

- **HL vs SL:** It is worth factoring in the level of study of your subjects. Completing an EE in an SL subject is completely fine (you are technically allowed to complete the EE in a subject you do not study, but unsurprisingly this is often not advisable!). In contrast, you study your HL subjects in far more depth, and therefore develop a deeper and wider set of knowledge, concepts, theories, perspectives and methods to draw on when developing your EE.
- **Passion:** The EE is an involved and lengthy process, so a subject you are passionate about is more likely to keep you motivated and engaged as you develop your EE. You will most likely have only begun your studies in each subject, but you will have some sense of which subjects engage you intellectually and which present more of a challenge.
- **Topics:** Consider the topics you have already studied and those that you will study. This will help provide ideas for the kinds of topics you might end up writing about. It is important that you do not reproduce any work that you have studied in class, but topics covered might serve as the inspiration or a starting point for your own research.

### Expert tip

Consider your choice of an HL or SL subject carefully. You need to have sufficient depth of subject knowledge and background reading to write the 4000-word essay in an analytical and critical way. Nevertheless, note that you have complete freedom to choose your EE subject. While HL subjects are typically studied in more depth, this doesn't mean you cannot explore SL subjects or even areas you haven't formally studied but are passionate about. Many students, due to career aspirations, are required to select specific HL subjects, which sometimes forces them to exclude a subject they are deeply interested in (such as Group 6 subjects, which often fall in this category). The EE could create an opportunity to give these SL subjects more of a focus.

## Task 5

Based on your thoughts so far, choose the three subjects you think would be most interesting for developing an EE.

Once you have done so, it is time to start exploring! You need to start considering which topics you might write an EE about in each of the three subjects.

There are lots of resources you can use to help generate these topics and ideas, but here are a few to get you started:

- **Notes:** Your own notes are a good place to start. Topics covered in class might inspire you to explore further, and the EE is an excellent opportunity to do so. Your lessons may have briefly introduced intriguing topics or subject content, presenting opportunities to explore them in greater depth through your EE.
- **Subject teachers:** Having a quick conversation with your subject teachers can also be a useful place to find topic ideas. They will have experience with EEs in the past and will have subject knowledge to support you accordingly.
- **Course guides:** Looking at the syllabus for your three shortlisted subjects lets you know what topics are coming

up in class, what kinds of topics exist within the subject area, and can get you thinking about possible avenues of exploration for the EE.

It is up to you how you record these ideas in your RRS, but one suggestion is to use mind maps. As you write down topic ideas, you can surround these with sub-topics and even possible questions. By doing so, you might also notice interesting connections between your subjects at this stage. Try to colour-code or draw labelled connections between your different subjects in your mind maps. This may lead you to consider the interdisciplinary pathway (see **Chapter 9 The interdisciplinary extended essay**) or a cross-disciplinary subject.

Once you have some ideas for your three subject areas, highlight promising ones and create a ranking of your top three. Choose the ones that seem to have the most potential, not just in terms of investigations, but in terms of keeping you engaged, curious and passionate as you delve deeper into the process. You are hopefully getting closer to your eventual research question!



■ **Figure 2.6** Four steps to developing a research question

## Pre-research (exploration) stage

Taking your top-ranked subject and topic, it is time to conduct some preliminary research. This is essentially gathering more content and ideas around your topic that you can then use to form a suitable research question. It also helps confirm the topic has the necessary depth for a 4000-word investigation.

You may or may not already have actual research questions swirling around in your head at this point, but it is better to do some basic reading into your topic before forming your initial research question. This pre-research should not be extensive; you are only skimming the surface of the topic to spark your curiosity. The more of a sense you have of your topic, the more options and ideas you will have for an actual research question.

At this point, it is also important to remember what was mentioned earlier in the chapter: your RQ can evolve or may even be unsuitable, requiring you to revisit the start of the process. This stage is all about exploring, and when exploring you often get lost, need to turn back, reflect and go in a different direction. Don't worry, you still have alternative topics and subjects to turn to.

## Task 6

Complete the following tasks to develop your topic area, documenting your notes and any reflections in your RRS:

- **Initial research and background reading:** As research is so central to the extended essay, you need to ensure that sufficient information exists to be gathered. If you struggle to find enough information at this stage, it is unlikely to lead to an effective RQ. Consider the following questions when conducting initial pre-research into your topic:
  - What has already been written about this topic?
  - Is it easy to find relevant sources of information?
  - Is there a suitable range of sources available?
  - Is there a range of views and perspectives on the topic?
  - Are interesting questions starting to emerge from your reading on the topic?
- **Ethics and academic integrity:** As you head out into the world of academic research, you need to consider

whether this topic will run into any possible ethical concerns. See **Chapter 4 Academic integrity** for more information on what is and is not acceptable within the context of the EE. If you are worried there may be ethical issues, raise them immediately with a subject teacher or your supervisor for some advice.

Remember, by exploring your topic in the pre-research (exploration) stage, you are simply taking initial steps into the possibilities. Much deeper research is to come if you end up taking this topic forward and developing it into a research question.

However, you may find that there is little depth or interest in what initially seemed like a promising topic. If that is the case, don't worry, as you can go back to the previous stage and look into one of the other topics or subjects you considered as part of the 'connecting with curiosity' stage.

If you are happy with your topic, move on to the next stage.

## Going from a topic to a research question

Topics are broad; research questions are specific. An example for digital society (group 3 subject) is as follows:

- Topic: An investigation into management information systems in the manufacturing industry.
- Research question: To what extent has factory work in Vietnam been transformed by automation and AI in the last decade?

As you can see, a research question involves far more specificity.

So, now you have considered a topic of interest and found that it has some depth, you need to decide on a particular research question of your own that gets you especially curious and seems worthy of academic investigation. It also means you will have something to 'answer', which is necessary for you to create a line of argument in your EE.

If you end up sticking with this initial research question, it will almost certainly evolve as you develop your EE. It is often the case that the final submission of the essay has a very different RQ from the one you began with. This can occur for various reasons, from tweaking phrasing for clarity to your research taking an unexpected path.

In this section, you will find some useful research question stems. Examples of some actual research questions can be found towards the end of this chapter.

### Common mistake

Your research question should be expressed as a probing question, ending with a question mark. Too often, students propose a hypothesis or a premise in place of an actual question.

### Common mistake

Simply tweaking your topic and adding a question mark at the end will not make an effective research question. Typically, a focused research question is phrased very differently from the overall topic (broad).

## ■ What makes an effective research question?

Now is the time to come up with a specific research question. This set of activities will help you through the process.

You need to form a research question that has the following qualities:

- **Focused and worthy:** You must be clear about what you specifically intend to address in your essay. It also needs to be significant, meaning there is not an obvious answer – it is not worth going through the process of inquiry if there is nothing academically worth inquiring about.
- **Feasible within 4000 words:** Your question must be neither too broad nor too narrow. If you are looking at a variety of factors in your potential RQ, for example, consider narrowing it down to just one. If you are unsure whether the RQ will need 400 or 40,000 words, consult your supervisor or subject teacher.
- **Analytical and arguable:** It is essential that your research question does not lead to a descriptive or overly simple response. There should be a clear argument you can make that involves analysis and interpretation when responding to the research question.

Ultimately, you need to consider your main objective and how best to phrase that as a research question.

## Testing your understanding of what makes an effective research question

With this in mind, complete the following activities to further develop your understanding of effective research questions before finally coming up with your own.

### ● Task 7

Which of these are good topics for creating suitable research questions and why? Copy out and complete the table below, then check the answers at the back of this book.

- 1 A comparison of wars.
- 2 Aspects of the First World War that led to medical advances.
- 3 'The fact that she is not immune to persuasion makes Anne Elliot one of Jane Austen's most admirable and sympathetic characters.' Discuss.
- 4 Comic books can be considered as art. Discuss.
- 5 The development of a tragic hero from Homer's *Iliad* to Eddie Carbone in Arthur Miller's *A View from the Bridge*.
- 6 An investigation and redesign of a rotational laundry rack for elderly people.
- 7 A comparison of traditional markets and supermarkets.
- 8 A study of Pi.
- 9 The benefits and costs that Disneyland brings to Paris.
- 10 The degree of complexities of B vitamins in comparison to DEET in preventing mosquito bites.

Essay title number	Good or bad?	Reasons
1		
2		
3		

### ● Task 8

- 1 Choose three of the questions from Task 7 that are ineffective topics for research questions and re-write them so that they become better inquiry questions that are more suitable for an EE.
- 2 What might make an effective research question for each of the following topics?
  - **History:** Second World War

- **Psychology:** Depression
- **Mathematics:** Population growth
- **Visual Arts:** World's tallest buildings
- **Film:** *The Lord of the Rings*

For example, a visual arts extended essay on tall buildings should consider the aesthetic aspects of their design.

## Task 9

Consider why the following are unsuitable topics for EE research questions. Which subject would they fit into?

- The origins of the Cold War
- English novels
- How to design a space shuttle
- Why should we expect a flu epidemic?
- When should we expect the next tsunami?
- Do Dry Shirts work? How do they work?
- Are Chinese medicines effective?
- Was Albert Einstein an atheist?
- The NBA in China

## Forming your own research question

Having completed these tasks, it is time to come up with your own research question based on your current idea for a topic. Before forming your research question, complete the following:

- 1 Review the subject-specific guidance for your preferred EE subject and pay particular attention to the advice on and examples of research questions in that subject area.
- 2 Read the 'Research question stems' section below.
- 3 Read the 'Research question examples' section that follows.

Once you have done this, form your own research question before reading the next section of this chapter.

### ■ Research question stems

You can use question 'stems' – these are structures for questions that can be adapted for a more specific topic. These stems help you to structure your RQ and responses more effectively. This is usually just a starting point and should evolve into more unique research questions as you develop your EE and refine your research.

Many are broken down by subject, but most are transferable, and the list is by no means exhaustive.

#### Descriptive vs analytical stems

##### Avoiding descriptive stems:

Question stems such as 'How do ...' and 'What is ...' often lead to extended essays that are descriptive rather than analytical. Explaining 'how' something happens usually leads to describing a process without presenting an argument. 'What' is similar – you end up focusing on what happens in a process in a largely descriptive way, simply making a declarative response rather than an inquiry-focused one.

##### Analytical and inquiry-focused stems:

In contrast, 'To what extent ...', 'How effective ...' and 'How accurate/reliable ...' use 'how' and 'what' in more evaluative phrases that create a far more analytical and evaluative extended essay. Responses to these types of stems require critical thinking and evaluation to reach a clear conclusion that answers the research question.



■ **Figure 2.7** A good stem will allow your research question to bloom into an effective extended essay

## Subject-specific stems

The following question stems are more detailed and lend themselves to particular subjects. These should be seen as potential starting points for crafting your research question, emphasizing the importance of originality. This is not only because your original inquiry should lead to a unique RQ, but also for reasons of academic integrity.

### Language A:

- 1 To what extent does [author] utilize [literary device/s] to convey [theme/idea] in [work]?
- 2 How does [character] in [work] exemplify the struggle between [concept] and [concept]?
- 3 In what ways does [literary aspect of work] reflect the cultural and historical context of [time period]?
- 4 What role does [symbol] play in the development of [theme] in [work] by [author]?
- 5 How does [author]'s use of [narrative technique] affect the reader's perception of [character/event] in [work]?

### History:

- 1 To what extent did [event] influence the development of [political/social/economic] structures in [region/country]?
- 2 To what extent did the policies of [leader] influence [group/country/issue] during [time period]?
- 3 What were the most significant causes and consequences of [historical event] for [specific aspect of society]?
- 4 In what ways did [movement/event] challenge the existing power structures in [country/region]?
- 5 How did [technological innovation] contribute to changes in [societal aspect] during [time period]?

### Sciences:

- 1 How does [scientific phenomenon] affect [biological/chemical/physical process] in [specific context]?
- 2 What are the implications of [scientific discovery/innovation] on [field/industry]?
- 3 To what extent can [scientific method/technique] be effective in solving [specific problem]?
- 4 How do environmental factors influence [specific aspect] of [biological/chemical/physical system]?
- 5 What is the relationship between [variable] and [variable] in the context of [scientific study]?

### Psychology:

- 1 To what extent does [theory/concept] explain the [type of behaviour] of [group/individual] in [specific situation]?
- 2 To what extent does [psychological phenomenon] have an effect on [aspect of mental health] in [population]?
- 3 How effective is [therapeutic approach] in treating [specific disorder]?
- 4 How do [social/cultural factors] influence the development of [behaviour/attitude] in [group]?
- 5 To what extent does [type of intervention] effectively treat [aspect of behaviour/cognition] in [specific context]?



■ **Figure 2.8** If you were writing an EE on economics, what question stem would you use for your RQ?

**Economics:**

- 1 How effective is [economic policy] in influencing [specific economic indicator] in [country/region]?
- 2 What are the effects of [market structure] on [industry/market] in [country/region]?
- 3 To what extent does [economic theory] explain [economic phenomenon] in [specific context]?
- 4 How do [socio-economic factors] influence [aspect of economic behaviour] in [population]?
- 5 What role does [institution] play in the economic development of [country/region]?

**Global politics:**

- 1 How does [political theory] apply to the governance of [country/region]?
- 2 What are the impacts of [policy/reform] on [aspect of society] in [country/region]?
- 3 To what extent do [political movements] shape the political landscape of [country/region]?
- 4 How do [international relations factors] influence the foreign policy of [country] towards [country/region]?
- 5 What are the effects of [legislation/policy] on [demographic group] in [country/region]?

**Arts (dance, music, theatre, visual arts and film):**

- 1 How does [artist/movement] use [medium/technique] to convey [theme/idea]?
- 2 To what extent does [artwork/genre] reflect the cultural and historical context of [time period]?
- 3 What influence did [artist/movement] have on the development of [specific art form]?
- 4 How does [element/style] in [artwork/film/music] contribute to its overall impact on the audience?
- 5 What role does [art form/medium] play in the expression of [social/political] issues in [context]?

■ **Research question examples**

To help you formulate your own research question, the following section provides some examples of RQs from various subject areas. Your supervisor or EE coordinator will be able to share additional examples.

■ **Table 2.1**

<b>Group 1 Language A: Studies in language and literature</b>	
Quick tips	<ul style="list-style-type: none"> <li>• Ensure your focus remains 'literary'. You may explore a social, political or philosophical issue, but the focus of the RQ must be on how this idea is explored in a literary/linguistic context.</li> <li>• Avoid overly biographical, historical, psychological or sociological topics as these make it hard to maintain a focus on literary/language analysis and discussion.</li> <li>• Texts must have literary merit. This refers to the quality and significance of a written work, based on its originality, insights and enduring value. Literary merit is often distinguished by its ability to engage readers, provoke thought and stand the test of time.</li> </ul>
<b>Group 1 subjects, essays titles and research question examples</b>	
English language and literature	<p>How and to what effect is rhetoric used in selected National Union of Women's Suffrage Societies' pamphlets from 1910 to 1914?</p> <p>To what extent are the changing visual elements and graphology of toy advertisements an indication of changing child gender attitudes since the 1960s?</p>
English literature	<p>To what extent does the portrayal of transgenderism in Virginia Woolf's <i>Orlando: A Biography</i> serve as a form of empowerment, especially for women?</p> <p>How does Thackeray convey the idea that 19th-century English society prioritized external appearance over moral principles in <i>Vanity Fair</i>?</p>

■ Table 2.2

Group 2 Language B: Language acquisition	
Quick tips	<ul style="list-style-type: none"> <li>• There are three main areas you can explore:               <ul style="list-style-type: none"> <li>– Language use</li> <li>– Literary analysis</li> <li>– A study of the culture itself.</li> </ul> </li> <li>• You could analyse a text to explore how language is developed and used by native speakers or in literature.</li> <li>• You could also investigate the culture or history of a country where the target language is dominant, focusing on a socio-cultural issue specific to the target language.</li> </ul>
Group 2 subjects, essays titles and research question examples	
Spanish	<p>¿Cuál es la importancia de las mujeres en 'la casa de Bernarda Alba' y 'Bodas de Sangre' por García Lorca?</p> <p>What is the importance of women in <i>The House of Bernarda Alba</i> and <i>Blood Wedding</i> by García Lorca?</p>
	<p>'Agua para Chocolate', ¿cómo influyen las recetas y los remedios caseros en las interacciones, emociones y amor entre los personajes?</p> <p>In the novel <i>Like Water for Chocolate</i>, how do recipes and home remedies influence the interactions, emotions and romantic relationships between the characters?</p>
French	<p>Dans quelle mesure les interdictions de fumer dans les lieux publiques sont-elles un avantage pour le reste du monde?</p> <p>To what extent can the ban on smoking in public places in France be seen as an advantage for the rest of the world?</p>
	<p>Dans quelle mesure peut-on dire que la Loi de 2010 interdisant la dissimulation du visage dans l'espace public en France est-elle une mesure nécessaire pour sauvegarder les valeurs républicaines?</p> <p>Is the law of 2010 that prevents people from covering their face in public spaces a necessary measure in order to preserve the Republic's values?</p>
Chinese language A (bilingual diploma)	<p>老北京的成长故事----《城南旧事》中的复调手法体现</p> <p>How does the author of novel <i>My Memories of Old Beijing</i> use polyphony to achieve her writing purpose?</p>
	<p>诗歌借鉴的实现方式-----以《繁星春水》为例，探究泰戈尔的《飞鸟集》对冰心诗集风格的影响</p> <p>How does the writing style of <i>Stray Birds</i> written by the poet Tagore influence the Chinese poetry <i>Flows Stars</i> written by Chinese poet Bing Xin?</p>
Chinese language B	<p>从香港交通发展的历史看香港社会文化变迁</p> <p>How does the change of the traditional Chinese characters to simplified characters affect the learning of Chinese culture?</p>
	<p>浅析繁体字被简体字取代所带来的文化缺失</p> <p>How does the development of transportation in Hong Kong represent the culture change of Hong Kong society?</p>
Japanese	<p>日本料理と中国料理</p> <p>How is Japanese food different from Chinese food?</p>
	<p>高校生の生活</p> <p>In what ways is school life for Japanese high school students and Chinese high school students similar?</p>

■ Table 2.3

<b>Group 3 Individuals and Societies</b>	
Quick tips	<p>An EE in Individuals and Societies will give you the opportunity to:</p> <ul style="list-style-type: none"> <li>• challenge cultural assumptions or contest definitions and descriptions of the social world, or assumptions about human nature</li> <li>• develop, through an in-depth study, a critical inquiry into the human condition and its possibilities</li> <li>• increase your knowledge of a subject within Individuals and Societies by exploring relevant subject literature</li> <li>• select different theories and concepts in Individuals and Societies subjects, then apply suitable methodologies to formulate an argument</li> <li>• develop a more informed and a more sophisticated understanding of the dynamics of the social world.</li> </ul>
<b>Group 3 subjects, essays titles and research question examples</b>	
Business management	To what extent did targeted collaborations by The North Face between 2021 and 2023 influence its market share and consumer engagement metrics?
	How effective has McDonald's 'Create Your Own Menu' strategy been in developing market growth in Hong Kong?
Digital society	How has the increase in information shared on social media challenged democratic institutions (with a focus on the case of Cambridge Analytica)?
	To what extent can productive work cultures be maintained with robotic colleagues through the use of automation and AI?
Economics	To what degree has the fall in the exchange rate of the pound sterling following Brexit affected the tourism industry in the Lake District, UK?
	To what extent is private education in Singapore recession-proof?
Geography	To what extent has the environmental levy on plastic bags been successful worldwide (with a focus on studies based in two different regions)?
	To what extent do marine aquaculture sites influence eutrophication of seawater in Plover Cove, Hong Kong?
Global politics	To what extent is female leadership better at facing and resolving conflict (with a focus on responses to terrorist attacks in New Zealand and France)?
	To what extent is the large amount of personal data collected by mobile apps a breach of the right to privacy (the case of Meta in the EU)?
History	To what extent was the ideology of 'continuous revolution' the main cause of the Chinese Cultural Revolution?
	To what extent can Lenin's rise to power in 1917 be attributed to foreign intervention?
Philosophy	To what extent has Simone de Beauvoir's existentialism challenged Western patriarchal views of female sexuality?
	Can metaphysical interpretations of gender be effectively applied in contemporary philosophical discourse?
Psychology	To what extent is art therapy effective in reducing symptoms in Major Depressive Disorder?
	To what degree does personality affect relative levels of stress in the medical profession?
Social and cultural anthropology	How useful is the concept of performance to explain bodily experiences in women's current political demonstrations from a feminist theoretical perspective?
	To what extent do witchcraft beliefs influence the women of the Bhil tribe?
World religions	Why are Orthodox Jews more resistant to the ordination of women as pulpit rabbis than Reform Jews?
	To what extent can evangelical conceptions of Christian eschatology result in internal inconsistencies within evangelical theology?

■ Table 2.4

Group 4 Sciences	
Quick tips	<ul style="list-style-type: none"> <li>• It is easy to be too ambitious with sciences research questions – keep it manageable and be mindful of your access to resources and facilities that may be necessary for your research.</li> <li>• Your RQ should offer the opportunity to investigate and collect data using scientific methodology.</li> <li>• Your RQ must lead to findings that are valid and evidence-based.</li> </ul>
Group 4 subjects, essays titles and research question examples	
Biology	<p>What is the impact of humidity (as a result of changing weather patterns due to climate change) on the rate of growth of agricultural crops in the United States as simulated with the use of coriander?</p> <p>How does the variation in pigmentation in different perennial leaves affect the rate at which photosynthesis occurs?</p>
Chemistry	<p>How does an increasing number of methylene groups in alcohols affect their ability to dissolve fatty acids as a solvent when finding the iodine number?</p> <p>How does the molar ratio of oil to methanol (1:0.5, 1:1, 1:6, 1:12, 1:15) affect the yield of biodiesel as measured by biodiesel recovery (%) produced from the transesterification of soybean oil with 1.4% w/w KOH as a catalyst?</p>
Computer science	<p>To what extent does the performance and accuracy of detection algorithms such as YOLO, SSD and Faster R-CNN vary when used to detect and recognize pedestrians in autonomous driving scenarios?</p> <p>To what extent does parallelism improve the runtime performance of breadth-first search on graphs of varying size?</p>
Design technology	<p>How do the ergonomics of classroom furniture affect student concentration and productivity?</p> <p>How can the interior design of public housing maximize comfort and safety for residents?</p>
Physics	<p>How does the speed of the blades affect the lift of a drone?</p> <p>How does the distance between modules affect the output velocity of a projectile in a Gauss Cannon?</p>
Sports, exercise and health science	<p>To what extent do isometric and plyometric training affect the ability to increase driving distance of 16–18-year-old male elite golfers?</p> <p>To what extent are higher rates of ACL injuries in women than men due to anatomical differences?</p>

Note that for Group 4 subjects, the sciences essays can be distinguished from other extended essays by the development of falsifiable hypotheses, replicable data and the use of peer-reviewed publications. Hence, while a sciences essay can be based on primary data, it must also have a supporting secondary research component, including peer-reviewed publications.

■ Table 2.5

Group 5 Mathematics	
Quick tips	<ul style="list-style-type: none"> <li>• Your RQ could explore an issue in mathematics that is beyond the syllabus. This is known as a <i>theoretical essay</i> in mathematics.</li> <li>• Mathematics is all around us, so one option is a RQ that investigates how mathematics can be used to explore an issue of personal interest, for example your CAS project, a hobby or a sport from which you can gather some meaningful data. This is known as a <i>practical essay</i> in mathematics.</li> <li>• Your RQ does not have to lead to an EE that is entirely theoretical or entirely practical – they are often a blend of the two.</li> </ul>
Group 5 subjects, essays titles and research question examples	
Mathematics	<p>How do linear algebra and group theory contribute to optimizing the Rubik's Cube solving algorithms?</p> <p>To what extent do musical scales follow a mathematical geometric progression?</p> <p>To what extent can the sound frequency response on a pair of noise-cancelling headphones be modelled using the Fourier transform?</p>

### Expert tip

Given that mathematics essays often include extensive algebra, the actual final word count for your extended essay is highly probable to fall short of 4000 words. Note that equations, formulae and calculations are *not* included in the word count.

■ Table 2.6

Group 6 Arts	
Quick tips	<ul style="list-style-type: none"> <li>Your RQ should integrate primary sources (such as artworks, film, live performances, music concerts, play texts, screenplays, scripts and scores) with researched secondary sources and critical evaluation.</li> <li>Ensure your chosen primary sources provide enough content to sustain a 4000-word essay.</li> </ul>
Group 6 subjects, essays titles and research question examples	
Dance	To what extent was voguing a response to the rejection of the LGBTQ community and what is its relevance today?
	To what extent does Pina Bausch through her choreography reflect on societal issues relating to gender roles in post-war Germany?
Film	How does John Wells use camera movement, framing and blocking to portray the concept of leadership in the individual in the film <i>Burnt</i> ?
	How do lighting techniques contribute to effective film production in Hong Kong?
Music	To what effect does Rob Hubbard use genre techniques in the composing of chiptune music?
	How does Northern classical Indian music impact modern Western heavy metal musical structure?
Theatre	What are the prominent production values that serve to promote the intentions of Theatre of Comedy and Theatre of the Absurd?
	How does drama positively impact children in their primary years of education?
Visual arts	To what extent is traditional Ukiyo-e printmaking in Japan reflected in contemporary Manga cartoons?
	To what extent did Mary Blair's concept art and the visual narratives of other fantasy illustrations shape the enchanted realm and empower women?

■ Table 2.7

Cross-disciplinary subjects	
Quick tips	<ul style="list-style-type: none"> <li>Note that an essay in cross-disciplinary subjects is separate from the interdisciplinary pathway (see <b>Chapter 9 The interdisciplinary extended essay</b> for information about the interdisciplinary extended essay).</li> <li>Your RQ should cover a topic of interest drawing from approaches, theories, concepts and methodologies of your chosen discipline.</li> <li>An environmental systems and societies (ESS) RQ explores the interrelationship between environmental systems and societies holistically, drawing on elements of biology, ecology and geography.</li> <li>A literature and performance (L&amp;P) RQ must examine a written text and the transformation or adaptation of that text into a different artistic form or genre. The essay should be grounded in a text and then explore in detail its transformation or adaptation into a realized performance. Note that the assessment task is dedicated to exploring adaptations between written texts and any Group 6 subject.</li> </ul>
Cross-disciplinary subjects, essays titles and research question examples	
Environmental systems and societies	How do people's attitudes to the environment vary according to income (a case study in the Fo Tan region of Hong Kong)?
	Given its ecological value, to what extent is Jone's Cove at Sai Kung Peninsula managed sustainably?
Literature and performance	How have the changes in Watson in the television production <i>Elementary</i> affected the portrayal of both Holmes and Watson?
	How does Jerome Robbins' choreography of <i>West Side Story</i> transform the original meaning and effect of Shakespeare's <i>Romeo and Juliet</i> ?

## Stress-testing your RQ

Now you have an actual research question, you need to double-check it is viable before moving on to the second of the three major stages of developing an EE; the research or data-gathering stage. To do so, you can put it through some tests to build further confidence in its feasibility.



■ **Figure 2.9** Stress testing ensures your research question can withstand the rigours of the EE development process without crumbling

## Task 10

Perform the following tasks to assess the feasibility of your research question.

- **Subject specialists/supervisor:** Asking a subject expert is one of the easiest and quickest ways of getting a sense of how viable your RQ is. You may have been assigned a supervisor by this stage. If not, asking a teacher of the relevant subject area can be incredibly helpful.
- **Further pre-research:** Now you have gone from a topic to a research question, you have a more precise idea of what you want to investigate. Do some further pre-research to confirm that there is enough out there for it to be an effective investigation.
- **Research question reflection:** Consider the following questions regarding your initial research question:
  - Is your RQ sufficiently narrow to be addressed within the 4000-word limit and the timeframe of the EE process?
  - Is it realistic to find enough sources of information for this topic to write a sustained and substantiated argument?
  - Consult the assessment criteria from the previous chapter. Is your RQ likely to lead to an EE that will fulfil all five assessment criteria?
  - Is the RQ specific to a single IB subject? If not, reconsider an interdisciplinary essay. See **Chapter 9 The interdisciplinary extended essay** for further details about this pathway.
  - Is your RQ something you are genuinely interested in and feel excited about the prospects of exploring?

## Expert tip

There is additional advice about the pre-research stage of the EE outlined in the IB document *Extended essay support material*.

How did your research question fare in stress tests (feasibility tests)?

**Pass:** Congratulations! You have a research question to explore. Read the rest of this chapter for advice on what to do next.

**Fail:** If your research question has proved unfeasible then fear not; there are two options for you:

- **Evolve and adapt your research question:** The RQ is fluid and will change throughout the process of developing your EE. If it shows potential, consider tweaking the approach or perspective you were taking on the topic you have been exploring. Remember, you can speak with a teacher or your supervisor about this.
- **Back to the drawing board:** If it is looking like your RQ is unsuitable, you can consider a different RQ in the same subject or go back a few steps and consider your second- or third-ranked DP subjects. Do not worry! A major part of the EE is dealing with setbacks and handling them constructively. It is entirely normal to have to go back to the drawing board and start again. In any case, this experience will provide material for your RPF reflective statement at a later stage (see Chapter 7 The importance of reflections).

## Expert tip

An effective research question is the foundation of a good extended essay. It will have a significant impact on all assessment criteria, as outlined in the next section.



■ **Figure 2.10** The quality of your research question has an impact on all of the assessment criteria

## Looking ahead

The research and data-gathering stage comes next. This is where you begin your research, using primary and secondary sources as appropriate. Before moving on, read this quick reminder of the assessment criteria and how they relate specifically to the research question to double-check it is appropriate. More details can be found in Chapter 1 Understanding the assessment criteria.

### ■ How your research question relates to the assessment criteria

The quality of your research question has an impact on all of the assessment criteria. Here is a brief overview of how it will impact each assessment criterion.

#### Criterion A: Framework for the essay (6 marks)

- This assessment criterion is most clearly related to your choice of a good RQ as it includes the specific strand ‘research question’. At the top of the mark bands, the examiner is looking for a research question that is relevant to the topic of your investigation, is clear and is focused in relation to the scope of the essay. If the question is not clearly stated or is too broad in scope (given the 4000-word limit), then your essay will score in the lowest level descriptor (1–2 marks). If the RQ is more clearly stated but the discussion is only partially focused on your research question, then your essay is likely to score 3–4 marks for this assessment criterion.
- Your research question will also have an impact on the research methods and structure strands because your central inquiry topic will define what methods are needed to investigate it, and the structural elements of your EE will have to suit the subject and topic of your RQ.

#### Criterion B: Knowledge and understanding (6 marks)

- This criterion assesses how effectively you gather knowledge relevant to your RQ and use these source materials and subject-specific content in your EE. You will score a low mark (1–2 marks) if the research materials have limited or partial relevance to your research question. Therefore, ensure that your RQ allows you to find sufficient and appropriate evidence. If you cannot gather the necessary information from a variety of sources, including contrasting evidence, it may be better to simply change your research question.
- Students often wonder what is an appropriate number of sources to use in their essay. The answer to this varies tremendously depending upon the topic selected for research but, in general, aim for at least ten (double digits). Identify at least ten potential sources for your research question.
- However, there are some very good essays that have relatively few sources because of the nature of the topic and RQ studied. Look at the bibliography/works cited sections of some successful exemplar essays to get a sense of the typical number of sources for your chosen subject(s). Above all, ensure your sources directly address the research question, prioritizing quality over quantity. Check with your supervisor if you are unsure.

#### Criterion C: Analysis and line of argument (6 marks)

- This assessment criterion particularly links to your RQ in the line of argument strand. You need a sustained line of argument that clearly links to the research question to achieve the highest mark descriptor (5–6 marks).



■ **Figure 2.11** You have 500 words to write your reflective statement on the RPF

### Expert tip

You may find that you need to change your research question as your research progresses. It is common to uncover previously unknown aspects of your topic that are more interesting than your original focus. The dynamic nature of the research process often reveals new facts, leading you to adjust your direction. As long as you check with your supervisor, this should not be a problem and can lead to a more engaging and exciting essay.

- The analysis strand is linked to your RQ, requiring the sources and data analysed to be directly relevant.

#### Criterion D: Discussion and evaluation (8 marks)

- This assessment criterion connects to your RQ, as the discussion of findings should be balanced and directly address the question.
- The evaluative aspects of your EE should explore its strengths and limitations in addressing or answering your RQ. If your investigation fails to answer your RQ fully, this should be acknowledged, discussed and evaluated.

#### Criterion E: Reflection (4 marks)

When reflecting on your EE, consider your choice of RQ and its effectiveness in guiding your research. You should include these reflective thoughts as part of your reflective statement on the reflection and progress form (RPF).

### Chapter summary

- Before you start, consider what others have already written about the topic. What is already known about this topic and research question?
- Avoid using a research question that is unclear, vague or too broad.
- Do not make your research question too simplistic or too complicated.
- Choose a research question on a topic or subject that is of genuine interest to you.
- Your research question must be phrased as a probing question that is worthy of further academic research.
- Your research question should lend itself to a good range of accessible and relevant sources.
- An effective research question is the foundation of your EE and impacts all five of the assessment criteria.
- The best EEs consider carefully how the research question relates to all of the assessment criteria (see **Chapter 1 Understanding the assessment criteria** for details and tips about understanding the assessment criteria).

### END-OF-CHAPTER QUIZ

	Question	True	False
1	The research question should always be phrased as a probing question.		
2	Criterion A (Framework for the essay) assesses the quality of the research question.		
3	Criterion A (Framework for the essay) is worth 6 marks.		
4	The research question may fall into a number of subject areas as long as those subjects are clearly stated.		
5	A descriptive research question is likely to lead to a narrative essay that will score poorly under assessment criterion C (Analysis and line of argument).		
6	You may only develop an EE in a subject you study at HL.		
7	It is permitted to change or alter your EE research question even after starting your research and your initial meeting with your supervisor.		
8	The research question has no direct relevance to criterion D (Discussion and evaluation).		
9	Your research question should be restated in the introduction of your EE.		
10	The research question should be very specific and narrow to allow for effective treatment within the word limit of 4000 words.		





# 3

## The formal presentation of the extended essay

### Layout and formatting of the extended essay

The extended essay (EE) is an academic research paper so must be clearly written in a formal style.

As the EE must be anonymized, it is vital that you do not include your candidate name or candidate number anywhere in your EE, such as the title page or within the essay in a header or footer. Your candidate number is not the same as your student personal code. Make sure you do not include the name of your school, centre number or the name of your supervisor anywhere in your essay. The same applies to all other members of your school community, including your school librarian, the EE coordinator and the DP coordinator.

You will need to include your student personal code on the reflection and progress form (see Chapter 7 The importance of reflections) but be assured that the examiner cannot identify you or the centre name (your school) from the student personal code. This is a unique identifier that is only known by you, your school's DP coordinator and your EE supervisor.

#### ■ Writing your extended essay

As the EE must be written in a formal, academic style, you should adhere to the required formatting of the EE. It is highly recommended that you use the following format to present your essay as a formally written research paper to facilitate readability for on-screen assessment by examiners:



■ **Figure 3.1** Your essay must be presented in a coherent and orderly manner

- Arial or Times News Roman font
- Font size 11 or 12 point
- 1.5 or double line spacing
- Portrait orientation (landscape is acceptable for graphs or illustrations where required)
- A4 size
- Numbered pages (this is a mandatory requirement of the extended essay).

As the name suggests, the extended essay must be written as an essay – this applies to *all* subjects, including the natural sciences and mathematics. Science students must remember that the EE is an essay, rather than a science laboratory report, so it must be written in continuous prose. Lists that are rather long, such as lists of equipment or materials used in an experiment, are best placed in the appendices rather than the body of the essay. In mathematics, EEs should take one of the following approaches: a theoretical essay (an issue in mathematics of interest to you that is outside of the syllabus) or a practical essay (how mathematics can be used to investigate an issue you are interested in).



■ **Figure 3.2** The extended essay is an academic piece of work that should be produced using a computer, wherever possible

### Common mistake

Too often, students use their internal assessment work and lengthen this to write their EE. There are two issues here: candidates cannot ‘double dip’ as this is considered to be academic malpractice. In addition, the assessment criteria for the EE differ from the IA.

Note that you do not need to include an abstract in your EE.

The EE is a written (or typed) piece of academic work. This may include the use of accompanying still images, photos, diagrams, charts and infographics. However, there is no provision made for the inclusion of any other digital media, such as audio or visual attachments.

### Word count

Candidates must declare their word count on the title page of the EE. As you need to upload an electronic version of your EE, it is very easy for the examiner to determine where the essay has reached the word count limit of 4000 words.

The IB enforces a very strict rule on the 4000 words allowed for an extended essay – examiners are instructed not to read any work in excess of the word limit. However, the 4000-word limit does not include the following:

- Acknowledgements
- Contents page
- Headings
- Maps/charts/diagrams/annotated illustrations
- Tables
- Equations, formulae and calculations
- References (footnotes or end notes)
- Bibliography
- Appendices
- Reflections and progress form.

It is vital therefore that your research question must be sufficiently focused to allow you to complete your EE within the word limit.

The IB allows students to use footnotes for referencing purposes only, so anyone trying to use footnotes to bypass the word count will simply be penalized. This also helps to ensure greater parity across different subjects.

### Expert tip

If you have exceeded your word limit before final submission, proofread your essay and edit it to no more than 4000 words. Check that all aspects of your essay relate specifically to the research question as this may help you to reduce it to the required word count.

## Structure and contents of the extended essay

The structure of your essay is crucial for organizing your argument effectively. Your essay must be structured in the following way:

- Title page
- Contents page, with accurate page references
- Introduction

- Body of the essay (lines of argument/development/methods/results)
- Conclusion(s)
- Footnotes and endnotes (if used)
- Reference list and bibliography
- Appendix.

### Expert tip

Before you embark on writing your extended essay, be sure that you can access a broad range of relevant sources and apply subject-specific tools, theories and techniques to the research question.

## Title page

### Research question

The research question (RQ) must appear on the front title page of your essay and must be phrased as a probing question that is considered to be worthy of further academic research. This will help you to maintain focus more easily when writing the EE as well as to write in an analytical and evaluative manner, rather than simply describe what has happened. The purpose and focus of your research must be clear and appropriate. (See Chapter 2 Developing a suitable research question for more on developing a research question.)

### Layout

The layout of the title page has certain conventions that must be adhered to. It must clearly show the following information:

- Your student personal code (this must match the code entered on the RPF).
- The DP subject that the essay relates to (for subject-focused extended essays).
- The two DP subjects that the essay relates to and the interdisciplinary framework it connects with (for interdisciplinary extended essays).
- Your research question, which must be phrased as a probing question that is worthy of academic study.
- The word count – this must not exceed 4000 words. Note that, if footnotes are used for anything other than referencing, the word count on the title page must include these footnotes. You will also need to add a clear statement that ‘The stated word count includes explanatory footnotes.’ See Chapter 5 Citation and referencing for further information about this.

## Contents page

Make sure your contents page includes all the items in your extended essay and that your page numbers are accurate.

## Introduction

The introduction of the EE plays a crucial role in laying the foundation for your arguments. It begins by presenting your topic, ensuring that the reader understands the context of the research question. Following this, you should provide essential background information to enable the examiner to grasp the broader significance of the issue being investigated. The introduction then narrows down to tell the reader what specific aspects of the topic you will focus on, outlining the scope and direction of your essay. Finally, the introduction must clearly state your research question, guiding the reader on what to expect and to help them understand the purpose of your investigation.

## Body of the essay

The body of an academic essay is structured to ensure that each paragraph makes one main point, to provide clarity and focus. This allows for thorough analysis, discussion

### Common mistake

Prior to submitting their extended essay, candidates often do not check the accuracy of the page numbers on their contents page. This can leave a bad impression on the examiner.

## Expert tip

While the use of photos and other images is acceptable, provided they are relevant to the topic and research question, you should avoid the excessive use of these as they may detract from the discussion in your EE. Only include them if they are relevant to the point being made.

and evaluation of research findings, demonstrating a deep understanding of the topic and subject matter. Each paragraph in your EE should build a cohesive line of argument that is supported by evidence from your research, ensuring that every piece of information presented contributes directly to addressing your RQ. This not only strengthens your arguments but also guides the examiner through a logical progression of ideas, making it easier to understand the connections between different parts of the essay and the overarching conclusion to your RQ. By maintaining this focus and rigour, the body of your essay is well-organized with substantiated arguments.

### Diagrams, photos and illustrations

It is important to pay attention to the presentation and overall neatness of your essay. This includes formulae and any illustrative materials that you use, such as diagrams, maps, tables, charts, graphs and illustrations. These must be fully and clearly labelled so they can be easily interpreted by the examiner. The labels or legends used for these must not include a commentary, as this will be considered as part of the word count. Of course, explanations should be included as part of the essay so that the examiner can understand the relevance and significance of these.

### Tables

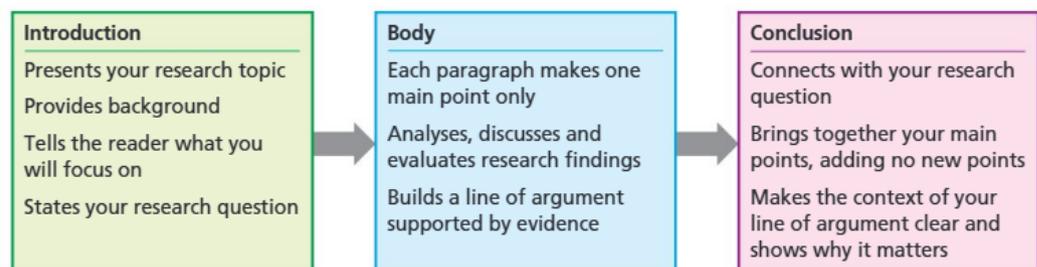
It is acceptable to include tables of data and/or information related to the research question. However, these should be used carefully as they are only appropriate in certain subjects, such as economics or geography. Do not try to circumvent the word count by including analysis, discussion or evaluation in data tables. Tables must never be used in an attempt to exceed the 4000-word limit as this will be detected.

## Conclusion

The conclusion should be the last part of your actual essay. This comes before non-textual matters of the EE, such as the bibliography and appendices (if used). The conclusion brings together your main points, synthesizing the key arguments in the body of the essay without introducing any new information.

The conclusion must address the research question in its entirety; make sure this is the same question as shown on the cover (title) page of the EE, demonstrating how your analysis and discussions in the body of the essay have addressed the RQ comprehensively. For example, if the essay begins with the phrase ‘To what extent ...’, then the conclusion should state either ‘To a large extent ...’ or ‘To a small extent ...’, along with your lines of argument (reasoning) and supported with the evidence presented in the essay. You should avoid statements such as ‘To some extent ...’ as this is likely to have been known from the outset of the EE process.

By highlighting the significance of your findings, the conclusion highlights the relevance and impact of your research, leaving the examiner with a clear understanding of your essay’s contribution to the topic.



■ **Figure 3.3** The basic structure of the extended essay

### Expert tip

Prevention is better than cure – rather than risk losing marks by exceeding the word limit, even if unintentional, you should avoid using footnotes or endnotes unless they are for referencing purposes.

### Expert tip

When using citations, the full reference must still be included in your EE. However, these are recorded at the end of the essay in the bibliography or reference list.

### Expert tip

It is highly recommended that you properly reference your sources from the outset. Make sure you include citations and references in your first draft. This will reduce any suspicion of plagiarism and also save you a huge amount of work before you submit the final draft of the essay.

## ■ Footnotes and endnotes

If you decide to include footnotes and endnotes in your EE, they must only be used for references. It is worth noting that footnotes and endnotes are not required in the EE. For example, students may prefer to reference using the Modern Languages Association (MLA) style, which uses in-text citation instead (see **Chapter 5 Citation and referencing**). In this case, the references appear at the end of the EE in the reference list (or bibliography).

Make sure that all information that is of direct relevance to the discussion of the research question is included within the body of the essay, not in footnotes or endnotes. Your secondary research (literature review) should provide material, data and information that you can use to analyse and evaluate your lines of argument. Including such information in the footnotes or endnotes (or even the appendices) is inappropriate and will simply be included in the word count by the EE examiner.

### Citations

Citations are used to acknowledge the sources of information, ideas or quotations used within the body of the EE, usually as in-text citations. They are produced in short form, rather than in their entirety (which is what references are used for). A citation must provide the examiner with an accurate note of the source so that they can easily locate this. Hence, citations should normally include the page number(s) when referencing printed materials, such as textbooks, academic journals or novels (this is essential when using direct quotations from printed publications).

How you cite the various sources used in your EE will depend on the particular referencing style that you have chosen (see **Chapter 5 Citation and referencing** for further details). From the IB's perspective, it is essential that the format of citations is consistently produced and presented throughout the essay.

## ■ Reference list and bibliography

A reference list is used to acknowledge and indicate information was obtained from a source other than the author. It enables the reader to verify knowledge claims and the research or data that has been presented in the EE. References can come from a variety of sources, such as textbooks, trade magazines, academic journals, newspapers, databases, interviews, surveys and internet websites.

The IB does not prescribe a specific style of referencing. However, your EE supervisor and/or school librarian should be able to help you with this. If your school has a uniform referencing style, be it the MLA, APA, Harvard, Chicago or other recognized style, you could use this. Whichever style is used, it must be applied consistently throughout the essay and enable the examiner to trace the source.

See **Chapter 5 Citation and referencing** for more specific details and guidance about proper citation and referencing in the EE.

### Common mistake

Students often include the URL of the websites they have used but do not include the full reference in the bibliography. It is even worse when a generic website is cited or 'referenced', such as [www.bbc.co.uk/news/business](http://www.bbc.co.uk/news/business).

## Expert tip

Make use of the many online resources to help you to produce the bibliography. For example, EasyBib is a free bibliography generator for all major referencing formats, such as MLA, APA, Chicago and Harvard. There is clear advice on how to include websites, books, videos, films, journals and databases in your bibliography.

A bibliography contains the list of all secondary and (where permitted and appropriate) primary sources used in researching and writing the EE. This should also include any sources that have not been cited in the body of the essay but were used to inform the writing of the EE. In every case, the bibliography *must* list all those sources cited in the essay. This should be produced in alphabetical order in the list of references or bibliography.

## Appendix

The appendix is not a formal requirement, but if you do include one it must be placed after the reference list and bibliography. The appendices are used to include supplementary material, such as interview transcripts, survey questions and raw data. There is no need to include snippets or excerpts of your secondary research in the appendix.

Examiners are not expected or required to read the information in the appendices. If you choose to include items in the appendices, make sure the materials have direct relevance to your analysis, arguments and conclusion. Remember that any information that is important to your line of argument must be included in the body of the essay, not in the appendices. Also, there is no requirement to submit your RRS to the examiner, so do not include this in the appendices either.

The examiner should be able to read and understand your essay without having to access external web links or accompanying source materials, such as documentaries or news media articles. It is important to note that examiners are not required to refer to any materials that are not included in the essay itself. The following examples are acceptable to include in the appendices:

- Copy of a completed questionnaire used as primary research in the essay
- Transcript of interview questions and answers used as part of the primary research in the essay
- Copy of any permission letters to carry out research for academic purposes
- Excerpts from newspaper articles, advertising campaigns, blogs, and transcripts of speeches for EEs in Group 1 (Language A)
- Raw data or statistical tables for EEs in the natural sciences.

In all the cases above, there should not be any analysis, discussion or conclusions included in the appendices.

Although citation and referencing are an integral part of academic writing (see Chapter 5 Citation and referencing), you should avoid continually referring to the materials in the appendices. Examiners are not expected to refer to the materials there and it could disrupt the flow of the essay as they read and mark your work.

## Reflection and progress form

Finally, it is important to remember that all EEs must be submitted (uploaded) with the reflection and progress form (RPF). This is a mandatory requirement for all essays, and is formally assessed under criterion E. See Chapter 7 The importance of reflections for more details about reflections and the RPF and how to complete the form.

## Electronic upload of the extended essay

Since November 2016, IB World Schools have been required to upload all EEs. They do not have an option to send hard copies of the EE to examiners. This has meant that the formal presentation of the EE has become ever more important.



■ **Figure 3.4** All extended essays must be electronically uploaded for assessment

### Expert tip

Only your written essay is assessed. Do not include audio or digital resources when submitting and uploading your essay as these are not considered to be part of the EE submission (you may, however, acknowledge them in your bibliography).

### Task 1

The IB uploads sample EEs, with examiner marks and comments, to the Programme Resource Centre on My IB. Speak with your EE supervisor about getting access to these exemplars so that you can see how the EE should be formally presented. Look at a few example essays and how they are presented.

### Expert tip

Scanning hand-drawn images (such as diagrams, illustrations, maps and charts) will increase the file size of your EE. Where possible, always try to produce these in digital format.

The exact instructions for the electronic uploading of the EE are outlined in the IB *Diploma Programme Assessment procedures* and on IBIS for IB coordinators. Be sure to check with your supervisor so you are confident about the procedures for uploading your EE. The process is very similar to that of the electronic uploading of your theory of knowledge essay.

### Task 2

Using the template on the opening spread of this chapter, create a plan for your own extended essay. Ensure your plan/template allows you to address the research question (RQ) in a comprehensive and coherent manner using relevant contents from your chosen subject(s).

Schools can upload the EE in the following ways:

- The EE supervisor or the Diploma Programme coordinator verifies the authenticity of the candidate's essay and the RPF and uploads them, thereby formally submitting it for external assessment.
- The candidate uploads their own essay (this still requires the EE supervisor or Diploma Programme coordinator to first verify the authenticity of the candidate's essay).

The vast majority of EEs are produced using computer software, such as Microsoft Word, Pages or Google Docs. The IB still allows students to submit handwritten EEs, but these need to be scanned and uploaded in the same way as those produced on a computer or laptop. In some subjects, such as economics, hand-drawn diagrams may be produced, but again these must be scanned for electronic upload.

Your EE must be saved in an acceptable file format. The IB recommends any one of the following file types:

- .doc – Microsoft Word document
- .docx – the newer version of Microsoft Word (the format is not backward compatible)
- .pdf – Adobe Acrobat's portable document format
- .rtf – Microsoft's rich text format that is readable on most word-processing software.

The authors strongly recommend that you save your EE as a PDF document to enable it to be easily read across different devices and platforms. Also, check all pages in the PDF document before uploading the final version in case there are any omissions or errors.

While the EE should be saved using one of the formats above, the overall size of the file must not exceed 10 megabytes (10MB). This should be sufficient for the inclusion of high-quality photos, diagrams or images that you wish to include in your EE. Note that the reflection and progress form (RPF) is uploaded separately, so this is not part of the maximum 10MB file size.



**Communicators:** Use your template/essay plan from Task 2 to discuss your next steps with your EE supervisor. Are there any tweaks that need to be made before you proceed with further research to address your RQ?

## Chapter summary

- The EE should be presented in the following format:
  - Title page
  - Contents page
  - Introduction
  - Body of the essay (lines of argument/development/methods/results)
  - Conclusion(s)
  - References and bibliography
  - Appendices.
- The essay should be formatted as follows:
  - Arial font or Times New Roman
  - font size 11 or 12 point (to facilitate on-screen marking)
  - 1.5 or double spacing
  - numbered pages.
- Do not include an abstract; this is not required for the extended essay.
- The essay must be anonymized throughout, so there must not be anything that enables the examiner to identify the candidate by name or by their school.
- Footnotes/endnotes can be used, but only for referencing purposes.
- References must be used in the essay.
- In-text citations can also be used.
- Handwritten EEs or those that include hand-drawn illustrations/diagrams must be scanned for upload.
- Electronically uploaded files must not exceed 10MB.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	The title page must include the research question.		
2	A contents page must be included, with accurate page numbering.		
3	Examiners are required to access external sources or supplementary information in the appendices.		
4	Any hand-drawn diagrams or illustrations must be scanned for electronic upload.		
5	Any information or explanation contained in a footnote or endnote will not be included in the word count.		
6	The IB recommends candidates use Arial or Times New Roman font, in point size 12, to present the EE.		
7	The IB requires candidates to use the Modern Languages Association (MLA) referencing system in the EE.		
8	Appendices are not a necessary component of the EE.		
9	You need to use your candidate number when uploading the EE.		
10	Reflections are formally assessed in the EE.		

## Chapter 4

# Academic integrity

**Academic integrity** is a core trait of any educational institution and all IB World Schools.

### Academic integrity is:

- being fair, honest, truthful, responsible and respectful
- submitting and presenting research materials truthfully
- adhering to internal deadlines
- declaring the actual (correct) word count
- submitting a signed declaration of authenticity for work you hand in for assessment.

### Academic malpractice is:

- plagiarizing – pretending the words, ideas or opinions of another person are your own
- colluding – supporting the academic dishonesty of another student, for example allowing a friend to copy your work
- fabricating research data – making up your results
- duplicating work – submitting parts of, or all of, one piece of work for multiple different components of assessment; also known as double dipping
- gaining an unfair advantage – for example missing deadlines, under-declaring the word count, getting someone else to write your essay, using AI unethically.

# 4

## Academic integrity

### What is academic integrity?

Academic integrity (sometimes referred to as academic honesty) is a code of conduct based on approaching your academic studies in an honest, truthful, responsible, fair and respectful manner. It is a philosophy about valuing intellectual property rights and respect for the work of other people. Academic integrity is a core trait of an IB education as well as a central pillar of any academic institution and all IB World Schools. After all, your supervisor and the EE examiner must be able to trust the honesty and the accuracy of the information in your essay. The research and analysis underpinning any essay will be compromised if it lacks academic integrity.

Being academically honest enables you to drive your own learning and to think more critically as well as to challenge knowledge claims and assumptions. The IB states that the goal of academic integrity is to make knowledge, understanding and thinking transparent (Appendix 6: Guidance on the use of artificial intelligence tools, Academic integrity policy, March 2023).

By contrast, academic dishonesty (or academic misconduct) refers to any action that results in you gaining an unfair advantage for a piece of assessment work, such as the extended essay (EE) or an internal assessment. In any case, academic integrity is about ensuring that all students have an equal opportunity to demonstrate their own knowledge and research skills that they have acquired during their learning journey.

Academic integrity requires students to meet internal deadlines set by their school. This means that no student can gain an unfair advantage by missing the school's deadlines. If you need to request an extension for the internal deadline, this must be administered by your school's IB Diploma coordinator along with all necessary supporting documents.

Examples of academic dishonesty:

- **Plagiarism:** Presenting the words, ideas or opinions of another person as though they are your own. This also infringes the legal copyright of others. Note that copyright infringement is both unethical and illegal.
- **Collusion:** This refers to supporting the academic misconduct of another student, for example if you allowed a friend to copy your ideas or work for formal assessment purposes.
- **Fabrication of research data:** Fabricating and presenting false research data in an internal assessment or the EE is academic malpractice. This might include, for example, falsifying primary research data such as interviews or questionnaires.
- **Duplication of work:** Also called double dipping, this refers to the presentation and submission of the same work (in part or in entirety) for different components of internal and/or external assessment. For example, if you submit your EE using part of your work from an internal assessment this would be regarded as academically dishonest.

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■ **Figure 4.1** Academic integrity is a core principle in all IB World Schools



■ **Figure 4.2** Copying the work of others is academically dishonest

## Plagiarism detection software

In many schools, formal assessments (such as internal assessments, EEs and written assignments) are submitted to plagiarism-detection software, such as Turnitin or AcademicHelp Plagiarism Checker (both with built-in AI detector software). There are also plenty of free online plagiarism checkers, such as AcademicHelp, that can be used to check the authenticity and originality of your work. A high text match may warrant further investigation by the school and IB Diploma Programme coordinator.

### Expert tip

While all the rules about academic integrity can be quite daunting, remember that the EE aims to assess your knowledge and skills in your chosen topic. Also remember that you are not alone in this journey – it is important to recognize the supportive role of your EE supervisor. Be assured that you are allowed to seek assistance whenever you encounter uncertainties or need something to be clarified. Your EE supervisor is there to guide you through the entire process, ensuring your success.

## What are the IB rules?

The IB requires candidates to sign a declaration of authenticity for their work submitted for assessment. The IB reserves the right to ask for proof of candidate authentication. An example of such a declaration is shown below:

I confirm that this work is my own work and is the final version. I have acknowledged each use of the words or ideas of another person, whether written or oral.

Signed (initials of candidate) .....

Date .....

*Adapted from DP coordinator's notes, January 2023 (page 21)*

Please note that all EEs are checked by the IB using text-matching software for possible collusion and plagiarism. The use of online tools, such as Turnitin, can help students and teachers to identify potential problems before a final draft is handed in. More sophisticated software, such as Cactus 64, allows the IB to check for potential malpractice between candidates submitting work for assessment, such as the extended essay.

Any potential breach of the rules and regulations will be investigated by the IB. This could result in you not receiving a grade for the subject. In the worst-case scenario, the IB will disqualify you for proven plagiarism, collusion, double dipping or any other type of academic misconduct that gives you an unfair advantage. Retaking your IB Diploma qualification is then at the discretion of the IB.

### Third-party providers

There are people known as ghostwriters and website services that offer assistance with the IB extended essay, ranging from correcting and editing your essay to actually writing the entire EE for you. A ghostwriter is any person hired to write material for someone else as the named author and without being acknowledged or credited for doing so. Using these services is academic malpractice.

### Expert tip

In the case of suspected academic malpractice, the IB may request a full written report from your school. The IB will then investigate the case, with the Final Award Committee making a decision whether to disqualify you. This will then mean your school's university or employment reference may not be able to guarantee your integrity.

### Task 1

Discuss when the use of third-party providers is unethical and academically dishonest.

## Word limits and academic integrity

There are clear expectations about word limits for all work submitted for assessment. The 4000-word limit for all EEs is no different. Examiners are instructed not to read any part of the essay that is beyond the word limit.

Therefore, if you submit an essay in excess of 4000 words you will automatically penalize yourself. For example, if your conclusion appears after the 4000th word, you will lose marks under criterion D (Discussion and evaluation). Similarly, any knowledge and understanding (criterion B) shown in the essay after the 4000th word will also be ignored by the examiner.

■ **Table 4.1** What is and is not included in the extended essay word count

Included in the 4000-word count	Not included in the 4000-word count
The introduction	The contents page
The main body of the essay	Headings and subheadings
The conclusion	Maps, charts, diagrams, annotated illustrations
Quotations	Data tables
Footnotes not used for referencing	Equations, formulae and calculations
Endnotes not used for referencing	Citations and references
	The bibliography
	The appendices
	The reflection and progress form (RPF)

*Adapted from Extended essay guide, page 85*

Note there is no level of tolerance for the word limit – otherwise it wouldn't be a word limit. You may recall that examiners are told not to read beyond the 4000th word. The excessive or inappropriate use of footnotes or endnotes is also frowned upon. Too often, students use footnotes in an attempt to circumvent the word count; doing so is considered to be academic malpractice.

While there is a maximum limit on the number of words you can use in the essay, there is no lower limit. However, it helps to be at or close to the upper limit of 4000 when you submit your final version of the essay for assessment purposes. Falling significantly short of the maximum number of words allowed can limit your marks for knowledge, understanding, analysis, discussion and evaluation (see **Chapter 1 Understanding the assessment criteria**). Writing a complete essay will help you to avoid being penalized because you haven't been able to reach the highest mark bands for the various assessment criteria.

Please note that the same rules apply to the reflection and progress form (RPF), which has a 500-word limit (see **Chapter 7 The importance of reflections**). Examiners are instructed not to read or assess beyond this limit so, if you exceed this limit, you will compromise the assessment of your reflection (criterion E). It is important to note that the RPF contains the following statement about academic integrity on page 1:

'By submitting this student work for assessment, you are taking responsibility for its authenticity. No piece of student work should be uploaded/submitted to the e-Coursework system if its authenticity is in doubt.'

As part of the academic integrity process, the completed RPF must be initialled and dated by your EE supervisor after each of the three mandatory reflection sessions.

### Task 2

Suppose your final draft version of the EE exceeds the 4000-word limit by about 10 per cent. What strategies can you think of to reduce the word count to the maximum permissible?

### Expert tip

As all EEs are electronically uploaded; this makes it very simple for EE examiners to identify where the 4000-word limit has been reached. This then becomes the cut-off point for formal assessment of the essay.

## CASE STUDY

### Candidate WW, School S

WW attended School S, a high-achieving IB World School. However, he was awarded a zero mark in his geography higher level internal assessment component by the IB's Final Award Committee after it concluded that WW had plagiarized his coursework. This was a major contributing factor to WW gaining fewer than 12 points in his HL subjects. Unfortunately, this is one of the nine failing conditions, so WW was unsuccessful in gaining the IB Diploma.

Put another way, academic malpractice can most certainly jeopardize a student's IB Diploma. It can also bring the reputation of the school into disrepute. Essentially, violating the principles of academic integrity can threaten the integrity and reputation of your school as a centre of academic excellence.

### Expert tip

Pay attention to what you record on your RPF. This document acts as a record in supporting the authenticity of your research and written work in the completion of the EE. To support you during the *viva voce* (see **Chapter 7 The importance of reflections**), develop the habit of using your researcher's reflection space (RRS) to record your thinking and reflections based on your reading, perspectives and thinking. This will be useful as a memory tool for completing your reflection statement on the RPF.

## Deadlines and academic integrity

As an IB World School, your school or college should have a deadlines policy and clearly communicate this to teachers, students, parents and guardians. A school's deadlines policy is an integral element of academic integrity.

You cannot gain an advantage by missing official school/internal deadlines. If your assessment work is submitted after an internal deadline, your supervisor might not be able to authenticate the work to be entirely your own. In cases of suspected academic misconduct, your essay might need to be submitted to the IB as an atypical piece of work.

According to the *Diploma Programme Assessment procedures*, short-term illness is not a valid reason for submitting an incomplete piece of work for assessment (although it is a valid reason for missing an actual IB examination). This is because an assessment like the EE will have been done over a certain length of time, with sufficient time for you to complete the work. The EE, for example, is done over a 40-hour period, with 3–5 hours of supervision and three mandatory reflection sessions, as recorded on the RPF document. This means there is plenty of scope and opportunity for you to complete your essay. In the worst-case scenario, you should be able to submit your first draft of your EE.

The *Diploma Programme Assessment procedures* clearly states that situations deemed to be reasonably within the control of a candidate are unacceptable as reasons for submitting incomplete assessment work. These manageable situations include missing the EE deadline due to:

- misreading and/or misunderstanding the deadline for final submission of the EE
- oversleeping and therefore being late in submitting the essay
- a family holiday (vacation)
- moving house
- participation in a social engagement, such as a graduation ceremony
- participation in a competition, concert, field trip or sporting event
- attendance at an interview.

*Adapted from the IB Diploma Programme Assessment procedures, Candidates with incomplete work for assessment*



■ **Figure 4.3** Oversleeping is not an acceptable reason for missing an internal (school) deadline

Your supervisor cannot upload or submit the RPF to the IB's e-Coursework system if there is any doubt about the authenticity of your EE. Ultimately, the IB Assessment Centre relies on the professional judgement of your teachers.

Contrary to common belief, the first submission of an internal assessment, written assignment, TOK essay or EE must be a complete draft. This is important for reasons of academic integrity because a complete submission enables your EE supervisor to provide written feedback in a holistic way. It also makes it easier to authenticate the completed final version of your essay.

In special circumstances that are beyond your control, such as a serious family or medical emergency, you should contact the school's IB Diploma Programme coordinator to request an extension of the deadline. The DP coordinator must submit an application to the IB with the necessary supporting documents, such as medical certificates, a certified doctor's note or a hospital admission letter. If the request for an extension is authorized by the IB Assessment Centre, this decision will be formally communicated to your school's IB coordinator and head of school via email.

### ■ Responsibilities of teachers (supervisors)

Academic integrity is essential to a school's values and numerous traits of the IB learner profile, including principled, knowledgeable, caring, thinkers and reflective. As such, all staff and students have an obligation to follow the guidelines set in your school's academic integrity policy. For example, teachers should be aware that only one draft of the EE is allowed. Drafting and redrafting of the essay is deemed to be in breach of academic integrity as this gives candidates an unfair advantage.

Academic integrity should also be integral to all aspects of feedback, marking and moderation of assessed work. Supervisors must ensure the fair and transparent treatment of all deadlines so that everyone is consistent in their approach to academic integrity and deadlines.

Teachers are likely to communicate with parents or guardians if there are any concerns about a particular student's academic integrity, such as suspected cases of malpractice, missed deadlines or incomplete work. They should also notify the IB Diploma Programme coordinator in such cases.

Refer to **Chapter 6 The role of the extended essay supervisor** for more details about the role and responsibilities of the EE supervisor.

### ■ Responsibilities of students

In completing your EE (or any assessment work), it is important that you:

- submit and present research materials truthfully
- cite and reference your work appropriately (see **Chapter 5 Citation and referencing**)
- adhere to internal deadlines set by your school
- submit a complete draft, because written feedback cannot be provided if you miss a deadline
- declare the actual (correct) word count on the cover (title) page of the essay (remember that this must not exceed 4000 words)
- attend all three reflection sessions with your supervisor, as well as any scheduled check-in meetings with the supervisor
- sign the declaration of authenticity.

While collaboration is an important way of learning for many people, you must understand the difference between collusion and collaboration.

#### ● Expert tip

If you become ill around the time of an internal (school) deadline for the submission of any formal assessment work (such as the EE, TOK essay or an IA), you must contact your school's IB Diploma Programme coordinator immediately for advice.

#### ● Expert tip

Supervisors must not edit any part of your essay to correct spelling, punctuation or grammar. Furthermore, they must not annotate your essay in such a way that it changes the content of your work.

## Definition

### ◆ Collaboration

involves working together in a transparent and authorized way to enhance learning and develop teamwork skills, such as group projects, study groups or peer review/feedback.

Collusion refers to undisclosed or dishonest cooperation or conspiracy in order to gain an unfair advantage, such as sharing answers during a test or copying each other's work. Collusion is considered to be academic malpractice as the work you are preparing or presenting is not wholly your own. Instead, you should focus on preparing, writing and presenting your individual and personal essay. Any ideas of other people, be they collaborators or scholars, should always be referred to (see the section on citation and referencing opposite).

**Collaboration**, on the other hand, involves working together in a transparent and authorized way to share ideas, enhance learning and develop teamwork skills, such as group projects, study groups or peer review/feedback. It adheres to the guidelines provided by your educational institution. For example, in some areas of your studies, you may be instructed to work together with others. Your group's work may then be assessed as a group effort. This is not the case for the extended essay, which must be entirely your own individual work.

## Expert tip

To prevent possible accusations of collusion, make sure that you do not:

- allow your work to be submitted as part of another student's EE
- include the work of another student as your own EE
- co-write information that you will use in your EE.

## Expert tip

Be sure to proofread your research findings to avoid suspicions of academic malpractice. For example, consider the following statement from an actual candidate:

'35% of the [25 people] sample said that they preferred ...'

While this might have been unintentional, many examiners would question the integrity of the research conducted.



■ **Figure 4.4** Do not be tempted into academic dishonesty (academic misconduct) in the hope that you won't get caught

## Expert tip

Being academically honest will require you to:

- communicate regularly with your EE supervisor
- avoid using EE research questions and essays from previous years
- ask for any necessary help from your EE supervisor, EE coordinator and librarian
- cite as you write
- submit a complete first draft EE of up to 4000 words
- meet the final submission deadline.

## Citation and referencing

The EE is an academic piece of work, so you are expected to cite all your sources. By using proper citation and referencing, you will show the EE examiner how you derived your findings, lines of argument and conclusions. This also includes acknowledging the work of other people for you to draw a conclusion to your EE research question. Referencing is vital to enable the examiner to have the necessary information to locate the source of your information, such as a particular academic journal you used or the person whom you interviewed as part of your academic research.

You must provide a citation when:

- referring to a source of data or information
- stating the words, opinions, ideas or research of someone else
- using a photo or image (such as a chart, diagram or infographic) created by another person.

It is not necessary to provide a citation when you are expressing:

- your own opinions or ideas about a particular issue, subject or event
- common knowledge, such as Paris being the capital city of France or single-use plastics are a major contributor of pollution in our oceans.

An important point to note is that citations must be included at the point of use, rather than being included in a reference at the end of the essay. The citation in the body of the essay on any particular page should link to the full reference in the bibliography. Even if proper citation and referencing are used, this may still be considered academic malpractice if your EE over-relies on the work of someone else and lacks originality.

Although there are not any marks explicitly awarded for citation and referencing in the EE, all students are expected to do so for reasons of academic integrity. Incorrect referencing is viewed as academic dishonesty and can result in a candidate failing the EE. Remember, failing the EE is one of the nine failing conditions in the IB Diploma. Citation and referencing are covered in more detail in **Chapter 5 Citation and referencing**.

### Expert tip

To avoid any potential issues with academic malpractice, when in doubt about whether you need to cite something, always err on the side of caution and include it!

### Expert tip

It is acceptable to use computer software or online websites to generate citations for your essay or to check your spelling and grammar. You can also use such software to create a bibliography (list of works cited or reference list). However, it is totally unacceptable to use software, such as artificial intelligence platforms, to create or write your essay.

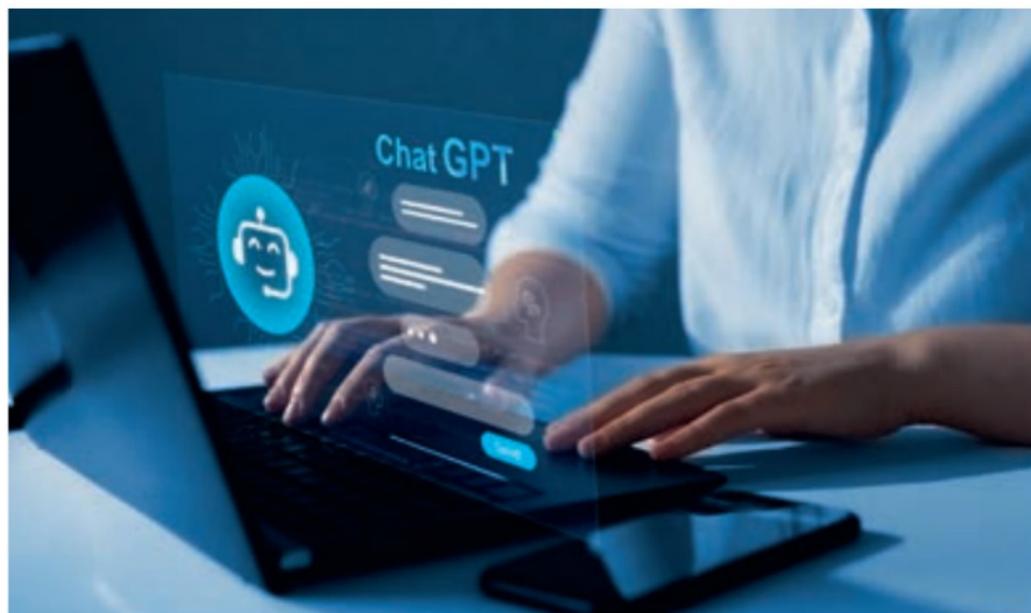
## Artificial intelligence

The IB acknowledges the use of artificial intelligence (AI) in the EE process. In fact, the IB suggests that students should embrace the use of AI software as a tool to help you in your research. However, supervisors are expected to ensure that AI is not being used in a way that would compromise academic integrity. AI prompts that check spelling, punctuation and grammar are acceptable, so long as they do not change the contents of your essay. Ultimately, the IB does not ban the use of such software but requires schools to support students on how to use these tools ethically in line with the IB's principles of academic integrity. For example, some students might find it useful to use AI prompts to help generate possible ideas for EE topics.

Using AI tools is permissible in the same way that you can use the internet to search for and use secondary research. For example, any material generated by AI can be considered as a research resource, alongside data or information gathered by using relevant websites, academic journals or textbooks. In particular, AI tools can help you to summarize large volumes of text, allowing you to quickly understand the main findings or key points. However, as always, you must acknowledge and cite the use of AI appropriately, including any text or images created by AI tools. This is particularly important given that transparency is a vital aspect of academic integrity. Hence, EE examiners expect you to give full credit to any source/material that has been used when writing your own essay, including the use of AI tools. You should be fully aware that using AI to write an EE that is presented as your own work is academically dishonest and demonstrates a lack of personal integrity.

You should speak with your EE supervisor about the official referencing style already in use at your school. AI tools can be used to appropriately cite your sources and avoid unintentional plagiarism, but be aware of hallucinating AI, which can provide inaccurate information. The reference to any use of AI tools in the bibliography must include the prompt given *and* the date it generated the text or other information, for example OpenAI (24 August 2025). ChatGPT response to XX prompt about YY topic.

The *Statement from the IB about ChatGPT and artificial intelligence in assessment and education* outlines the IB's view on the use of artificial intelligence (AI).



■ Figure 4.5 In the world of AI, academic integrity is increasingly essential

### Expert tip

The majority of software used for originality checking and plagiarism prevention, such as Turnitin, have an AI detection tool that shows teachers and students an overall percentage of the essay that may have been AI-generated.

### Expert tip

The IB's academic integrity policy (available on My IB) includes further guidance about the use of AI in the IB. This can be accessed in Appendix (6) – Guidance on the use of artificial intelligence tools. You can also download a useful infographic poster about the IB's stance on AI tools.

### ATL ACTIVITY

#### Critical thinking

As a critical thinker, consider why it is important to check and validate the information generated by AI software. How might you go about this?



**Knowledgeable:** Being knowledgeable about how to use AI ethically and responsibly is an important information and digital literacy skill that you will need both now and in the future.

### ● Expert tip

If using AI, an effective strategy to consider is to record your prompt histories. This can help your supervisor to see and confirm the authenticity of your work and help you learn how to make better use of generative AI tools. You can use your RRS for this purpose (see **Chapter 7 The importance of reflections**).

## Guidance on educating for academic integrity

As an IB World School, your school is expected to approach education about academic integrity in line with the IB's expectations. For example, ask your school or the DP coordinator about the guidelines for proper citation and referencing. Some schools prescribe a particular referencing system, be it the MLA, Chicago, Harvard, APA or other system. While academic integrity is ultimately your responsibility as an IB student, it is an expectation that all students are taught, for example, how to correctly reference and ethically use AI as a learning resource.



■ **Figure 4.6** The IB provides a range of resources to support your academic integrity

IB students and EE supervisors are advised to refer to the following IB publications for further guidance on academic integrity:

- The IB's Academic integrity homepage
- The IB's *Academic integrity policy*
- 'Why ChatGPT is an opportunity for schools' by Dr Matthew Glanville, Head of Assessment Principles and Practice at the IB.

On the IB's website, you can also read the answers provided by Dr Celina Garza, the IB's Academic honesty manager at the IB Assessment Centre, Cardiff, in a two-part Q&A session on *The Importance of Academic Integrity*.

The IB have also put a useful poster online titled 'Ten tips for acting with integrity'.

### ● Task 3

Having read through this chapter, reflect on why it is important to approach academic integrity as a constructive and positive aspect of learning, not just for the EE but in your work and studies after IB. Be prepared to share your responses and thoughts with your supervisor.

If you prefer, search YouTube for 'Academic Honesty in the IB Diploma Programme', a ten-minute video from the IB about academic integrity.

Finally, all students are reminded that any candidate found to have breached IB regulations on academic integrity puts their IB Diploma at risk.

### ● Expert tip

Academic integrity is a philosophy as well as a mindset towards academic work and research. It is about being an ethical learner and is something that you can develop for your future studies at college or university, in employment and throughout your life.

Finally, given the contents of this chapter, you should be fully aware of the difference between deliberate or intended academic dishonesty and unintended (albeit perhaps somewhat naïve) malpractice. Examples of deliberate and intended academic dishonesty covered in this chapter include plagiarism, the use of ghostwriters, collusion, double dipping and the fabrication of research. While the IB encourages all learners to be courageous risk takers, it is not appropriate to do so when it comes to academic integrity. There are far better ways for you to demonstrate your ability to be a risk taker!

For further information about academic integrity in the IB, and the Diploma Programme in particular, refer to the following publications available on My IB:

- *Effective citing and referencing* (April 2022)
- *Academic integrity policy* (March 2023)
- *Diploma Programme Assessment procedures* (updated annually).

This chapter concludes with a simple reminder to you about the unconditional need for academic integrity. As mentioned earlier, all work submitted for IB assessment must be authentic – that is, based on your individual and original ideas, and with the ideas and work of others being fully acknowledged. If your supervisor notices instances of potential academic misconduct in your work, they will prompt corrective actions. However, academic integrity is ultimately your responsibility. The key message is that you must acknowledge all sources used in your EE prior to it being submitted for assessment.

### **Expert tip**

Before submitting your draft and final versions of the EE, ask yourself the following questions (and answer them truthfully):

- Is my essay entirely my own work?
- Have I acknowledged the ideas and works of others?
- Have I read and applied my school's academic integrity policy (which aligns with the IB's policy on academic integrity, including the use of AI where permitted)?
- Am I aware of how cases of academic misconduct will be treated as a potential breach of the IB's regulations?
- Have I read and signed the declaration of authenticity for my supervisor and the EE coordinator and DP coordinator at my school?

## Chapter summary

- Your work must be authentically your own, with any help or support given by others clearly acknowledged.
- The research and analysis underpinning the essay will be flawed if it lacks academic integrity.
- Academic integrity requires you to plan, write and submit your EE in a fair, honest, truthful, responsible and respectful manner.
- You must provide a signed declaration of authenticity for your work, stating the final version of the essay is your original work.
- Only one complete draft of the EE is allowed to be looked at by your supervisor.
- In suspected cases of academic malpractice, the school is required to conduct an investigation and the IB Diploma Programme coordinator must provide a written report to the IB with relevant documentation concerning the case.
- In the worst-case scenario, a candidate may be withdrawn from the IB Diploma Programme on the grounds of academic malpractice.
- Academic integrity is a core trait of any academic institution and all IB World Schools. As such, you must conduct your research ethically and always strive for academic integrity.
- Academic integrity is both an approach and mindset towards academic research. It is about being an ethical learner and is something that you can develop for your future studies, work and life in general.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	Academic integrity is a code of conduct based on the principles of trust, honesty, responsibility, fairness and respect.		
2	Allowing a friend to use parts of your own work is considered to be collaboration and so is not deemed to be academic malpractice.		
3	Plagiarism and collusion are examples of academic dishonesty.		
4	It is not necessary to state the exact URL for an image, photo or diagram downloaded from Google.		
5	It is acceptable to use aspects of your research in an internal assessment for your EE.		
6	You must cite and reference your work appropriately.		
7	Schools are expected to use anti-plagiarism software to detect academic malpractice.		
8	Copying the work of others is academically dishonest.		
9	Academic integrity requires you to meet all internal deadlines set by the school.		
10	Competing in a sporting event or school competition exempts you from submitting your essay by the official school deadline.		

# Chapter 5

# Citation and referencing

## Why you cite/reference

### Referencing:

- is a systematic way of recording where data and information have been obtained
- enables your supervisor and the examiner to locate and verify the information you present.

### Citations:

- are used as a shortened method of making a reference to a source you have used, placed within the body of the extended essay
- let you indicate in the essay where you have used the ideas, words or work of someone else.

The correct use of references and citations is a sign of good-quality academic writing, and helps protect you against potential accusations of academic malpractice.

## What you cite/reference

As well as text sources, make sure you acknowledge audio-visual materials, diagrams, images, graphs, data tables and other illustrations.

At the end of your essay, you must list the sources of all your citations on a separate page. This is known as a bibliography.

Remember: cite as you write! Make sure you note down all your citations as you write – you will find it hard to remember all your sources otherwise.

When your source cites another source, go to that source to check the accuracy of how it was used. Perhaps cite the original instead of the later source.

## How you cite/reference

You can choose the citation or referencing style that best suits your needs, but you must use it consistently.

MLA, APA, Harvard and Chicago are common reference styles.

Most referencing styles include (more or less) all the same elements:

- Author
- Title
- Date of publication
- Date of access
- Publisher
- Pages
- URL (for online sources).

Use quotation marks if you are repeating the exact words of another person.

Read actively to see how professionals signal their quotations and use other people's work in other ways.

Consider indicating the authority of the sources you are citing, e.g. 'Kahneman, the winner of the Nobel Prize for economics in 2002, has shown ...'

## Resources

If you find yourself struggling with citations and referencing, consider using online tools to help. EasyBib and Cite This For Me are two tools you might find useful.

For more detailed information on styles for citations and referencing, refer to the IB document *Effective citing and referencing*.

Remember: if in doubt, ask your supervisor, the extended essay coordinator and/or your school librarian for further guidance.

## Introduction to citation and referencing

Academic integrity is integral to all IB programmes, as outlined in Chapter 4 Academic integrity. As the extended essay (EE) is a highly academic piece of work, you are expected to acknowledge the ideas, opinions, words or works of other people. Failing to do so may be considered academic malpractice. This can result in a penalty imposed by the IB's Final Award Committee, including disqualification. For this reason, the IB states that candidates must acknowledge all sources used for the work submitted for assessment, including the EE.

### Definitions

◆ **Citation** means indicating in your essay that you are using someone else's ideas, words or works, such as quotations, diagrams, data or information.

◆ **Referencing** means listing all the details about the sources you mentioned in your essay in a list of works cited or bibliography.

**Citation** means indicating in your essay that you are using someone else's ideas, words or works, such as quotations, diagrams, data or information. A citation is brief and provides just enough details for the reader to find the full reference in your bibliography or list of works cited.

**Referencing** means listing all the details about the sources you have mentioned in your essay. This list appears at the end of the essay and includes details of what is needed to find the original sources, such as the author's name, title of the resource, publication date, publisher and page number(s).

Citation and referencing are important when writing for an academic audience, as with the EE. In the process of producing your EE, you may end up using a variety of media, textbooks, academic journals, audio-visual materials (including video documentaries), statistics, data tables, diagrams, graphs, photos, illustrations, images, infographics and online sources. Irrespective of the medium, when you use the works, ideas or creations of someone else, you must acknowledge the source using a standard referencing style that is applied in a consistent way. For example, word-for-word quotations from other people's work must be shown within quotation marks.

Very importantly, proper citation and referencing (C&R) will protect you against any potential accusations of plagiarism, that is, taking credit for other people's work, whether intentional or not. This can, in the worst-case scenario, lead to the disqualification of a candidate because of confirmed academic malpractice (dishonesty). However, the main reason for citation and referencing is more than just academic integrity as it is about good-quality academic writing. Indeed, C&R should be used to establish your credentials as an academic writer. Ultimately, the proper use of C&R helps you, your EE supervisor and the EE examiner by fostering better communication, reducing potential misunderstandings and improving the overall quality of the essay. In essence, you are expected to show that all sources have been properly acknowledged.

It is important to note that while subject teachers and EE supervisors are strongly encouraged to provide you with advice on how to cite and reference, they are not allowed to correct your biography or citations, as this would be a breach of academic integrity guidelines. See Chapter 4 Academic integrity for more details about academic integrity.

**Principled:** As a principled IB learner, you demonstrate your knowledge about how to cite and reference other people's work for the EE (and beyond). Beyond the requirements for academic honesty, being principled ensures your own integrity, fosters trust and leads to genuine learning and a solid foundation for your own personal and professional growth.



## Expert tip

Failure to acknowledge all the sources used in your essay is a potential breach of the IB's regulations. This applies to any type of IB assessment work where an external source has been used, such as interviews, academic journals or information generated from artificial intelligence (AI). In all such cases, citations must be included at the point of use as well as including a link to the full reference in the bibliography.

## Common mistake

Too often, students assume that good citation and referencing alone equate to academic integrity (see **Chapter 4 Academic integrity**), but this is just one aspect of academic integrity. The intended purpose of proper citation and referencing is to support you in creating trust and credibility with those who read your essay, namely your supervisor and EE examiner.

In addition, whichever style you decide to use, you are expected to apply this in a consistent way. The ideas, words or works of others must be credited to the source. This includes the use of paraphrasing or summarizing the work of others. Essentially, this means you must clearly distinguish between your own words used in the essay and those of others.

## The IB's minimum requirements

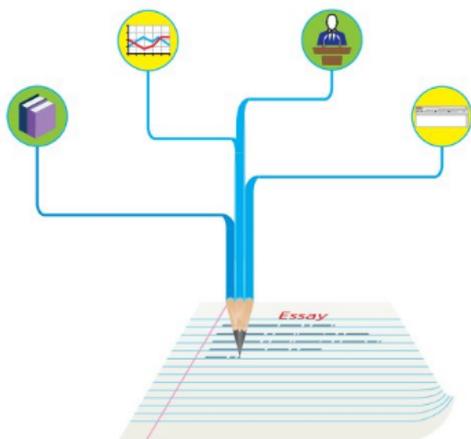
The IB does not prescribe a particular referencing system. However, for reasons of academic integrity, the minimum requirements for the EE include:

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

You should also include references to any interviews that were conducted as part of your primary research, stating:

- name of the interviewee
- job title or position of the interviewee (if relevant)
- date and time of the interview
- venue of the interview.

With the growing popularity of AI being used in education, you must acknowledge any content used that was produced by an AI tool. For example, if copying or paraphrasing text or modifying an AI-generated image, you must clearly reference this in the body of your essay and add the full reference in the bibliography.



■ **Figure 5.1** The works of others, including images, must be sourced



■ **Figure 5.2** All sources must be properly and consistently referenced

### ● Expert tip

Remember that all sources must be properly referenced in the bibliography so that the EE examiner can trace the source if need be. This also helps to show that you are honest and have integrity in your assessment work.

### ● Common mistake

Students often rely purely on subject-specific textbooks or online sources for their research. Be aware that examiners look for a range of reliable and relevant sources so you can critically assess and support your line of argument, discussions and conclusions.

### ● Expert tip

Try to think of academic writing as a highly intellectual conversation or debate. As the author, you present a possible answer to the research question but you must argue and justify your case to an audience. To do this, you must be well-read and use relevant examples and evidence from other people's work to support your case. You want the best witnesses or evidence possible, so cite and reference these.

## What are citations?

Citations are used as a shortened way of making a reference to a source used and are placed within the body of the essay. You can use in-text citations, footnotes or endnotes. Despite its brevity, a citation must provide the EE supervisor and examiner with sufficient information to locate the source. As a condensed or summarized form of acknowledging your sources, all citations must be fully referenced in a bibliography (list of works cited) at the end of your essay.

As the IB does not prescribe a particular citation or referencing style, you are free to choose one that best suits your needs. For the purpose of academic writing, in-text citations appear next to the quotation or paraphrased text you have written and should include the page number if you have used a quotation from a print source. The format of an in-text citation is to include just the author's last name and page number, for example (Davis p. 275). However, it is possible to include this information in more than one way, for example:

- Romantic poetry is characterized by the 'spontaneous overflow of powerful feelings' (Wordsworth p. 263), or
- Wordsworth stated that Romantic poetry was 'a spontaneous overflow of powerful feelings' (p. 263).

If you are using an author–date citation style, then you need to include the date as well. Take the following examples from John Royce's article in *IB Review* magazine, published by Hodder Education. Each of the examples contains the same quotation from:

Kahneman, D. (2011). *Thinking fast and slow*. London: Allen Lane.

However, each example uses a different form citing the quotation, but adds authority to the original author and credibility to the student's own work:

- It may be human nature to think that we are more astute than we really are, to see what we want to see and to ignore that which might work against us. It could be that, 'More often than not, risk takers underestimate the odds they face, and do not invest sufficient effort to find out what the odds are.' (Kahneman, 2011, p. 256).
- ... As Kahneman puts it, 'More often than not, risk takers underestimate the odds they face, and do not invest sufficient effort to find out what the odds are' (2011, p. 256).

- ... Kahneman's research (2011) suggests that, 'More often than not, risk takers underestimate the odds they face, and do not invest sufficient effort to find out what the odds are' (p. 256).
- ... In 2011, behavioural economist Daniel Kahneman suggested, 'More often than not, risk takers underestimate the odds they face, and do not invest sufficient effort to find out what the odds are' (p. 256).
- ... Daniel Kahneman, awarded the Nobel Prize for Economics in 2002, has shown that, 'More often than not, risk takers underestimate the odds they face, and do not invest sufficient effort to find out what the odds are' (2011, p. 256).

Royce, John. 'Citation and Referencing.' *IB Review*, vol.2, no.4, Hodder Education, April 2016, pp. 13–15.

Citation is relatively easy as there are fewer things to remember than there are with referencing. For purposes of academic integrity, all you need is to indicate in the EE where you have used the ideas, words or work of someone else. For example, you should use quotation marks if you are referring to the exact words of another person, such as:

- As Greta Thunberg declared, 'This is the biggest crisis humanity has ever faced' (2018).
- 'This is the biggest crisis humanity has ever faced' (Thunberg, 2018).

Finally, it is important to remember that all citations must also be fully referenced on a works cited or bibliography page, placed at the end of the EE.

■ **Table 5.1** Citations and referencing

In-text citation	List of works cited (Bibliography)
One distinguished anthropologist calls the American male's reluctance to cry 'a lessening of his capacity to be human' (Montagu p. 248).	Montagu, Ashley. <i>The American Way of Life</i> . New York: Putnam, 1967.
'No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable.' (Smith, 1776, p. 96)	Smith, A. (1776). <i>An Inquiry into the Nature and Causes of the Wealth of Nations</i> . London: W. Strahan and T. Cadell.

The bibliographic information in the works cited page(s) must allow the examiner (or any other reader) to locate your sources. Remember that appropriate citations and references help to establish your credentials as a competent and ethical researcher.

The full citation should appear in an alphabetical list at the end of your EE, starting on a separate page, for example:

- Hoang, Paul *et al.* *Economics for the IB Diploma*. London: Hodder Education, 2020.
- Koszary, Joseph *et al.* *English Language and Literature for the IB Diploma*. London: Hodder Education, 2020.
- Taylor, Chris. *Riding the Dragon: A Journey Through Every Chinese Province*. CreateSpace, 2013.
- Wordsworth, William. *Lyrical Ballads*. Oxford: Oxford University Press, 1967.

### Expert tip

Cite as you write: students often ask their supervisors the question, 'When should I cite?' The answer is quite simple – if in doubt, cite the source. Although it will take time to do so, getting into this habit will save you time in the long run; so, you should cite as you write your EE. If you forget to cite as you write and then end up forgetting to come back to do so, it could raise unnecessary concerns about the validity of your work.

## Common mistake

Students often use quotations without a real purpose. If you use a quotation, make sure you explain how it links with the point being made. Do not use quotations to say what you want to say; use them to support what you say, that is, as evidence or an example of what you are saying.



■ **Figure 5.3** It is a good idea to cite as you write your essay



**Inquirers:** The EE provides the perfect opportunity for you to show your research skills. This includes demonstrating effective citation and referencing of secondary and primary research throughout your essay.

## What is referencing?

Movies often include a long list of credits at the end. Novels often include acknowledgements at the beginning or end. Artwork and music may include attributions in the title (*Portrait of a Lady*, after Klimt, or *Variations on a Theme* by Joplin). A poster or collage might include an outline of the pieces used and a note on the source used for each. In all such cases, referencing is used to attribute the sources.

Referencing is a systematic way of recording where data and information have been obtained. It is used to acknowledge the ideas or thoughts of other people. It also enables the reader (your EE supervisor and examiner) to locate and verify the information presented. You must provide a full reference whenever you use or refer to the work, ideas and words of other people. This could, for example, be a quotation from a textbook, novel, magazine, academic journal, newspaper or website.

Although there are no specific rules set by the IB, you must use a single referencing style (such as MLA, APA, Harvard or Chicago) consistently throughout your essay. If you conduct primary research, such as interviews and/or questionnaires (to supplement your secondary research), you must reference these sources too.

You are not expected to be an expert in citation and referencing for academic purposes, but you are expected to acknowledge all sources in a consistent way. Note that you can rely on the expertise of staff at your school to support you with this (see Chapter 6 The role of the extended essay supervisor).

## Common mistake

Many students think that they can write their 4000-word essay without the use of citations or references, and then revisit what they have written by adding C&R at a later date. This approach is highly ineffective and inefficient as students usually find it difficult or tedious to try to relocate their sources and/or distinguish between the works and words of others and those of their own. As recommended by IB, you should cite as you write the essay.

■ Table 5.2 Good practices for citing and referencing

Good practices for citing and referencing			
Read actively: see how professionals signal their quotations and use other people's work in other ways.	Read actively: when your source cites another source, <b>go to that source</b> to check the accuracy of how it was used. Perhaps cite the original instead of the later source.	'Cite as you write.'	Consider indicating the <b>authority of the sources</b> you are citing, e.g. 'Kahneman, the winner of the Nobel Prize for Economics in 2002, has shown ...'

Figure 16, Good practices for citing and referencing, Extended Essay guide (page 89)

## Choosing an appropriate referencing style

Which type of referencing style should you use? As the IB does not prescribe a particular referencing style, this decision is left at the discretion of your school and IB Diploma coordinator. Therefore, you should check whether there is a specific policy (or preference) at your school.

### ATL ACTIVITY

#### Communicators and inquirers

Find out which citation and referencing system is used at your school. If there is no prescribed C&R system, speak with your EE supervisor and/or the EE coordinator to find out which C&R system they would recommend for your essay. Then create a working document that contains all research sources used in addressing your RQ. Share this document with your supervisor. Remember to cite as you write and update this document accordingly.

Whatever referencing style you use, they all include (more or less) the same elements:

- Author name(s)
- Title
- Date of publication
- Date of access
- Publisher
- Page(s)
- URL (for online sources).

It is the punctuation that is different in different referencing styles, and the order in which the elements are included in the reference. For most people, it is best to stick to one referencing style and get to know that well as it is easy to be confused by the requirements of different types of referencing styles.

Do not worry about citation and referencing having a negative impact on your 4000-word count. The use of C&R, whether they appear as parenthesis, footnotes or endnotes, does *not* form part of the word count. Instead, focus on providing the reader with precise and accurate

### Task

You may already have looked at some example EEs while developing your research question. Look at these EEs again and consider how the students have referenced their sources.

### Expert tip

Your supervisor is instructed to authenticate your work before the EE is uploaded for assessment. This cannot be done if your supervisor thinks there are shortcomings in citations or referencing, which could suggest plagiarism or academic malpractice.

citations and references. However, note that if footnotes have been used for anything other than referencing (such as explanatory footnotes to define key terms, to provide background comments or to explain data in a statistical table), the word count as stated on the title page must *include* these explanatory footnotes. To protect you from potential accusations of academic malpractice in this case, make sure you include an explicit statement on the cover sheet along with your word count declaration that ‘the stated word count includes explanatory footnotes.’ Below are examples of C&R from three different styles: APA, MLA and CMS.

## ■ APA

Many – but not all – journals in some of the natural sciences and the social sciences use an author–date style, such as APA (the style guide of the American Psychological Association). Some examples are provided below.

■ Table 5.3 APA style

Media	In-text citation	List of works cited (Bibliography)
Book	(Passer & Smith, 2015)	Passer, M. W. & Smith, R. E. (2015). <i>Psychology: The science of mind and behaviour</i> (2nd ed.). North Ryde, NSW: McGraw-Hill Education.
Image	(Van Gogh, 1888)	Van Gogh, V. (1888). Van Gogh’s Chair [Painting]. London: The National Gallery.
Online newspaper (Natalie Sherman)	(‘World’s biggest music labels sue over AI copyright’, 2024)	World’s biggest music labels sue over AI copyright. (2024). Retrieved from <a href="http://www.bbc.co.uk/news/articles/ckrrr8y9elzv0">www.bbc.co.uk/news/articles/ckrrr8y9elzv0</a>

In most cases, most of your sources should be contemporary in nature. Including dates when writing your essay can be important, and it helps the examiner to know immediately about the recency of your sources, rather than the reader having to look up the date in the references list or bibliography at the end.

For more information about using the APA style, visit their website by searching APA Style Reference Examples. You can also find APA tutorials on Smart Student’s YouTube channel.

## ■ MLA style

Some – but not all – journals in language and literature use an author style such as MLA (the style guide of the Modern Language Association). It seems not to matter when the source said or wrote the words; it is the name of the source that gives authority. If you feel that the date is important, you can still include it in the text.

Table 5.4 is adapted from the *MLA Formatting and Style Guide*. ‘Core elements’ are the basic pieces of information that are common to all sources, from books to articles, lectures to social media posts. Include as many of the core elements as possible when referencing.

■ Table 5.4 MLA style

	Core element	Example
1	Author’s name.	Royce, John.
2	Title of source.	‘Citation and Referencing.’
3	Title of container,	<i>IB Review</i> ,
4	Other contributors,	
5	Version (Edition),	
6	Number,	vol. 2, no. 4,
7	Publisher,	Hodder Education,
8	Date of publication,	April 2016,
9	Location. (page number)	pp. 13–15.
10	Location (website address <...>)	< <a href="http://www.hachettelearning.com">www.hachettelearning.com</a> >

So, with the core elements above, the full reference becomes:

Royce, John. 'Citation and Referencing.' *IB Review*, vol. 2, no. 4, Hodder Education, April 2016, pp. 13–15.

## ■ CMS style

Some – but not all – journals in history and other humanities subjects use a footnoting style, such as CMS (Chicago Manual of Style or simply Chicago, for short, the style guide of the University of Chicago Press). This style is preferred by some readers because the use of parenthetical citations within the text of the EE may slow down the reader. The CMS style uses superscript or bracketed numbers in the text, indicating the reference at the foot of the page (footnote) or at the end of the essay (endnote). Some examples are shown in the table below:

■ Table 5.5 CMS style

Media	Footnote examples	List of works cited (Bibliography)
Book	11. Aravind Adiga, <i>The White Tiger</i> (Uttar Pradesh, India: HarperCollins, 2009), 165.	Adiga, Aravind. <i>The White Tiger</i> . Uttar Pradesh, India: HarperCollins, 2009
Journal	12. Sian May, 'What is freedom?' <i>IB Review</i> , vol. 3 no. 3 (2017): 15.	May, Sian. 'What is freedom?' <i>IB Review</i> , vol. 3 no. 3 (2017): 14–17.
Website	15. Eric Ng and Yujie Xue, 'Green hydrogen: is this Australia's breakout moment amid US\$127 billion boom down under?', <i>South China Morning Post</i> , June 22, 2024, accessed July 24, 2024, <a href="http://www.scmp.com/business/commodities/article/3267494/green-hydrogen-australias-breakout-moment-amid-us127-billion-boom-down-under">www.scmp.com/business/commodities/article/3267494/green-hydrogen-australias-breakout-moment-amid-us127-billion-boom-down-under</a>	Ng, Eric and Xue, Yujie 'Green hydrogen: is this Australia's breakout moment amid US\$127 billion boom down under?' <i>South China Morning Post</i> , June 22, 2024. Accessed July 24, 2024. <a href="http://www.scmp.com/business/commodities/article/3267494/green-hydrogen-australias-breakout-moment-amid-us127-billion-boom-down-under">www.scmp.com/business/commodities/article/3267494/green-hydrogen-australias-breakout-moment-amid-us127-billion-boom-down-under</a>

For more information about using the CMS style, visit their website by searching for The Chicago Manual of Style Citation Quick Guide.

## ● Expert tip

For the EE, any style can be used for any subject, as long as it is used consistently throughout the essay.

## ● Expert tip

As citation and referencing are not part of the word count, there is no need to use software such as Bitly or TinyURL. Instead, use the full URL website address.

## ■ Using and referencing online materials

Increasingly, students are using online materials as secondary research sources for their EE. Whichever referencing system is used, it is important to include, as a minimum, the following information:

- Title of the online material used
- Full website address
- Date it was accessed
- Author (if available).

For example, you may choose to use the following format:

Author's Last Name, First Name. 'Article title.' *Name of website source*. Publisher. Date of article listed on site. <URL: www.>

For example:

Aina, Taiwo. 'Nigeria Confronts Its Worst Economic Crisis In A Generation' *New York Times*, June 15, 2024. <URL: [www.nytimes.com/2024/06/11/world/africa/nigeria-economy-strike.html](http://www.nytimes.com/2024/06/11/world/africa/nigeria-economy-strike.html)>

If the online source contains page numbers, such as an online PDF report, the relevant page(s) should also be included in the referencing.

It is important to note that online materials must be used with some caution – you should use and rely only on reputable sources. In particular, you should consider the following points:

- Judge the reliability and validity of the information found online – for example, how trustworthy is the source?
- Do not rely solely on internet sources – your bibliography should not contain only online sources.
- Having a sharply focused research question will help you to search for more relevant materials on the internet.



■ Figure 5.4 Online materials must be used with some caution

## Final words of advice

The standard format and presentation of all EEs must include proper citation and referencing; this is a formal requirement. Many students find this task to be challenging, despite its importance. Nevertheless, there is plenty of freely available software on the internet to help you. You simply need to get into the habit of citing and referencing the materials and ideas that are not your own. Remember that this includes the proper C&R of the words, works and ideas of others and covers the use of any images, graphs, charts, tables and diagrams.

If you find yourself struggling with C&R, consider using online tools to help. EasyBib and Cite This For Me are two useful tools for C&R, which you can find by searching online.

Many students use an inconsistent C&R style within their essay. You should speak with your supervisor, the EE coordinator and/or school librarian about using a recognized style for citation and referencing in your essay.

Finally, for more detailed information on styles for citations and referencing, search online for the IB document 'Effective citing and referencing', published in April 2022, which is available for download on My IB – or you can ask your EE supervisor for a copy.

### ● Expert tip

Proper use of citations and references can help you to gain marks under criterion E – Reflection. This assessment criterion assesses the depth of your reflections, demonstrating the degree of your engagement with the learning process. Citations and referencing are important skills that you can demonstrate you have learned during your EE journey.

## Chapter summary

- Citation and referencing are used to support you in creating trust and credibility with those who read your essay.
- Referencing is used to acknowledge and credit the work of others cited in your essay.
- Use citation and referencing when referring to the work, words or ideas of others.
- You must clearly distinguish between your own words and thoughts used in the EE and those of others.
- Citation and referencing are integral aspects of academic writing and academic integrity.
- Failure to acknowledge your sources is a potential breach of the IB's academic integrity regulations, so will be investigated. This can result in a penalty imposed by the IB's Final Award Committee, including disqualification.
- Good use of citation and referencing helps you demonstrate your research and writing skills in the EE.
- The references you use help to add strength and evidence to your arguments, by improving the analysis of your research in the context of the research question.
- Record your sources throughout the process of your research and writing, rather than trying to construct a list of all the sources at the end of the process. Remember to cite as you write your essay.
- Ultimately, the proper use of C&R helps you, your EE supervisor and the EE examiner by fostering better communication, reducing potential misunderstandings and improving the overall quality of the essay.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	EE examiners must be able to trace each of your sources by following the referencing system you have used.		
2	Citation and referencing are important in the EE because the essay is targeted at an academic audience.		
3	It is important that you acknowledge all contributing sources in your essay.		
4	You must use a referencing system that is prescribed by the IB.		
5	You can use footnotes or endnotes for citations and references.		
6	You should use an academic referencing style as soon as you start writing your essay, because it becomes more difficult to add at a later date.		
7	If used, primary data sources (such as interviews and questionnaires) must be referenced.		
8	You must provide a full list of works cited in a bibliography. This is also important for academic integrity.		
9	When using online sources, it is necessary to include the date of the article but not the date it was accessed.		
10	Only your supervisor is permitted to assist you with citation and referencing.		

## Chapter 6

# The role of the extended essay supervisor

### What you can expect from your supervisor

Your supervisor will:

- provide 3–5 hours of overall support
- ensure you have access to the information and support material you need, such as reference examples of extended essays
- complete three compulsory reflection sessions with you (during which your supervisor will sign and date your research and progress form)
- read and provide feedback on the first draft of your extended essay
- monitor your progress to offer guidance and ensure that the essay is your own work
- check your essay does not reuse any work that you have completed for a previous assessment
- ensure that you fully understand the significance of academic integrity issues
- read the final version of your essay to confirm its authenticity
- submit a predicted grade for your completed essay
- submit your essay and the research and progress form (RPF) to the IB for assessment.

## What you can expect from your supervisor sessions

The three compulsory reflection sessions are a formal part of the extended essay, and your supervisor will record them on the research and progress form (RPF). Each reflection session should last 20–30 minutes.

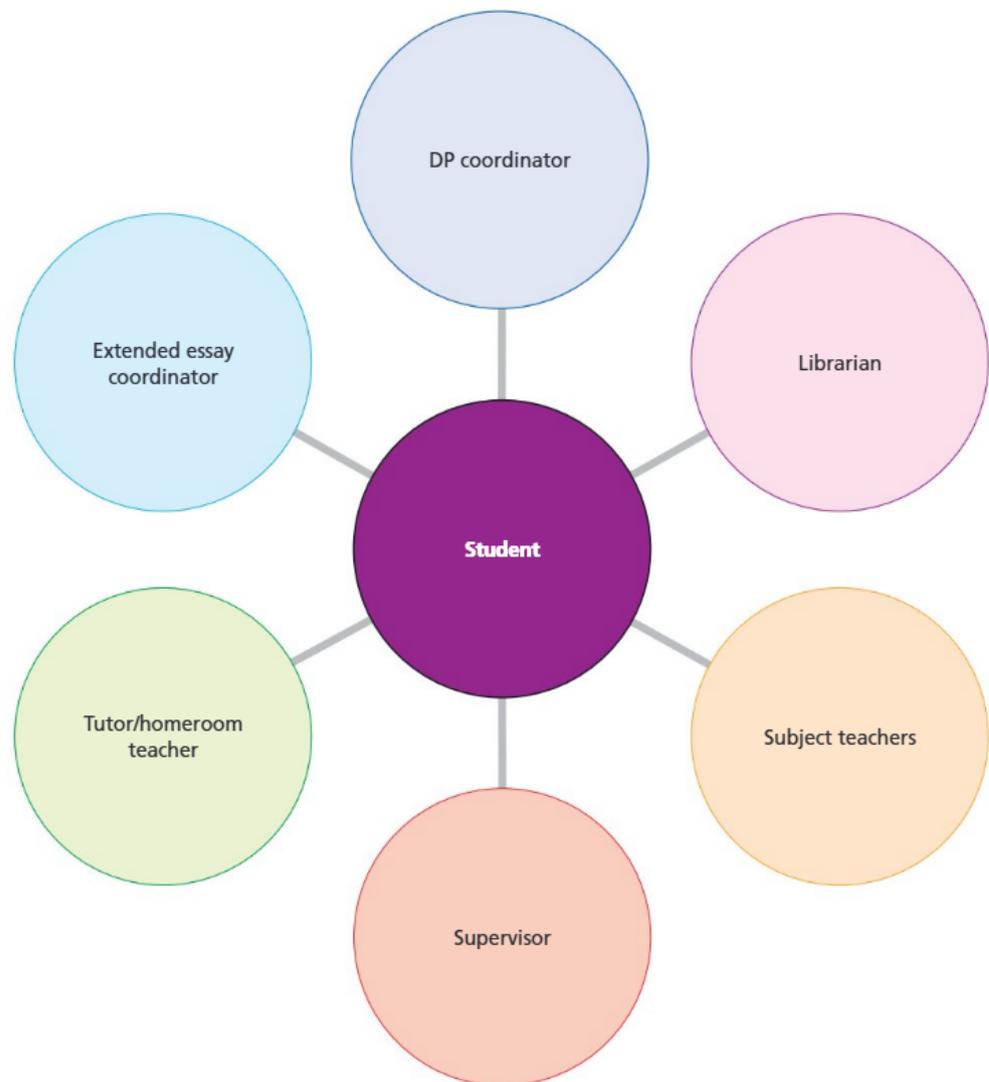
- During the sessions, you will focus on the progress you have made so far.
- You should set clear objectives for moving forward.
- The third reflection session is the *viva voce*, which is an opportunity to talk about your overall engagement with researching and writing the essay.
- You should be fully prepared for all of these meetings.
- Consider creating a researcher's reflection space (RRS) – you can use this as stimulus material during the reflection sessions.
- Remember that the three reflection meetings are not the only times that you should see your supervisor.
- Additional check-in meetings should last around 10 minutes.
- You should meet when necessary and receive between three and five hours of supervision.

# 6

## The role of the extended essay supervisor

### Your support network

Though the extended essay puts you in charge of your learning, you do have a support network around you. Your supervisor is undoubtedly the most important person to provide support, and this chapter will primarily focus on them, but it is also important to consider others who can assist you. This may vary slightly depending on your particular school, but the majority of students have their supervisor as well as the following wider roles of support available to them.



■ Figure 6.1 Your support network

## ■ The DP coordinator

Your DP coordinator oversees the school's delivery of the Diploma Programme (DP), and sometimes the Career-related Programme (CP). Their responsibilities regarding the EE may vary by school but typically include:

- ensuring the proper and academically honest submission of your EE and the research and progress form (RPF) to the IB
- ensuring the EE schedule is effectively aligned with the DP's broader assessment and examination schedule, including IAs, CAS, TOK and other related assessments
- overseeing and generally supporting the delivery of the DP core of CAS, TOK and the EE.

## ■ The extended essay coordinator

Your EE coordinator is deeply involved in all aspects of the extended essay process. They will be in frequent contact with your supervisor and will likely deliver presentations and workshops to you that focus on the overarching EE process. Remember, the EE coordinator will not know the ins and outs of every single subject area – that is the job of subject specialists – but they will have an in-depth understanding of the generic and administrative aspects of the EE. Some of their responsibilities regarding the EE are:

- setting the overall schedule for the EE process in liaison with the DP coordinator
- managing the proposal process and organizing the allocation of appropriate supervisors for students, including those following the interdisciplinary pathway
- ensuring supervisors have a good understanding of the purpose, process and requirements of the EE
- delivering information to students about the EE, the RPF and the school's academic integrity policy – the latter should also include the school's deadlines policy
- providing additional support to supervisors when needed
- alongside the DP coordinator, ensuring the submission of your EE and the RPF to the IB is conducted appropriately and within the IB's deadlines for schools.

## ■ The librarian



■ **Figure 6.2** Make use of the support your school librarian can offer you

Many schools will have a librarian. Given the focus on research in the EE, librarians often play an important role in helping students utilize the library effectively. Some of their common responsibilities are:

- providing information to supervisors and students on referencing and citation (see Chapter 5 Citation and referencing for more information about this)
- supporting students with using the library as a learning resource
- helping deliver information to students regarding academic integrity and evaluation of research sources
- providing guidance on access to and use of databases and academic journals.

### ● Common mistake

Students sometimes struggle to utilize support effectively, which can manifest in two main ways. Some students may avoid seeking support when needed, leading to excessive self-imposed pressure and 'suffering in silence'. Conversely, others may become overly reliant on their support network, showing a lack of independence and thus lacking engagement with the learning process and the true spirit of IB assessment. Remember the IB learner profile emphasizes being 'balanced', particularly with regard to your dependence on your support network.

### ■ Others

Outside these roles, there are others who can support you with the EE in a less official capacity.

#### Tutors/homeroom teacher

At most schools, your tutor or homeroom teacher will be seeing you every day, and they can often be used for emotional support and general check-ins as you progress through the EE process.

#### Subject teachers

Your subject teachers can also help you, particularly those with expertise in areas relevant to your EE. For students with a supervisor who is not a specialist in your chosen subject or for those completing an interdisciplinary EE, subject teachers can be particularly important. However, they often have demanding schedules, so it is important to approach them with specific, focused questions.



■ Figure 6.3 Remember that your teachers can help you too



**Communicators:** Managing your relationships with these staff members is an excellent opportunity for you to demonstrate an ability to communicate effectively and get support when required.

## Task 1

Acquaint yourself with the setup of the EE support network in your own school. If you get the chance, introduce yourself to staff in the roles mentioned earlier. Having a working understanding of the setup in your school means you will know where to go for support. Make notes of this setup in your researcher’s reflection space (RRS).

### Definition

◆ **Viva voce** is Latin for ‘with the living voice’, which translates to ‘by word of mouth’ (rather than by written form). In the context of the EE, the *viva voce* is an oral discussion of your learning journey upon the completion of the essay.

## The role of your supervisor

Now you have a sense of the wider support network, it is time to consider the person who will be your main point of contact throughout the process: your EE supervisor.

### Overview

Your EE supervisor must be an appropriately qualified member of staff at your school who is assigned to you as a point of contact throughout the EE process. They are there in a mentoring capacity. This means they are there to advise and guide rather than do the work for you: that is your job. Your relationship with your supervisor is integral to developing and submitting a successful EE. Supervisors are typically expected to spend a total of 3–5 hours meeting with you to support your EE, including time for your mandatory reflection sessions and *viva voce*. These meetings are spread out as separate sessions prior to the *viva voce* and submission of your reflective statement on the RPF.

### ATL ACTIVITY

#### Social and communication skills

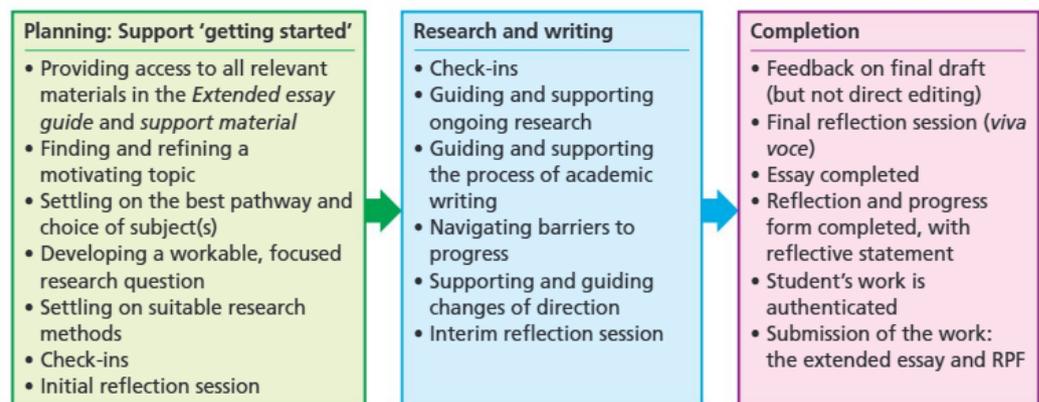
What challenges might you face in interacting with your supervisor? How might you be able to overcome such challenges?

### Who can be your supervisor?

While your supervisor does not need to be a specialist in your chosen subject, it is often beneficial and frequently the case. The supervisor’s role is to guide and mentor you. It is important to bear in mind that the EE is primarily an independent project – remember two of the four fundamental and transferable skills necessary for success in the EE are self-management and agency (in addition to the skills of research and reflection).

### Expanding on the role of the supervisor

Your supervisor will guide you in a wide variety of ways throughout the entire process of the EE. This diagram summarizes how guidance evolves through the different stages of developing a successful extended essay.



■ **Figure 6.4** Support offered by your supervisor at different stages of the EE process

You can find more details on how the supervisor will help guide you through different aspects of the EE process in the following section.

### Orientation

Alongside the EE coordinator, your supervisor will help you get settled and gain confidence with the EE, ensuring that you understand what the process entails and have access to supporting resources. Your supervisor will:

- ensure you have access to all the materials you need, including the *Extended essay guide* and EE support documents from the IB
- ensure you are familiar with the EE regulations.

### Guidance during the development of the EE

From start to finish, your supervisor will be there for support. From the development of your topic idea to the submission of your completed essay, your supervisor will be able to guide you and put your mind at ease. Your supervisor will:

- discuss your choice of topic, pathway (interdisciplinary or subject-focused) and your research question
- check that you are using and updating your RRS
- administer three mandatory reflection sessions (see the following section on reflections for details)
- be available for regular check-in sessions throughout the process, in addition to the three mandatory reflections – these can be formal face-to-face meetings, emails or even quick chats in the school corridor; the number and length of these will vary depending on your needs
- provide guidance on research skills and methods during the research or data-collection stage
- ensure that your final essay satisfies the appropriate legal and ethical standards (where appropriate) with respect to health and safety, confidentiality, human rights, animal welfare and environmental issues
- read and comment on one draft of your EE after the interim reflection and before the final reflection session (see Chapter 7 The importance of reflections for further details about this)
- support the EE and DP coordinators with the submission of your EE and the RPF via the IB eCoursework system.

### ■ Academic integrity

Your supervisor also plays an important role in maintaining academic integrity. They will get to know you, your ideas and your style of writing during the process of supervision, and this puts them in an effective position to ensure your work is your own and any secondary sources are properly cited. Your supervisor will:

- ensure that you fully understand the significance of academic integrity issues, especially regarding rules about plagiarism and respect for intellectual property. Your supervisor will need to submit a written report to your school's IB Diploma Programme coordinator if academic misconduct, such as plagiarism, is suspected in the final draft of your essay. See Chapter 4 Academic integrity for more guidance on academic integrity and the EE.
- check that your essay does not reuse any work that you have completed for assessment in any other component, such as an internal assessment in the subject. This would otherwise constitute academic malpractice.

#### ● Expert tip

Your supervisor can access copies of relevant IB publications that are available from the Programme Resource Center (PRC). These publications include exemplar essays and EE subject reports. Ask your supervisor to share them.

#### ● Expert tip

To support your supervisor in marking your draft essay, you must submit a full draft in sufficient time for them to read it and provide you with constructive feedback. Make sure you stick to all deadlines set by the school.



- review the final version of your essay to confirm its authenticity. EE supervisors are reminded that all coursework, including work submitted for assessment by the IB, must be checked for authenticity and reflect your individual and original ideas. Any ideas and work of others *must* be fully and appropriately acknowledged.

**Principled:** A key role of your supervisor is to ensure that your work is completed in an academically honest way. Meetings with your supervisor during the mandatory reflection sessions, which must be recorded on the RPF, provide the opportunity to demonstrate how you are a principled researcher.

## Reflections

Though you will often reflect independently, having someone to bounce ideas off and ask questions of you can make reflections more purposeful and meaningful. As such, the IB requires three formalized reflection sessions with your supervisor. Your supervisor will:

- undertake three mandatory reflection sessions with you (see Chapter 7 The importance of reflections for more details about the contents and timings of these compulsory meetings)
- conduct the final mandatory reflection session (the *viva voce*) where the supervisor will facilitate your final reflections and confirm the authenticity of your EE to ensure it is appropriate for submission to the IB
- record your attendance at the three **mandatory reflection sessions** on the RPF by selecting the month and DP year from the drop-down options to indicate when the reflection sessions took place, as well as adding their initials to authenticate this (see Chapter 7 The importance of reflections for more details on this)
- ensure your reflective statement (following the *viva voce*) is written and correctly recorded on the RPF – both the student and supervisor must check the reflective statement does not exceed 500 words.

### Definition

#### ◆ Mandatory

means something that is required, while **reflection sessions** are specific points in the EE development process when you discuss with your supervisor how things are going by considering what is going well, what is going less well and where you are headed in the process. These help generate up to 500 words for your reflective statement at the end of the EE process.

### Expert tip

Supervisors are not required to add any comments on the RPF. However, as part of the IB's overarching academic integrity policy, all supervisors need to be able to authenticate the work of their students. This means you must attend all check-in sessions and mandatory reflection meetings. Supervisors who are not assured of your engagement with the process in an academically authentic way will raise their concerns with the school's EE and DP coordinators.

Note the following statement for EE supervisors on page 1 of the RPF:

'You must have three reflection sessions with each student, one early in the process, an interim meeting and then the final *viva voce*. Other check-in sessions are permitted but do not need to be recorded on this sheet. After each reflection session you must record the month that the reflection session took place, the student's year of DP study at that time, and initial the form.'

*Reflection and progress form*

## Supervision contract

The relationship with your supervisor is a two-way relationship, and there needs to be a clear understanding of your responsibilities to make the relationship work. Clearly understanding expectations at the start of the process helps ensure a positive and successful relationship.

A suggested 'Supervision contract' follows, which is essentially an agreement on expectations that can make supervision more effective. Some of these may seem appropriate for your circumstances, others may not, but they give an idea of the kinds of rules you can have for an effective partnership to work.

# SUPERVISION CONTRACT

As a student, I will adhere to the following points:

- I will respond within 24 hours to any emails from my supervisor.
- I will meet deadlines.
- If there are any concerns about a deadline due to extenuating circumstances, I will inform my supervisor at least 5 days in advance wherever possible.
- I will ensure that the EE is entirely my own work, and that all secondary sources are acknowledged and referenced.
- I will record reflections after the three mandatory reflection sessions in my RRS and complete my reflective statement on the RPF.
- I will remember my supervisor is a guide and is not there to do the work for me – I will show agency and self-management in developing my EE.
- I will be polite, considerate and reasonable when communicating with my supervisor and other staff members when requesting support for my EE.
- I will reach out if I am struggling and need support.

As a supervisor, I will adhere to the following points:

- Provide support and encouragement throughout the process of developing the EE.
- Provide effective guidance regarding the rules and regulations of the EE.
- Spend appropriate time supporting the student, within the IB's recommended 3–5 hours of supervision.
- Meet the student for the three mandatory reflection sessions.
- Meet with the student for check-in sessions to provide support, including checking the notes of the student's RRS.
- Read and comment on the first (and only) draft of the essay.
- Monitor the authenticity of the student's work throughout the process.
- Confirm that academic integrity guidelines were adhered to (or raise concerns about this with the school's EE and DP coordinators).
- Read the final draft of the essay prior to the *viva voce*, and provide the EE and DP coordinators with a predicted grade for the essay.

Name of student: ..... Name of supervisor: .....

Signed (student): ..... Signed (supervisor): .....

Date: ..... Date: .....

■ Figure 6.5 An example of a supervision contract

## Task 2

Consider the contract in Figure 6.5. What would you change given your particular needs? Draw up a revised contract (in your RRS) that you think will make the relationship with your supervisor more effective and discuss this with your supervisor as part of your first meeting.

## ■ Stage 2 of 3: The research or data-gathering stage

By this stage, you have a research question that you are confident enough to take forward. You now need to start gathering information and data that you can interpret, using this to draw mini conclusions that go some way to answering your RQ.

Bear in mind that the EE is a bit like an iceberg. The examiner sees only the completed essay, but most of the work involves research and planning behind the scenes. The examiner does not see the efforts and processes in submitting the final draft of the essay, but it is impossible to have a completed EE without these efforts. Your supervisor's role is to assist and advise with this process, and they will need to authenticate this on the RPF.

### Meeting 3: Investigations stage – student's perspective

#### Overview

It is now time to gather the knowledge and data needed to analyse, interpret and draw your own conclusions to answer the RQ. You will likely have had a session with your librarian and/or EE coordinator about research, citation and referencing, but that will have been quite generic to suit the wide variety of subject areas as your fellow students are investigating. During this meeting, seek advice from your supervisor on gathering primary (if applicable to your subject) and secondary sources related to your particular research question.

#### Recommended outcomes for the student

- You have a clear sense of how best to record your research in your RRS. This may build on your initial pre-research when you were developing your initial research question.
- You know where to find secondary sources. Remember that you need a range of academic sources – see Chapter 10 Managing the extended essay process for further guidance.
- If applicable, you know how to go about collecting primary data. Depending on your subject, this can range from performing a lab experiment at school to kayaking out into the local lake to collect water samples. Get advice from your supervisor on how to go about data gathering with integrity and safety.

#### Expert tip

There are some useful acronyms that you can use to remember how to judge how academic a source is. One such acronym is the CRAAP test:

**Currency:** As the world changes, a source from many years ago may already be out of date (rather than contemporary) due to newer research that may have contradicted previous beliefs.

**Relevance:** Ensure the source is relevant to your particular research question. You will sometimes find that a promising journal article title actually contains little, if any, relevance in the actual paper.

**Authority:** This is essentially considering the credibility of the source. If the source comes from an esteemed educational institution or established government agency, it has more authority as these institutions have certain checks and balances in place. Sources from unknown websites or personal blogs of people not in positions of authority have less reliability and credibility so may not be accurate for academic research.

**Accuracy:** Tied in with authority, this involves considering the truthfulness of the information, whether it is biased, and ensuring it is based on evidence.

**Purpose:** You also need to consider why the information was produced – is it purely educative, or is there a particular agenda in getting the information out there? If there is a hidden agenda, this can potentially mean bias and unreliable information.

## Meeting 3: Investigations stage – supervisor’s perspective

### Overview

This meeting focuses on advice for gathering the basic materials and resources needed for the EE. This includes primary and/or secondary sources depending on the subject area(s). You will likely have conducted research for IAs in other subjects before embarking on the EE but remember this is almost certainly the most in-depth investigation you will have conducted so far.

Around this time, you will likely have attended a seminar or presentation from the EE coordinator and/or librarian on research skills as well as methods of citation and referencing. This, however, will have been generic and aimed at students investigating a wide variety of subject areas. What your supervisor will provide is advice tailored to your chosen subject area(s) in relation to the specific research question. Your supervisor may have recommended sources of information on a subject, department or faculty level that they can share.

### Recommended outcomes for the supervisor:

It is recommended that you leave the meeting with the following information in place:

- A clear sense of how to record your research effectively in relation to your RRS and citation and referencing (see Chapter 5 Citation and referencing for more guidance about this).
- Ideas on where best to look for secondary sources, particularly which academic databases and online journals are likely to be useful for your particular RQ.
- If applicable, how to go about conducting and collecting primary data. This may involve using specialized facilities of the school for experimentation, for example.

### Expert tip

Consider how you go about recording your sources. The example below is one approach.

■ **Table 6.1** An example of how you can record your sources

Source description	Useful context evidence
<b>Citation</b>	Carbone, Elettra. 'Nora: The Life and Afterlife of Henrik Ibsen's A Doll's House.' <i>Introduction to Nordic Cultures</i> , edited by Annika Lindskog and Jakob Stougaard-Nielsen, UCL Press, 2020, pp. 102–16. <i>JSTOR</i> , <a href="https://doi.org/10.2307/j.ctv13xprms.13">https://doi.org/10.2307/j.ctv13xprms.13</a> . Accessed 24 Apr. 2023.
<b>Relevant evidence</b>	'This is the heart of the Helmer's family life: it is a symbol of Nora's dream of security in the home and a space that she attempts to protect even at difficult times.'
<b>Link to essay</b>	I can use this as a brief quotation to springboard into my own explanation of how the play was written at a time of codified misogyny through the laws of the time.

### Task 4

Jot down some ideas of what information you think will be useful to record when conducting your literature review or documenting your research.

### Common mistake

Students often struggle with organization in the early stages of the EE process. A big part of staying organized is accurately documenting any secondary sources that you may end up incorporating into your EE. Failing to record details, such as why sources are useful or where they come from, means that you will waste time later in the process trying to remember and track down the details of these sources. Use Task 4 to help you avoid such a problem.

### ■ Stage 3 of 3: The documentation and presentation stage

Now that you have your information and/or data, the next step is to analyse, interpret and draw conclusions. You also need to focus on how you will actually present your findings and conclusions through planning your extended essay. This plan will guide your writing, which your supervisor will review before the final submission.

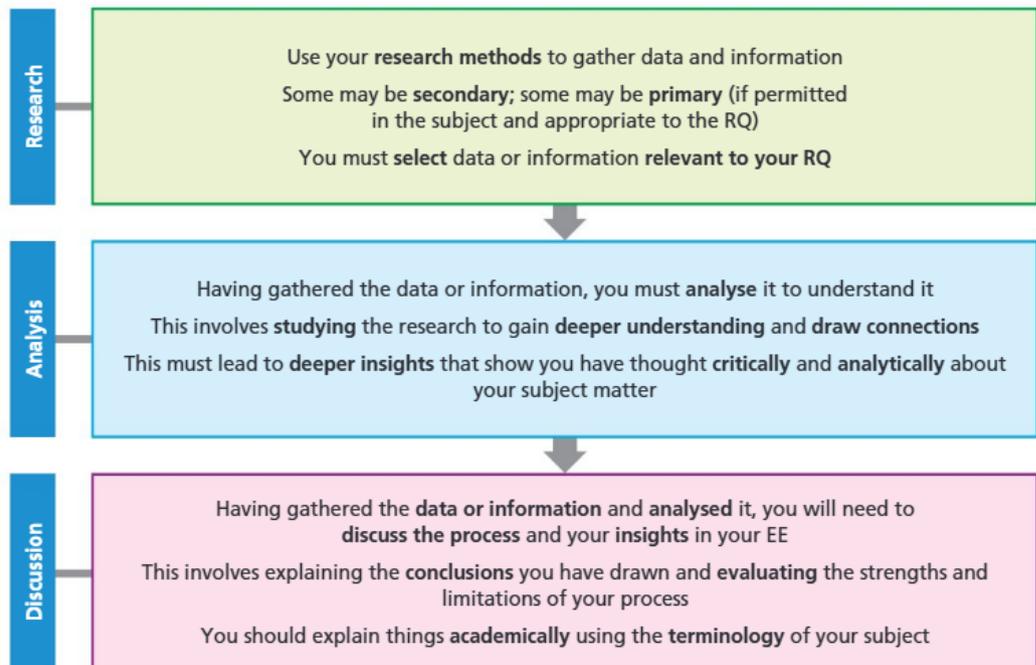
#### Meeting 4: Essay planning – student’s perspective

##### Overview

While gathering your information and data, you have likely been gaining insights and drawing some conclusions. This meeting is the ideal time to share and discuss these with your supervisor. If you have not reached this stage, try to do so before Meeting 4. Refer back to the advice from the third meeting on investigations and earlier guidance on interpreting data.

By now, you should have all the building blocks needed to plan out and write your EE.

Remember, as Figure 6.9 shows, the early stages in the process are focused on gathering data and information; the middle stages are focused on analysing this gathered research; and the latter stages are focused on discussing your findings through writing your EE to address the RQ.



■ Figure 6.9 The process of planning the contents of the EE

With this in mind, the main aim of this fourth meeting is to have a clear sense of how to plan your actual essay. This includes determining the broad essay structure, including sub-sections, paragraph topics and other elements of your actual 4000-word EE. This plan is incredibly important and will be used as the basis of you actually writing out the response to be submitted ready for Meeting 5.

## Reflection 2 of 3: Interim reflection session

This interim reflection sometimes takes place after the research or data-gathering stage (as recommended by the IB). Using this five-meeting structure, the second mandatory reflection session will be after Meeting 4. Its primary aim is to confirm that your research methods are working; that you have gathered what you need to write an effective essay; and that your essay writing is appropriate. It is recommended that you have at least a completed portion of the essay for your supervisor to check for progress and academic integrity purposes. Refer to **Chapter 7 The importance of reflections** for more details about the second mandatory reflection session.

### Meeting 5: Draft feedback – student’s perspective

#### Overview

Having submitted your EE draft between Meetings 4 and 5, this fifth meeting is where you can discuss the feedback you received from your supervisor. It is important that you read the supervisor’s feedback first and come to the meeting with some clear questions and clarifications you would like to cover so that the time is used effectively. With this guidance to help you, the next stage is completing the final version of your essay – make sure you go into this stage with confidence having had useful feedback from your supervisor.

#### Recommended outcomes for the student

- You have clarified any feedback from your supervisor, especially the points that you may be unsure of.
- You have a clear sense of the main areas for improvement of your draft EE.
- You are clear on any formatting changes that need to be made before submission of the final draft.

#### Expert tip

To uphold academic integrity, supervisors cannot make changes to your written work. For instance, they must not correct your spelling, punctuation and grammar, nor must they rewrite any part of your essay – doing so means it potentially no longer represents your ideas, words or work. Similarly, for science and mathematics essays, your supervisor must not correct or change any of your experimental work or calculations.

As no student is allowed to gain an unfair advantage over others, your supervisor must not repeatedly look at your essay. Their role is to monitor the progress of your EE; this may involve reviewing and discussing a piece of writing you have created during the development stage to ensure you are on the right track and are maintaining academic integrity. They are also permitted to read or comment on one completed draft only of your essay at some point between the interim reflection and the final reflection. The second time you submit your completed essay must be the final version of the work.

### Meeting 5: Draft feedback – supervisor’s perspective

#### Overview

This meeting focuses on providing feedback on the first draft submission of the EE.

This is an important meeting as it provides the last major direction for you to produce an effective and worthwhile extended essay. Of particular importance is ensuring there has been an appropriate range of primary and/or secondary sources and they are well integrated

into an essay structure. If you are lacking a range of appropriate sources to address the RQ, it is essential for you to find some. This fifth meeting is also a chance to correct any stylistic, structural or analytical issues you may be facing.

### Feedback reminders

Your supervisor can:

- provide comments on areas for improvement
- annotate the EE, but they will avoid detailed annotations or making any changes to the contents of the essay, intentionally or otherwise.

They cannot:

- re-write any sections of the essay under any circumstances
- proofread the essay for errors.

### Recommended outcomes for the supervisor

Your supervisor will ensure you:

- understand what you have done well and where the areas for improvement are in your essay
- are confident you have used a suitable range of reliable sources; if not, you have a clear action plan to remedy the situation
- are clear on any formatting issues you need to solve before submission of the final draft of the EE.

### Expert tip

With the IB's requirement for the anonymization of all coursework, your comments in the reflective statement cannot reveal who you are, the identity of your supervisor or which school you attend. Remember too that you should not mention your supervisor in the acknowledgements to your essay to ensure anonymity.

### Expert tip

Your supervisor cannot provide you with detailed annotated feedback on the essay. However, it is absolutely acceptable for your supervisor to ask questions that will support you to reflect on and improve aspects of your essay. Such questions might include:

- What did you mean by ...?
- How might you be able to express this section of the essay more clearly?
- How can you ensure your findings/data are accurate and represent multiple perspectives on this topic?
- How might you make some adjustments/changes in this section to improve your analysis, line of argument, discussion and/or evaluation?

### Reflection 3 of 3: The final reflection session (the *viva voce*)

This reflection comes at the end of the process and is the final meeting with your EE supervisor. By this point, you will have got to know each other well, will have been through some ups and downs, and have hopefully both witnessed the creation of an EE that you are both incredibly proud of.

The *viva voce* takes the form of a 20–30-minute interview. It involves celebrating what you have achieved, looking back at the whole process, considering what you have learned and how it will benefit you in the future. This discussion is particularly useful as a source of ideas for your reflective statement, which must be typed onto the RPF. See **Chapter 7 The importance of reflections** for further details about how to complete the reflective statement.

### Expert tip

Your third and final reflection section, the *viva voce*, is included in the recommended 3–5 hours of your supervision process.

## Chapter summary

- Your EE supervisor is your main point of contact and must be a qualified school staff member assigned to guide you.
- The IB recommend that your supervisor offers 3–5 hours of support. This includes the three mandatory reflection sessions.
- Your supervisor will read and provide you with feedback on the first draft of the EE but is not permitted to edit the draft or change your work.
- The school librarian is an important person to give guidance on research, including citation and referencing, as well as the formatting of the EE.
- You are permitted to have several check-in meetings in addition to the three mandatory reflection meetings. You may want to use the five-meeting framework outlined in this chapter.
- Your supervisor has several important administrative jobs to complete for the school and the IB. For instance, the supervisor will submit and authenticate your essay and the RPF to the IB for assessment by an external IB examiner.
- The *viva voce* is an opportunity to talk to the supervisor about your engagement with researching and writing the essay.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	Your supervisor is advised by the IB to spend no longer than 3 hours with each student.		
2	The supervision time includes the three compulsory sessions on reflection and progress.		
3	Your supervisor is allowed to edit and annotate one completed draft of your essay.		
4	<i>Viva voce</i> translates as 'with a living voice' and should last for one hour after submitting the final version of your essay.		
5	The <i>viva voce</i> is included in the total time that the supervisor should spend with each assigned student.		
6	The supervisor must not correct the spelling, punctuation or grammar in your essay.		
7	Supervisors are allowed to support you regarding citations and references.		
8	You can refer to the name of your supervisor in the reflective statement of the RPF that must be submitted to the IB for examiner marking.		
9	Supervisor feedback on the draft of the essay should take place after the interim reflection session but before the final reflection (the <i>viva voce</i> ).		
10	If you have already completed another formal piece of assessment, it is permissible for you to use a similar research question and resources for your EE, so long as your supervisor is made aware of this.		

## Reflection sessions

### Initial reflection session:

- **When:** After your initial ideas, background reading and research plan have been considered
- **What to expect:** Questions from your supervisor will be descriptive in nature, encouraging you to explain and consider your research, reading and thinking. Ideally send your supervisor an outline of your research plan and progress before this meeting to help ensure your discussion is purposeful and productive
- **Outcome:** You have a good idea of exactly what your research question is and how you are going to deal with the remaining challenges you are likely to face.

### Interim reflection session:

- **When:** After your draft essay has been submitted
- **What to expect:** The session will help you judge how far you have progressed and how much further you will need to go to complete the extended essay successfully  
There may be more analytical questions from your supervisor, with a discussion of the strengths and limitations of your initial findings and research methods
- **Outcome:** You understand what you have achieved already, and what you must still accomplish, to write the best essay you can.

### Final reflection session – the *viva voce*:

- **When:** After you have completed the final version of your extended essay and your supervisor has read it
- **What to expect:** Questions from your supervisor will be more open-ended and evaluative in nature to encourage you to reflect on what you have learned throughout the entire extended essay process
- **Outcome:** You consider and evaluate the wider implications of your learning journey; in particular, you are more aware of your personal strengths and academic development needs.

## Definitions

◆ **Reflection** involves looking back on your experiences to understand their impact on your learning, focusing on skills development, growth and applying lessons to future situations.

◆ **Researcher's reflection space (RRS)** is where you will document your research, reflect on progress from the three mandatory supervisor sessions and develop your ideas for the EE.

◆ **Reflection sessions** are mandatory meetings with your supervisor to discuss progress, set objectives and prepare for the reflective statement, written after the final *viva voce* interview.

◆ **Research and progress form (RPF)** is a document where IB Diploma Programme students record their reflective statement of no more than 500 words. This is submitted after the final mandatory reflection session with your EE supervisor.

## What is reflection?

Being reflective is one of the IB learner profile attributes and is a formal part of the assessment criteria for the EE (see Chapter 1 Understanding the assessment criteria). **Reflection** involves looking back on your experiences and considering how these have impacted you as a learner. Reflection in the extended essay (EE) focuses on your growth as a learner and experience with the EE, emphasizing skills development and skills transfer. These skills include, but are not limited to, research, problem solving, communication, self-management and critical thinking.

Reflection requires us to consider what has happened in order to move forward. This involves applying the skills and lessons you have learned to other situations, including future studies, your career or life in general. For the EE, you should consider the ideas and information collected to formulate your own understanding and interpretation of the topic and research question. For instance, you could reflect on the strengths and weaknesses of your experiences to further your own learning and personal academic growth.

Reflection in the EE gives students credit for the process of planning, researching and writing that they went through during their learning journey. The requirements and assessment criteria award you for the ability to reflect on your planning, research and progress. Importantly, you will need to focus on your own growth as a learner through your personal EE experience, emphasizing skills development and transfer.

### Task 1

Think about how the EE, whatever stage you are at in the process, has helped you to foster the following skills:

- research skills
- problem-solving skills
- communication skills
- self-management skills
- critical-thinking skills.

You can record these thoughts in your **researcher's reflection space (RRS)** and use this as stimulus material for your check-in sessions and **reflection sessions** with your supervisor. The RRS is a personal learning medium (containing mind maps, infographics or notes in bullet points) where IB Diploma Programme students document their research process, reflect on their progress from the three mandatory reflection sessions with their supervisor and develop their ideas and arguments for the EE.

As part of the new requirements, you will need to meet with your supervisor to carry out three mandatory (compulsory) reflection sessions. Each of these reflection sessions should last 20–30 minutes. It is strongly advised that you make a written record of both these meetings, perhaps using your RRS, as this will help you to complete the reflective statement on the **research and progress form (RPF)** following your third and final mandatory reflection session with your supervisor. The RPF is a document where IB Diploma Programme students record

## Definition

◆ **Reflective statement** is a 500-word summary of your reflective thinking, recorded at the end of the extended essay process on the RPF, using various resources such as the RRS.

## Expert tip

The RPF needs to be written in the same language as your EE. If a student submits the RPF in a different language, they will get a 0 score for assessment criterion E (Reflection).

their **reflective statement** of no more than 500 words. This is submitted after your third and final mandatory reflection session with your EE supervisor.

Under the assessment model for the EE, the RPF is worth up to 4 marks. This is a significant number of marks (over 13 per cent), which can make the difference between an A or B grade in the final assessment. Note that completion of the RPF is a mandatory requirement of the EE and must be submitted together with the completed essay for external assessment.

## Expert tip

Reflections are integral to an IB education. Reflections in the EE are similar to the reflections that you take on board in theory of knowledge (TOK) as well as creativity, activity, service (CAS). The ability to reflect is vital in the IB core (EE, TOK and CAS) but is also a highly transferable skill.

## Researcher's reflection space

Before completing the compulsory RPF, you may want to consider writing a RRS. This is a journal (using any format or platform that you prefer) that is used to record your thoughts and reflections on the process of undertaking and completing the extended essay. Use the RRS to record your thoughts, ideas, findings, quotations, arguments, progress and timelines. You should also use the RRS to record any questions that may come to mind. For the RRS, you can use a range of different communication techniques, be they handwritten (such as in a notebook) or in digital formats (such as online journals or blogs).

Using the RRS as a record or journal of your learning experiences and growth as an IB student helps to keep track of the research undertaken over an extended period of time. The most successful students will be able to show that learning is complex and will be able to consider their ideas and actions in response to any setbacks they may have experienced during the research process.



**Reflective:** You can demonstrate your ability to be reflective as an IB learner by drawing on empirical evidence, meticulous research and well-reasoned conclusions on your chosen topic and research question. One way to demonstrate this is to reflect on the transformative and academic nature of your EE experience and how you have grown as a learner. What evidence of being a reflective learner can you bring to your reflection meetings with your supervisor?

## Task 2

Producing a RRS is rather like keeping a personal diary to reflect on your day.

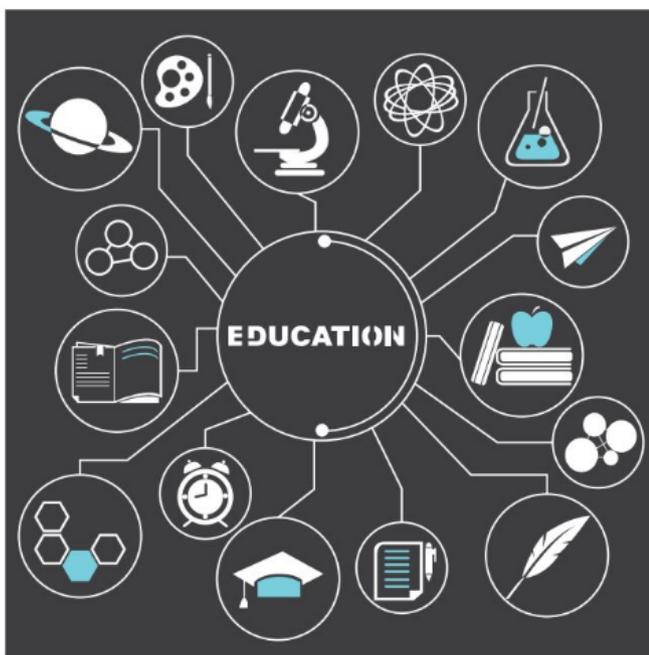
- 1 Write a diary entry about what happened in your life yesterday or last week.
- 2 Reflect on what went well and what did not go so well.
- 3 Consider how you might have managed some of these things better.

The RRS is a practical tool you can use to record your thoughts as you write your EE. The IB does not prescribe a particular format for the RRS. There are different ways to keep your RRS, as described below.

- Write about what you have read, researched and discovered – use your RRS as a research log. You should document the whole EE process from the beginning

to the end. Your supervisor might ask to see the log as evidence that your research is authentic and/or to give you further advice to support your progress.

- A process journal – this is where you complete a number of reflections on your learning experiences including obstacles, setbacks and challenges that you have faced or are currently facing. You may choose to reflect on certain IB learner profile traits to help you overcome challenges or improve your learning experiences.
- Mind mapping – this can be a helpful visual tool to organize and extend your thought processes. Mind maps help learners to show relationships between different pieces of information with the central idea (your research question) in the middle of your page. The use of a mind map can be a useful stimulus for your formal (mandatory) reflection meetings with your supervisor.



■ Figure 7.1 Mind maps can be a useful way to create a RRS



■ Figure 7.2 Reflections can help with the many questions you will have during the extended essay process

### Common mistake

Many students who use a RRS forget to cite or reference the ideas, words or works of others (even though they know the importance of doing so in the actual essay). If the entry in your RRS comes from someone else, record all the bibliographical details, such as: author, title, page number(s) and, if it's a website, the URL, date of publication and the access date. This information will be helpful at a later stage as you will need to use the information to develop your essay.

### Task 3

Now that you have chosen a research question for your EE, have a go at producing a RRS for the first part of your research and thinking. You may choose to reflect on the following:

- Your research question – what is already known about this topic and why is it worthy of further academic research?
- How you intend to begin your research
- How you intend to collect and select the most relevant source materials, and whether primary research (if permitted in your subject) will add value
- Anticipated difficulties and how you intend to tackle these
- How you intend to manage your relationship with your supervisor.

Using a RRS can help to develop the learning, thinking, analysis and evaluation skills required for scoring well in the EE. In preparing for your three compulsory reflection sessions (as verified on the RPF), you could use the RRS to record your reflections throughout the process, including the check-in sessions, rather than only during the three compulsory reflection sessions. You can also use your RRS to record your responses and thoughts to different sources, such as news articles, academic journals and online social media sources.

Finally, remember that the RRS will form an important part of your conversations with your supervisor during the formal reflection meetings and completion of the RPF. To prepare for these meetings, try to use your RRS to cover your thoughts on:

- planning
- research methodology
- research findings
- decision-making processes
- progress, including setbacks and challenges
- areas and actions for improvements.

### Expert tip

Every successful EE begins with academic curiosity and a research question that you want to find the (possible) answer to and ends with reflections on the work you have done.



■ Figure 7.3 Time management is a vital skill for all students

### Definition

#### ◆ Approaches to learning skills

are essential learning strategies, including thinking, communication, research, self-management and social skills, fostering self-regulated learners. Essentially, they are skills that enable students to learn how to learn.

## Reflection and approaches to learning

Reflection and **approaches to learning skills** are essential at various stages in the EE process. Working closely with your supervisor and using them as a sounding board when communicating your ideas and reflections will also help to develop your social skills. The self-management needed to complete an independent EE, and the ability to think critically about the research you have engaged with, are life-long skills that you will continue to use and develop in the future.

Time management is a vital skill for all IB Diploma students, encompassing several of the approaches to learning skills. You might choose to reflect on how the process of writing the EE has helped to develop skills such as your time management skills, beyond the IB Diploma Programme.

Completing the EE is a very challenging task, especially as most of this must be completed independently (with the support of your supervisor, of course). This means that all five interrelated approaches to learning skills (thinking skills, research skills, communication skills, self-management skills and social skills) become vital if you are to be successful in this component of the IB Diploma Programme.

### Expert tip

The RPF is similar to the planning and progress form (PPF) used for assessing the TOK essay and presentation. You will be aware that the TOK PPF requires completion of three interactions with your TOK teacher, allowing the examiner to see the development of your ideas through the reflections noted on the form. The purpose and process are the same for the EE.

## The reflective statement

The reflective statement must be entered on the RPF and addresses your overall extended essay experience. The official RPF must be authenticated by your EE supervisor before being submitted via electronic upload of your final EE for formal assessment.

A full copy of the RPF can be found on My IB. Speak with your supervisor to get a copy of this for your own reference. Remember that the RPF is worth a significant number of marks, especially if your total mark is on the borderline of the next grade up. Therefore, you must ensure that the contents of the RPF and your essay fit together coherently and consistently.

The focus of reflection in the EE is on the overall learning process. Consider the following areas when drafting and completing your one reflective statement:

- The challenges, setbacks and obstacles that you faced – how did you tackle these and what did you learn in the process?
- The IB learner profile – which of these traits applied to you, and how?
- Your learning experiences – what did you learn and did any new perspectives emerge during the process?

Your reflective thinking is recorded on the RPF as a reflective statement, which is written at the end of the extended essay process following your *viva voce* (the third and final mandatory reflection session with your supervisor). You should write your reflective statement as soon as possible after the *viva voce* because these thoughts will still be fresh in your mind. You can use your RRS for support in this process. There is a maximum of 500 words for the reflective statement. This must be written in your own words, in the language of submission, and relate only to your personal learning journey in this process.

Also, note that you cannot go back and change or update the reflective statement at a later date – the EE examiner wants to know what you were thinking at that particular moment when the reflection was completed.

**Open-minded:** The use of a RRS can enable you to demonstrate your skills of being open-minded (and creative) as a researcher. For example, the RRS can create stimulus for you to explore and include an appropriately wide range of points of view from your research about the chosen topic of the essay.

### Expert tip

It is permitted to change or alter your EE research question even after starting your research and meeting with your supervisor. However, your RRS should be an accurate reflection of how your essay has developed and changed and should not be altered retrospectively.

## Mandatory reflection sessions

There are three compulsory reflection sessions with your supervisor: the initial reflection, the interim reflection and the *viva voce*. The IB recommends that each of these meetings lasts 20–30 minutes, focusing on the planning, process and progress of completing the EE. Your attendance at these meetings must be recorded by your supervisor on the RPF. A blank or missing RPF will mean zero marks under assessment criterion E (Reflection).

You may choose to use your RRS during these meetings with your supervisor. Following each of the three mandatory reflection sessions, your supervisor must date and sign the form

### Expert tip

Maintaining a record of your initial and interim mandatory reflection sessions, perhaps as part of your RRS, will help you when writing your reflective statement. Remember that the reflective statement on the RPF must be no more than 500 words. EE examiners are instructed not to read or assess anything beyond this word count limit, so exceeding it is a self-penalizing approach to the assessment of your reflection.



## Expert tip

While the IB states that you must attend three mandatory reflection sessions with your supervisor, they also recommend that you have check-in sessions so that your supervisor can support you accordingly. It is common for students to have three check-in sessions that involve input from both the student and supervisor. This means that both the student and supervisor need to be well prepared for each meeting.

(using their initials). The RPF includes drop-down menu options for your supervisor to record the month and DP year to indicate when the mandatory reflection sessions took place. This also helps to authenticate your work for IB assessment purposes. If you are a retake candidate, your supervisor will use 'DP year 2' to indicate reflections that took place in the academic year that you will submit your essay.

## Expert tip

You are advised to make notes of the feedback and advice in your RRS following the first two mandatory meetings with your EE supervisor. This includes noting any appropriate plan of action at that stage. This will be helpful at a later stage when your notes and actions will inform your reflective statement following the *viva voce* with your supervisor.

## First reflection session

The first of the mandatory reflection sessions focuses on deciding on a topic and research question. It should be scheduled after your initial ideas, background reading and research plan (your methodology or approach) have been considered. These can be recorded in your RRS. You should also have read the subject-specific guidance in the *Extended essay guide* before this meeting.

## Expert tip

Make sure you choose a topic that you are genuinely interested in (see **Chapter 2 Developing a suitable research question**). This will then allow you to conduct meaningful and in-depth research on your chosen topic. In turn, this makes the overall process more interesting and allows you to carry out more purposeful and effective reflections.

## Expert tip

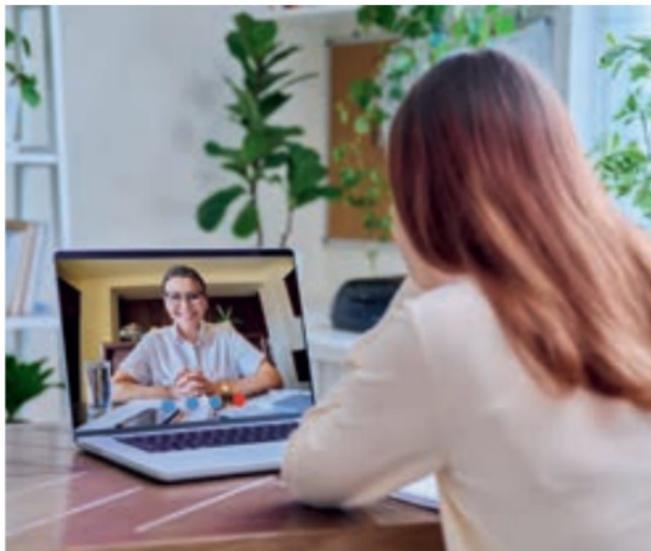
It will help your supervisor if you send them an outline of your research plan and progress before the first mandatory reflection meeting. This will give them time to look at your thoughts and ideas so as to prepare a purposeful and productive meeting with you.

Some questions that may arise in this initial conversation, usually of a descriptive nature, are:

- What has motivated you to research this particular subject (or subjects for the interdisciplinary pathway)?
- What do you already know about the chosen topic?
- Why is the topic/research question appropriate and worthy of further academic study?
- Does your research question need to be modified in light of your initial research?
- How did you undertake the necessary research, including background reading about the topic/research question?
- Were you successful in gathering the data/information/evidence that you wanted at this stage?
- Does the data you have collected so far allow you to address your research question?
- Do you need more sources of information to answer your question? Where might you find the data required?
- What were the main problems that you faced? How did you tackle these problems?
- Are there any ethical issues in relation to the intended topic and proposed research methods that need to be considered?
- Has your approach or methodology changed in any way during the process so far?
- What investigations are you currently undertaking?
- What do you think are the next steps in conducting research to answer your research question?
- What anticipated difficulties and challenges can you foresee in the next stage of the process? How do you intend to tackle or resolve these challenges?
- Are there any issues or questions emerging from your data collection and research that you did not anticipate?
- What have been the high and the low points of the research process so far?
- What kind of issues or questions are you going to highlight in your RRS?
- What is the goal or target for the next meeting (interim reflection session)?

There are additional questions suggested for the initial reflection session on page 98 of the *Extended essay guide*.

By the end of the initial reflection session, you should have a good idea of exactly what your research question is and how you are going to deal with the remaining challenges you are likely to face.



■ **Figure 7.4** The work doesn't stop between reflection sessions, so keep your supervisor well informed

Remember that you can still see your supervisor for regular check-in sessions in between the formal reflection sessions. In fact, the IB suggests that three check-in sessions may be pragmatic. The IB also acknowledges that some students may require more check-in sessions with their supervisor, which is fine as long as this does not amount to a total of more than 5 hours of supervision. In addition, you can have informal discussions with other people who can help with your research, especially subject specialist teachers, your EE coordinator and the school librarian (see Chapter 6 The role of the extended essay supervisor). However, be careful you do not contravene any rules on academic integrity (see Chapter 4 Academic integrity). As mentioned earlier in this chapter, for academic integrity reasons, your completed RPF document must be initialled and dated by your EE supervisor. Therefore, do not give your supervisor any cause for concern regarding academic integrity.



**Knowledgeable:** The reflection sessions provide an ideal opportunity for you to demonstrate your knowledge of the chosen topic and research question. As an IB learner, consider how you can demonstrate your acquisition of in-depth knowledge of your chosen topic and RQ through exploration of relevant peer-reviewed literature and other research for the essay.

### **Expert tip**

The first mandatory reflection session should focus on questions of a *descriptive* nature. The second reflection session should focus on questions of an *analytical* nature. The final reflection session should focus on questions of an *evaluative* nature, followed by the reflective statement of no more than 500 words on the RPF.

## **Interim reflection session**

The second mandatory reflection session is about reviewing and reflecting on your progress during the research and writing process. This should be scheduled after your draft essay has been submitted, although it should be noted that you are permitted to have check-in sessions with your supervisor between the initial and interim reflection sessions. Your essay will address the (clear and refined) research question that both you and your supervisor have agreed to commit to. This session will help you judge how far you have progressed and how much further you will need to go to successfully complete the EE.

One area you and your supervisor will consider is the progress you have made on citations and referencing for your EE (discussed in Chapter 5 Citation and referencing). By this point you should both be satisfied that your essay has a sufficient range of appropriate and credible secondary research sources (as well as any relevant primary research sources that supplement your research work).

The questions asked in the interim reflection meeting tend to be more analytical, with a discussion of the strengths and limitations of your initial findings and research methods. Some questions that may arise in this interim conversation, which are of an exploratory nature, include:

- What stage are you now at in the research process?
- Have you changed any aspect of your approach or methodology during the process? If so, why did you do this?
- What have you learned from the experience so far in terms of your understanding of the subject area?
- What have you learned about the skills needed to undertake the research successfully?
- How has your understanding of the topic and research question developed during the process so far?
- How are you conducting independent research while ensuring adherence to the academic integrity policy?
- Have you provided necessary evidence to support a well-reasoned argument?
- How have you critically evaluated the source materials used in producing the draft of your essay?
- What will you need to do to complete the final draft of your essay?
- What might you need to do in preparation for the final reflection session (the *viva voce*)?

There are additional questions suggested for the interim reflection session on page 98 of the *Extended essay guide*.

Following the second mandatory reflection session, as with the initial reflection session, your supervisor is required to complete the relevant sections on the RPF to authenticate the meeting (by signing and dating the form).

## ■ Final reflection session – the *viva voce*

The third and final formal reflection session focuses on a summative or evaluative review, reflecting on your overall extended essay experience. This meeting should only take place after the final draft of your EE has been completed and submitted to the supervisor. Your supervisor must have already read the final version of your essay before the *viva voce* can be conducted. The meeting should also be a celebration of the completion of your essay and the outcomes of the overall process.

Reflections can also be based on aspects of your initial and interim mandatory reflection sessions with your supervisor. Therefore, you may find it useful to bring along your RRS to this meeting to show and discuss how you have grown and developed as a learner throughout this whole process. A common way to demonstrate your skills of reflection is to show how you learn from the feedback you were previously given and how you might have learned from previous mistakes or mis-judgements so as to improve the way you research and write in the future. As American actor and producer Mary Tyler Moore said, ‘Take chances, make mistakes. That’s how you grow.’

The questions asked in the final compulsory reflection session are of an evaluative nature, allowing you to reflect on what you have learned throughout the entire EE process and your supervisor to make a holistic judgement about the extent to which you have engaged in the process. It also enables your supervisor to authenticate the final version of your essay.

### ● Expert tip

The *viva voce* is described by the IB as a ‘celebration’ of the completion of the EE. So, you should celebrate your achievement when the time comes! Your final reflection should therefore include details of how you have really grown and benefited from the experience. One way to do this is to focus on specific approaches to learning skills developed during the process (thinking, communication, research, self-management and social skills).

Hence, you need to be fully prepared for these sessions. As with the previous two reflection sessions, the *viva voce* should last around 20–30 minutes. This is included in the recommended 3–5 hours of supervision time. Some questions that may arise in the final reflection conversation, usually of an open-ended and evaluative nature, include:

- What have you learned about the topic, the research process and your own learning?
- If you were to do this research question again, what would you do differently and why?
- Were there any surprises in your learning journey? What did you learn from this?
- What examples from your researcher's reflection space show how you have grown as a learner through the EE process?
- What research skills and/or conceptual understanding have you acquired through the completion of the EE, and how could these be transferred in the future?
- What additional skills (such as time management, decision-making or thinking skills) have you learned as a student?
- What does success mean to you in the process of producing your EE?
- What was the most rewarding aspect of the entire EE process for you?
- Were the strategies you used for your research question the most appropriate for achieving success?
- If you had used alternative research methodologies and/or subject-specific theories, would this have led to a different outcome?
- Are there any new or unanswered questions that emerged as a result of your research?
- Are there any unanswered questions and/or areas in need of further research?
- How might it be possible to extend the research you have conducted to provide an even clearer answer to your research question?
- How might you be able to use your EE experience in your future studies at college or university and/or in your future employment?
- What is the most significant aspect of the work you did for the EE?
- What advice would you give to next year's students who have yet to write their EE?

The final reflection meeting (the *viva voce*) encourages you to consider and evaluate the wider implications of your learning journey. Therefore, do not just consider the outcome(s) of your research findings and conclusion(s), but also how the overall process has made you more aware of your personal strengths and academic development needs. One commonly used question framework to help you to prepare for the *viva voce* is:

- 1 What did I used to think?
- 2 What do I now think?
- 3 What happened to change that thinking?

The *viva voce* is the penultimate step in the EE process.

Upon completion of the *viva voce*, you will need to complete your reflective statement of no more than 500 words on the RPF (this is a PDF document from the IB) – an incomplete form will cost valuable marks under assessment criterion E (Reflection). It may be possible for you to arrange a final check-in session with your supervisor to check the reflective statement. After that, your supervisor or EE coordinator will need to upload the extended essay *and* RPF for formal assessment. This then concludes the whole EE process for you.



■ Figure 7.5 'proper preparation prevents poor performance'

### Expert tip

Be fully prepared for each reflection session to make the best use of your time and that of your supervisor. Ensure you have read any suggested materials, for example, and be prepared to answer questions based on this. Being unprepared for a formal reflection meeting can raise doubt about a candidate's level of engagement and the authenticity of the work. As James A. Baker, former Chief of Staff to US President George H.W. Bush, said, 'proper preparation prevents poor performance' in his memoir, *Work Hard, Study ... and Keep Out of Politics!*

## Check-in sessions

In addition to the three mandatory reflection sessions, you may want to arrange three check-in meetings with your supervisor. The section below outlines some suggestions for questions that can be discussed at these meetings. However, please note that the suggested questions in this book for the check-in sessions and mandatory reflection sessions are neither prescriptive nor exhaustive. It is not an expectation from the IB that any or all of these questions are asked in the meetings.

Nevertheless, the guidance provided here will support you and your supervisor alike. Making a record of these discussions in your RRS will also help you during the mandatory reflection sessions. Ideally, the first two check-in sessions should take place *before* the first mandatory reflection meeting.

### ■ Check-in session 1 – discussion of initial ideas

Questions to consider during the first check-in session include:

- What sparked your interest in this chosen subject area (or an interdisciplinary pathway)?
- What background reading have you already done – that is, what do you already know about this topic?
- How do the proposed topic and research question relate to the chosen subject(s) in the Diploma Programme?
- How are you intending to plan and organize your work?
- How do you intend to create and use the RRS?
- Have you chosen a provisional research question that is viable for the EE?
- What are the next steps in conducting your research?

### ■ Check-in session 2 – resource-gathering and research question

Questions to consider during the second check-in session include:

- Will you be able to collect sufficient resources to effectively answer the research question within the 4000-word limit?
- Will your research provide balanced and contrasting perspectives?
- Will you need to revise the research question? (This is particularly important if the RQ does not currently require an analytical and evaluative approach.)
- Do you need a different approach and a new focus for the research question?

### ■ Check-in session 3

This should take place *after* completing your first draft and before the *viva voce*. This will give your supervisor time to provide meaningful feedback and give you an opportunity to ask questions about the first draft of your essay, before you revise and submit the final draft.

Questions to consider during the third (and possibly final) check-in session include:

- Have you reflected on your supervisor’s comments on the full draft of the essay? What evidence of this exists in your RRS?
- Does your essay have a clear introduction that sets the research question in context of the need for academic research?
- Does your essay comply with the presentation requirements? (Refer to Chapter 3 The formal presentation of the extended essay for further information about this.)
- Have you cited and referenced the essay correctly? (Refer to Chapter 5 Citation and referencing for further information about this.)
- Does your supervisor have any concerns regarding academic integrity?

■ **Table 7.1** Checklist for student reflections

Do	Don't
Ensure you attend the three compulsory reflection sessions with your supervisor.	Settle for a research question or topic without thinking carefully about what you want to actually address in the essay.
Record your reflections in the RRS as soon as possible after each reflection session with your supervisor, while the ideas and thoughts are fresh in your head.	View challenges and setbacks as a reason not to reflect well – instead, see these as learning opportunities.
Initiate the three reflection sessions with your supervisor.	Be dishonest with your supervisor, as they are there to help you and to authenticate your work.
Initiate check-in meetings with your supervisor (in addition to the three formal reflection sessions) if you have any concerns or questions or need further guidance.	Forget to keep an ongoing record of your reflective thinking (using the RRS) as this will support you when you need to write your reflective statement.
Focus your reflections on: <ul style="list-style-type: none"> <li>● conceptual understandings</li> <li>● decision making</li> <li>● engagement with research</li> <li>● the research process</li> <li>● time management</li> <li>● methodology</li> <li>● appropriateness of sources</li> <li>● successes and challenges.</li> </ul>	Simply describe your experiences in the reflective statement – instead reflect in a critical and evaluative way, focusing on what you have learned about yourself as a learner and skills transfer for the future.
Reflect on any new questions that might have emerged from your research and findings.	Leave it up to your supervisor to chase and motivate you to complete your reflections (using the RRS) and the reflective statement.
Discuss setbacks and any shifts in direction.	Exceed the 500-word limit for the reflective statement on the RPF.

■ **Table 7.2** Supervisor responsibilities and the RPF

They will:	They won't:
ensure you have three compulsory reflection sessions	formulate the research question for you, as this limits your reflections in an authentic way
sign (their initials) and date the RPF after each reflection session (this helps to authenticate the work)	make any changes to the RPF once they have signed and dated the reflection sessions on the form
discuss setbacks and any shifts in thinking and direction/methodology	give their own opinions about the quality of the sources; they will help you instead to reflect on the purpose and value of the sources
use the online resources and teacher support materials from the IB to facilitate the reflection sessions	tell you what to write in the reflective statement of the RPF, but they will guide you with your reflections
keep an eye on your overall progress, including regular check-in sessions and not just the compulsory reflection sessions	correct your work and tell you what is wrong; instead, they will help you to identify and reflect on any areas of concern
have a formal meeting/check-in session with you upon receipt of the first draft.	allow you to submit multiple drafts as this is not academically honest and hinders authentic reflections.

## Chapter summary

- Reflection involves looking back on your experiences to understand their impact on your learning, focusing on skills development and growth and applying lessons to future situations.
- Being reflective is a vital attribute of the IB learner profile.
- Reflection is a compulsory part of the EE and is formally assessed.
- Reflection allows you to consider your strengths and challenges through the EE process.
- Reflection is developed through the three mandatory sessions with your supervisor, allowing you to articulate what you have learned from the overall EE experience.
- All IB Diploma candidates are required to complete a research and progress form (RPF) that is sent to the examiner for assessment of criterion E (Reflection).
- A blank or missing RPF will score zero marks under assessment criterion E. The same applies to a RPF that is not written in the language of submission of the EE.
- The RPF is worth 4 marks (around 13 per cent of the overall marks).
- You are strongly advised to use a researcher's reflection space (RRS) to help with the formal reflection sessions and in the completion of the reflective statement on the RPF.
- From the beginning of the process, set up a RRS and use this as a planning and reflection tool. These reflections can be in any format, such as a handwritten notebook, an online blog, a digital journal or a collection of materials placed in a folder.
- There are three mandatory reflection sessions with your supervisor:
  - Initial reflection session – focuses on descriptive questions and concentrates on your initial ideas and how you plan to undertake your research
  - Interim reflection session – focuses on analytical questions. It should only take place once a significant amount of your research has been completed
  - Final reflection session (the *viva voce*) – focuses on evaluative questions. This should only take place once you have completed and handed in your final version of the extended essay.
- The reflective statement on the RPF has a maximum limit of 500 words and must be written in the same language as your EE.
- The completion of the RPF is a mandatory requirement and it must be submitted together with the completed EE.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	Being reflective is part of the IB learner profile.		
2	Reflection is a compulsory part of the EE.		
3	Your supervisor will have three compulsory reflection meetings with you.		
4	The RPF is not sent to the IB for marking.		
5	The RPF must be completed by you and your supervisor, who must also sign and date the document.		
6	Each reflection session should last for about 20–30 minutes.		
7	There is no word limit on the RPF.		
8	The RRS must be submitted to the IB for assessment.		
9	Students are encouraged to change and update their RPF after discussion with their supervisor.		
10	Completion of the reflective statement on the RPF completes the whole EE process.		

# Chapter 8

# Showing evidence of critical thinking

Don't necessarily accept things at face value.

Ask thought-provoking and probing questions.

Seek evidence to substantiate your reasoning and perspectives.

Question whether something might not be true.

Assess the evidence and options you have presented to reach a conclusion.

Question the meaning or validity of something.

Show judgement in reaching a reasoned conclusion.

## Critical-thinking phrases

Kick-start your critical thinking by incorporating these phrases in to your essay:

- On the other hand ...
- However ...
- Despite this ...
- Nevertheless ...
- The most significant point ...
- In the short term ..., but in the longer term ...
- The most important argument ...
- The least effective argument ...
- The most important point ...
- The magnitude of the effect ...
- It depends on ...



# 8

## Showing evidence of critical thinking

### Definition

◆ **Critical thinking** is the ability to engage deeply with a research topic through analysis, discussion and evaluation, fostering questioning of assumptions, consideration of alternative viewpoints and development of well-reasoned arguments.

**Critical thinking** is a significant skill assessed in the extended essay and the IB Diploma Programme. This chapter is about understanding the importance of critical-thinking skills in relation to assessment criterion C (Analysis and line of argument) and criterion D (Discussion and evaluation). Combined, these are worth 14 marks out of the 30 marks available for the EE – that’s almost half of the overall available marks!

So, what is critical thinking? Critical thinking involves deeply engaging with a research topic through in-depth analysis, discussion and evaluation, which encourages questioning assumptions, considering alternative viewpoints and developing well-reasoned lines of argument.

Thinking about things in a critical way means:

- not necessarily accepting things at face value
- asking thought-provoking and probing questions
- seeking evidence to substantiate your reasoning and perspectives
- questioning whether something might or might not be true
- questioning the meaning or validity of something
- assessing the evidence and options presented to reach a conclusion
- showing judgement and reaching a reasoned conclusion.

In the extended essay, the skills and processes of analysis, discussion and evaluation are crucial as they demonstrate deep engagement with the research topic and foster critical-thinking skills. Analysis involves breaking down complex information and examining its components. Discussion explores various perspectives and interpretations, fostering a comprehensive understanding of the topic under investigation. Evaluation assesses the significance and implications of your findings, weighing contrasting evidence to draw well-reasoned conclusions. These processes collectively contribute to substantiated lines of argument and critical thinking by encouraging you to question assumptions, consider alternative perspectives and develop strong arguments. By integrating analysis, discussion and evaluation, the EE not only showcases your ability to think critically but also enhances the overall depth and rigour of your research.



■ **Figure 8.1** Critical thinking is very much about asking the (right) questions

Critical-thinking skills can be demonstrated by displaying evidence of analysis, discussion and evaluation of the materials and arguments presented in your EE. You must be able to show the examiner that you can judge a situation or an issue, after examining the balance of the evidence you have collected and presented.

There are rarely right or wrong answers in the EE – all questions, problems or issues can be approached in different ways. Your task is to show that you can address the research question in a balanced way to reach a justified conclusion backed by empirical evidence.

For example, essays that are purely summative or descriptive do not add value to an argument, so such an approach does not show good critical thinking. Instead, you should strive to conduct research that generates relevant and purposeful conclusions to be made.

### Common mistake

Too often, students place their evaluation in a separate section of the essay. Critical-thinking skills should be demonstrated throughout the essay, so evaluation should be integrated into the main body of the essay where appropriate to provide insights to a line of argument, approach, theory or source material that you have referred to.

### Expert tip

Although it sounds easy to do, critical thinking requires you to ensure your analysis and discussion points are consistent with the evidence presented. This requires you to critically evaluate the reliability and validity of the information obtained. This is equally important for secondary and primary research. In addition, the IB suggests that you do not rely exclusively on sources found on the internet for your EE.

## ATL ACTIVITY

### Critical thinking – a quick quiz

Have a go at these questions to test your critical-thinking skills. Think about the questions before answering and before checking the answers.

- 1 A cowboy came to town on Friday. He stayed for just two nights and left on Friday. How can this be?
- 2 What is the smallest three-digit number? (Asked by Luke Hoang, aged 8)
- 3 There were three ripe apples hanging high on a tree. Three people passed by. Each took an apple from the tree, but there were still two left hanging. How can this be?
- 4 A black dog is crossing a road, and a man drives at speed along the same road without his lights on – how does he avoid hitting the dog?
- 5 You see a boat filled with people. It has not sunk, but when you look again, you don't see a single person on the boat. How can this be?



■ Figure 8.2 Critical thinking

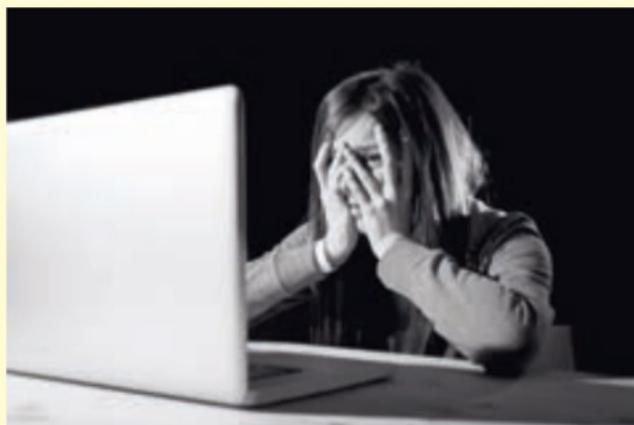
## Expert tip

Developing your critical-thinking skills is not the same as being critical in a negative way. You may have explored in TOK classes whether different perspectives and contexts influence our understanding of truth and whether an absolute truth exists across all domains. Being a critical thinker means not passively accepting things at face value but asking useful and probing questions, supporting your points with evidence and expressing your line of reasoning in a coherent manner.

## Task

### Be reflective and a thinker

Take a look at this photo and explain what you think is happening:



■ **Figure 8.3** Girl and laptop – what is happening?

Some responses could include:

- The laptop is broken.
- The girl is overwhelmed by the amount of (home)work she has to complete.
- She is upset about an image on a website.
- She has read a disturbing email or message on social media.

There is no right or wrong answer. Similarly, don't seek to produce a 'right' answer to your research question in the EE. The purpose of this task was to get you to consider:

- context – contextualized analysis in your essay will help you to gain higher marks for critical-thinking skills assessed in criteria C and D (see **Chapter 1 Understanding the assessment criteria**)
- assumptions made in your answer – this can help to rule out guesswork or unsubstantiated comments
- justifications for your answer (your line of reasoning).

## Common mistake

Some students think that they can simply compile a list of facts, accompanied by a description of things that have happened. This will not suffice for marks under assessment criterion C (Analysis and line of argument) and criterion D (Discussion and evaluation) in the EE.

When you write your essay, make sure you explain to the examiner the context, assumptions made and reasons (justifications) behind your arguments. It is also important to consider contrasting data, facts and information. As part of your research, you should be able to find contradictory information and data in relation to your research question. Do not ignore this as it should contribute to writing a more balanced response; use it to discuss some of the controversies and uncertainties about what is known about the topic. This will then provide evidence of your ability to think critically.

## Critical thinking and good research questions

Your choice of topic and research question for the EE should enable you to address the issue(s) in a critical manner. Avoid questions that require simple and descriptive responses. These often include RQs with the following words:

- What ...?
- Who ...?
- When ...?
- Where ...?
- How did ...?

Research questions that require analysis, discussion and critical thinking often include the following words:

- To what extent ...?
- Should ...?
- How significant ...?
- Why ...?
- How effective ...?

Take the following examples of titles of a history essay:

- 1 What were the causes of the Second World War?
- 2 What were the most significant causes of the Second World War?
- 3 To what extent can fascism be blamed for causing the Second World War?

It should be clear to you that the first question requires a simple, descriptive response to (some of) the causes of the Second World War. Question 2 is better as it requires the candidate to consider which of the causes were the most noteworthy. This would require the student to be more analytical and to justify their answer. The third question is the most focused and would require a balanced consideration of why fascism can or cannot be blamed for causing the Second World War. To answer this question in a critical way, you would need to consider other factors and events, such as Japanese militarism and Germany's aggressive foreign policy.

### Common mistake

Students who use surveys (questionnaires) in their EE often say that, if they had more time to do so, they would have increased the sample size of their research. The EE should take about 40 hours, so there is plenty of time, including time to plan proper and meaningful primary research, if permitted and relevant to the RQ.



**Balanced:** Being balanced means that you understand the importance of academic and intellectual development that is reinforced by the research process you demonstrate in your EE. This involves you considering multiple perspectives of your chosen topic and ways that the research question could be answered, using a broad range of appropriate evidence.



■ **Figure 8.4** Critical thinkers do not accept all research information at face value

## Source bias

Critical thinkers will aim to minimize bias or inaccuracies in their research sources. Information obtained from your research should not always be accepted at face value. *The Wall Street Journal* reported in November 2016 that a Stanford University study of over 7800 students revealed that ‘most students don’t know when news is fake’. In January 2020, the National Education Association reported that students still cannot tell fact from fiction on the internet. This is an increasingly common issue as a growing number of people use social media platforms and online content from the likes of TikTok to access information and the news. In November 2023, California, USA passed a law that requires K-12 students to learn media literacy skills to combat online misinformation (often referred to as ‘fake news’). Starting in 2024, students in kindergarten through to 12th grade in Californian schools have had these skills integrated into existing curriculum frameworks

across subjects such as English, science, mathematics and history–social studies, rather than as a standalone course.

Any source can contain bias or inaccuracies, so good researchers should question the validity of all their research materials. This includes ensuring your analysis and discussion in the EE is without personal bias too. For example, your conclusion should be derived from the evidence gathered and presented, rather than based on any personal experiences, biases or preconceptions. It should demonstrate how you have integrated knowledge, concepts, theories, perspectives and methods to address the research question.

This also applies to the use of artificial intelligence (AI) tools. You must be aware that content generated by AI is likely to contain biases depending on its knowledge source. Therefore, any content produced by AI must be subjected to critical analysis for potential bias, accuracy and reliability in the same way as for any other source used in academic research. (See **Chapter 4 Academic integrity** for more on this.)

Your analysis must not rely on a single type of source. For example, do not rely exclusively on textbooks or online sources. Using a range of relevant sources will enable you to better support your own conclusions. Having a variety of viewpoints from an appropriate range of sources will help you to make up your own mind. Asking relevant, probing questions to identify potential bias will also help. For example, you could ask yourself the following questions:

- Who created the source?
- When was the source created? Is it still up to date or relevant?
- Who was the resource created for (target audience)?
- Is the creator an expert in the field?
- Does the source provide the whole picture?
- Is there any cultural bias?
- What alternative perspectives are there?

In summary, accurate analysis and credible conclusions must be based on good-quality research from sources that are relevant and reputable. The source materials should be analysed in the body of your essay, highlighting any potential limitations, assumptions and biases. By using a variety of sources to back your line of argument, you are more likely to be able to show awareness of contrasting opinions and evidence.

### Expert tip

A bibliography (works cited page or list of references) is a good indication of whether a candidate has used reputable, reliable and representative sources. See **Chapter 3 The formal presentation of the extended essay** and **Chapter 5 Citation and referencing** for guidance on how to produce a bibliography for the EE.



**Open-minded:** Critical thinking requires you to be open-minded and free from bias. Consider the two examples below. What do you think when you see these words?

- 1 *Naja nivea*
- 2 *Oncosperma horridum*

Answers:

- 1 Many people might associate 'Nivea' with skincare or health products. Nivea is a well-known German multinational company that specializes in skin and body care products. However, this is the scientific name for a species of poisonous cobra!
- 2 Similarly, people might associate 'horridum' with something horrible. However, this actually refers to a species of harmless tropical and evergreen palm tree.



■ Figure 8.5 *Naja nivea*



■ Figure 8.6 *Oncosperma horridum*

### Expert tip

Where appropriate in the essay, consider the potential unreliability of secondary data sources.

## Common mistakes with primary research

Where primary research is permitted to be used in the EE (to supplement the secondary research collected), be careful to avoid these common mistakes:

- Small, unrepresentative sample size used for surveys or questionnaires
- Asking irrelevant questions in a survey or questionnaire
- No consideration of an appropriate sampling method
- Incomplete or inaccurate transcripts from interviews
- Insufficient evidence of raw primary research data documented in the appendix
- Primary research sources not documented in the list of references (bibliography)
- Fabricating questionnaire and interview findings.

## Expert tip

If you use questionnaires or surveys as part of your primary research, make certain that:

- the sample is large enough to generate statistically valid and meaningful data
- you explain the sampling method (how and why you selected the research participants).

A word of warning: fabricating research data is not only unethical, but it also infringes the IB's policy on academic integrity (see Chapter 4 Academic integrity). In such cases, candidates can be disqualified for academic malpractice.

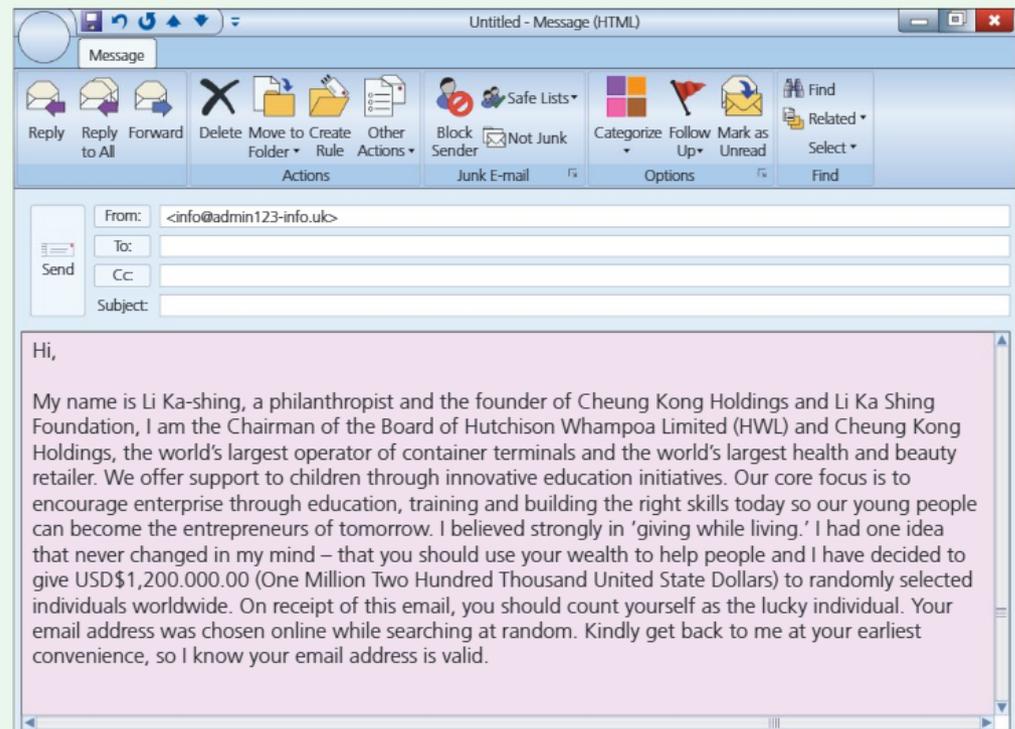
If you choose to present your primary research data using visual tools, such as charts, graphs or tables, make sure these are fully and properly labelled. The data must also be explained or analysed in the context of the research question in order to present and support the arguments within the body of the essay.

To demonstrate critical thinking of your primary research (if used), provide concise details about:

- methodology – explain the research techniques used and the rationale behind choosing them
- participants – identify who was involved and why they were selected
- key findings – summarize the main findings or results of your research
- limitations and biases – highlight any limitations and potential biases that may have impacted the findings and results.

## Expert tip

Be critical of the primary sources you encounter; use your judgement to decide on the validity of what you come across. Take this email as an example, which the authors received (Li Ka Shing is one of the wealthiest men in the Asia Pacific region, with a net worth of \$35.5 billion in 2024, according to the Forbes Rich List):



■ Figure 8.7 Email from 'Li Ka Shing'

## ■ Socratic questioning

Socratic questioning is a useful technique that you can use to explore complex issues and ideas encountered in your EE. It can uncover misconceptions and enhance your analysis and evaluation of the research topic.

Critical thinking is improved through the use of questioning to enhance understanding. The technique is derived from classical Greek philosopher Socrates who believed the effective use of questioning promotes active and independent learners. There are six main types of Socratic questions:

### 1 Questions that seek clarification

- Can you explain that point/answer further?
- What led you to that particular judgement?
- Why did you arrive at that particular conclusion? What made you say that?

### 2 Questions that challenge

- What assumptions did you make in coming to that conclusion?
- Is there an alternative point of view?
- Is this always the case? Why might there be exceptions to the case?

### 3 Questions about the evidence

- What evidence have you used to support your arguments?
- In addition to source bias, how might others challenge the evidence you have presented?
- What other information could you have used to help support your research and answer?

### 4 Questions that consider alternatives

- What might other people think? What different perspectives might they have?
- What possible alternative points of view might there be? Why?
- Could you have approached this from a different angle? Would this have changed your answer/point of view?

### 5 Questions about implications (consequences)

- What are the short-term implications of this?
- Do these implications differ from the long-term consequences?
- How do the outcomes impact on different individuals and societies?

### 6 Questioning the questions

- What questions did you ask, and why did you ask those questions?
- What was the importance of the questions you asked?
- What additional questions might you have asked?

## ● Expert tip

In essence, you are more likely to be able to show evidence of critical thinking in your EE if you can use Socratic questioning. By doing so, you can often analyse and evaluate your research question at a much higher level.

## Writing purposeful conclusions

The purpose of a conclusion is to summarize and synthesize your responses to the research question. To score well for your conclusion, make sure you follow these guidelines. In particular, your conclusion must:

- synthesize the arguments presented in the body of the essay
- present a well-thought-out evaluation of the research question based on the research gathered and the discussions in the essay
- answer the research question in its entirety, that is, state what has been achieved
- be consistent with the data, analysis and supporting evidence presented in the essay
- include any limitations and any unresolved questions.

The conclusion must not:

- only repeat or summarize what has already been presented in the essay (the research question must be answered in its entirety)
- contain personal bias or unjustified opinions
- introduce new material or arguments that have not been discussed in the body of the essay.

Useful phrases that can be used to trigger critical thinking in your essay (and not just in the conclusion) include:

- On the other hand, ...
- However, ...
- Despite this, ...
- Nevertheless, ...
- The most significant point ...
- In the short term ..., but in the longer term ...
- The most important argument ...
- The least effective argument ...
- The most important point ...
- The magnitude of the effect ...
- It depends on ...

In many subjects, including history and business management, it is suitable and acceptable to include unanswered questions in the conclusion that have occurred as a result of the research. It is then appropriate to briefly explain why these additional questions may be worthy of further academic study.

### Common mistake

Students often include thoughts or ideas in the conclusion that are not relevant to the research question. This simply weakens the value of the analysis and discussions in the essay and so limits the candidate's ability to gain marks for critical-thinking skills assessed in criteria C and D (see **Chapter 1 Understanding the assessment criteria**).



**Communicators:** As with all aspects of the EE, it is important that your conclusion addresses the research question in its entirety. Your line of argument should be formulated clearly and coherently, with conclusions that are well supported by empirical evidence. Use the conclusion to communicate to the reader (your supervisor and the EE examiner) the extent to which your research findings address the RQ and whether any new issues or questions have arisen from this. Being a communicator requires IB students to effectively express ideas and information in an academic way.

### Expert tip

Refer to the subject-specific advice in the *Extended essay guide* for further advice on how to show evidence of critical thinking (analysis, line of argument, discussion and evaluation) in your chosen subject area.

### Chapter summary

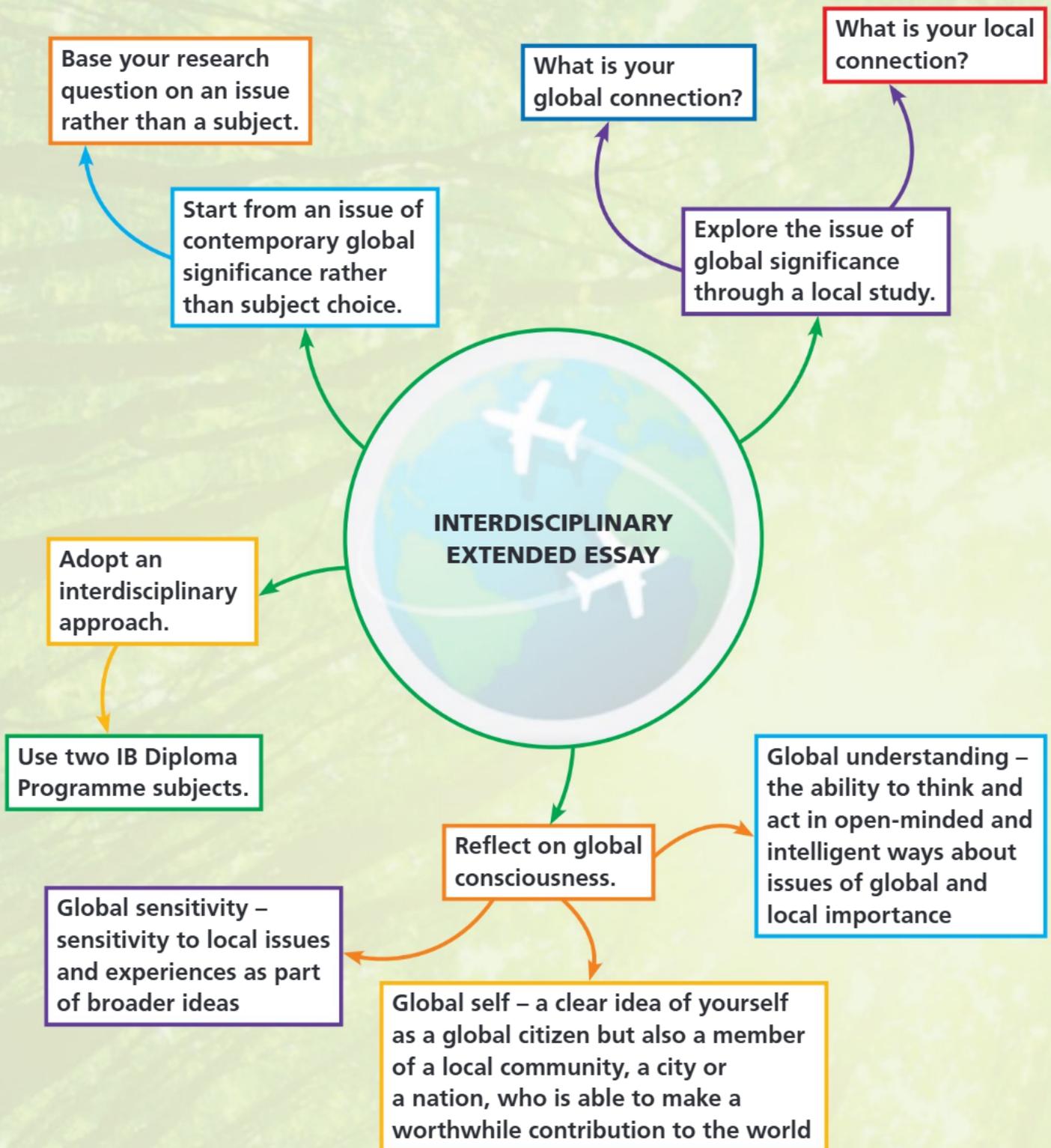
- Critical-thinking skills assessed in criterion C (Analysis and line of argument ) and criterion D (Discussion and evaluation) are worth the greatest number of marks in the EE.
- Taking a critical approach to writing the EE requires you to display the skills of analysis and evaluation.
- Avoid writing essays that are wholly or mainly narrative or descriptive as these kinds of essays do not show evidence of analysis, discussion and evaluation.
- Evaluation can be demonstrated at any relevant point in your essay, rather than only at the end of it.
- Any source can contain bias or inaccuracies, so good researchers should question all their research materials.
- Avoid unjustified and subjective comments. Ensure you substantiate (back up) your lines of reasoning and provide evidence from your research to support your judgements.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	Critical-thinking skills are assessed under assessment criteria C (Analysis and line of argument) and D (Discussion and evaluation).		
2	Being a critical thinker requires you to question everything (in a constructive manner), rather than taking all things at face value.		
3	Essays that are mainly descriptive in nature can be awarded high marks.		
4	You should use reputable, reliable and representative sources.		
5	Evaluation requires you to question assumptions of tools, theories and techniques.		
6	You should support your line of argument with evidence from your research.		
7	Personal views must be backed up by well-reasoned arguments and supported by the evidence presented in the essay.		
8	You can introduce new materials and issues in the conclusion to provide alternative perspectives as evidence of discussion and evaluation skills.		
9	Your evaluation, judgements and conclusion must be consistent with the discussion presented and backed up by evidence.		
10	Your evaluation should appear as a separate section at the end of the essay.		

# Chapter 9

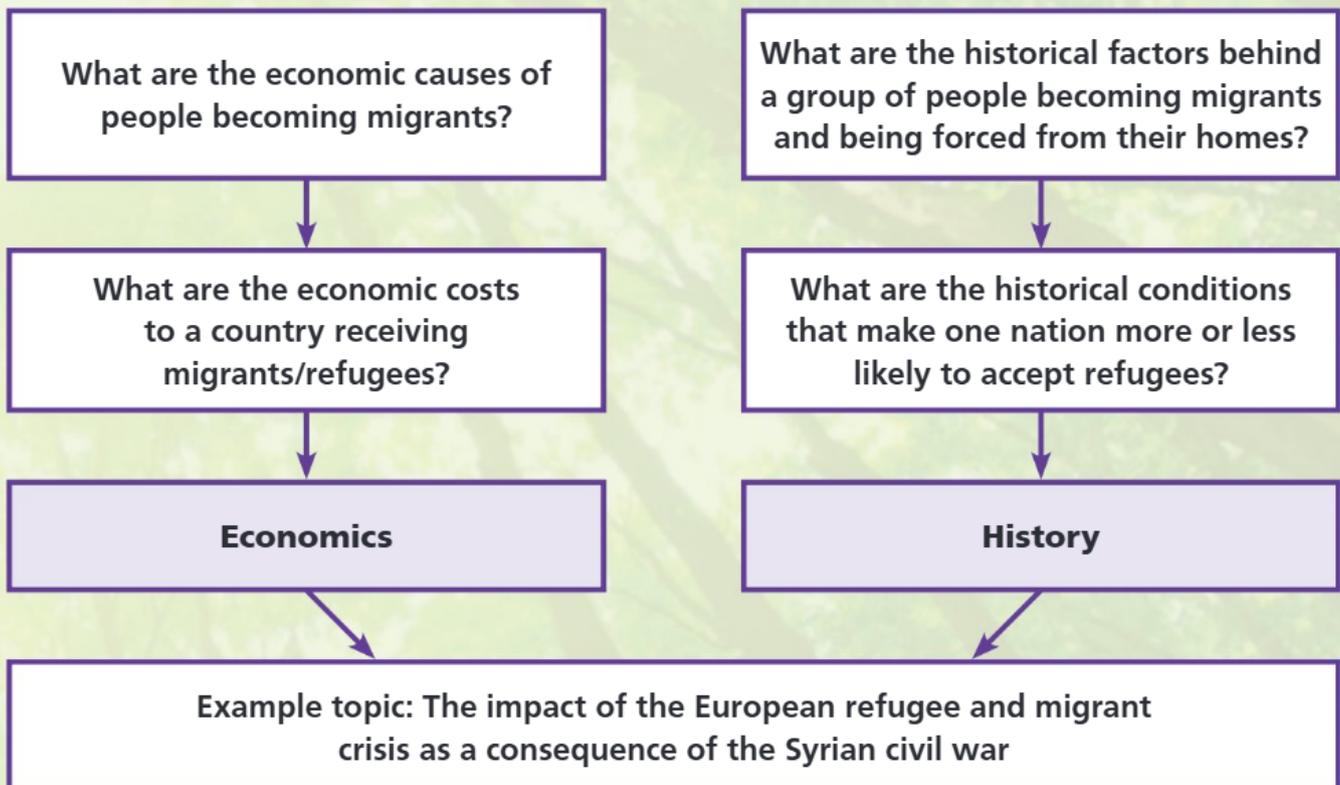
# The interdisciplinary extended essay



## Frameworks for the interdisciplinary extended essay



### Interdisciplinary extended essay example (Economics and History)



# 9

## The interdisciplinary extended essay

This chapter focuses on the interdisciplinary extended essay pathway, offering a unique and exciting opportunity to pursue your academic curiosity in any direction. It is divided into three sections: an overview of the interdisciplinary extended essay, answers to frequently asked questions and a step-by-step guide to developing your interdisciplinary EE.

### Overview of the interdisciplinary extended essay

#### ■ What is an interdisciplinary extended essay?

Ultimately, any EE involves your curiosity leading to an inquiry-based research question that you explore using skills you have developed throughout your schooling. However, being tied to just one subject can put unnecessary limits on your explorations. If this is the case, the **interdisciplinary** pathway exists for you.

As you generate a research question, you may find that some topic ideas and research questions go beyond a single specific subject area, or perhaps the RQ begins in one subject area, but you then realize another subject area is highly relevant to exploring it. For example, topics about sustainability might work well for biology, geography, business management or economics. Similarly, topics about ethics could work well in multiple subjects. In these situations, rather than taking the subject-focused pathway, you could consider the interdisciplinary pathway. It may lead to you discovering surprising and unexpected findings that would otherwise not have been possible with a single-subject lens.

In many ways, developing an interdisciplinary EE is the apotheosis or pinnacle of the DP. It shows that you are thinking creatively, that you are drawing meaningful connections between two subject areas and that you are flexible in answering an inquiry you have formed yourself from multiple perspectives. You will have had experience of interdisciplinary work throughout your IB education, perhaps explicitly through interdisciplinary units in the PYP and MYP, through transferring skills and knowledge between your six Diploma Programme (DP) subjects, or through drawing connections in the theory of knowledge course. An interdisciplinary EE takes these interdisciplinary skills one step further.

**Open-minded:** Making connections between different subjects shows an ability to be open-minded and ‘think outside the box’, fostering a more comprehensive and holistic understanding of the world. Thinking beyond a single subject-specific approach shows that you are embracing the complexity of problems we face and understanding multifaceted solutions are often the answer.

#### Definition

◆ A ‘discipline’ is a well-established field of study in a particular area. **Interdisciplinary** research means breaking down these barriers between fields (or in your case, IB DP subjects) and combining aspects such as knowledge, concepts, theories, perspectives and methods from these different disciplines in your research.



#### Expert tip

Your two subjects for the interdisciplinary essay do not necessarily have to be in the same group. Most students choose group 3 subjects for the interdisciplinary essay, such as geography combined with business management or economics combined with global politics. However, it is also effective to go for subjects from different groups, such as mathematics and visual arts or English and geography. This is because you are more likely to incorporate both subjects clearly if they are considerably dissimilar.

## ■ The interdisciplinary frameworks

The interdisciplinary pathway is a flexible option that is designed to let you follow your academic curiosity. This pathway has a few frameworks to help keep you on track, but you should generally find that you are driven by your own intellectual curiosity and investigation rather than by the stipulations of the interdisciplinary EE.

One of the formal requirements is that your interdisciplinary research question must broadly fit into one of the five interdisciplinary frameworks, as shown in the following diagram.



■ **Figure 9.1** Frameworks for the interdisciplinary extended essay

The five interdisciplinary frameworks are deliberately broad and are designed to help you select an appropriate context for exploring your topic using an interdisciplinary approach. The five interdisciplinary frameworks enable the inclusion of a broad and diverse range of ideas stemming from your personal interests.

Note the following about the interdisciplinary frameworks above:

- They are overlapping because, though you select one framework, you may find your interdisciplinary EE includes aspects that relate to one or more of the other frameworks.
- Your interdisciplinary EE does not have to connect to every term within a given framework. For example, your EE may be related to 'sustainability' but not the terms 'development' and 'change' that are also mentioned in the same framework. For example, sustainability may align more closely with 'equality' for some students.
- Your interdisciplinary EE will be registered in one of the five frameworks when it is submitted to the IB, but its connection to the framework shown above will not be directly assessed.

In the *Extended essay guide*, the IB expands on the kinds of topic areas that can fit within these five frameworks but emphasizes that they are designed to allow you to be imaginative and that you should not feel limited by these examples. Some suggested ideas from the IB and from the authors of this book follow. You can also check the UN Sustainable Development Goals to give you further ideas. These broad categories should be linked to your more specific research question.

### ● **Common mistake**

Some students start with the interdisciplinary frameworks when formulating ideas for an interdisciplinary EE. This need not be the case, and it is better to start instead with your areas of passion and curiosity. The frameworks are designed to accommodate wherever your curiosity takes you.



■ Figure 9.2 Justice



■ Figure 9.3 Culture



■ Figure 9.4 Movement



■ Figure 9.5 Innovation

### Power, equality, justice

These three terms are often interlinked and generally relate to social and political topics. Power is particularly related to access to resources and decision-making abilities, with equality and justice focused on striving for fairness and human rights.

Possible topics: social or political issues such as health, education, racism, gender, poverty, fairness and conflict; the role of the media in shaping public perception of power dynamics; inequalities rooted in prejudice or imperialism; corporate power and its influence on environmental sustainability; the impact of socio-economic status on health outcomes.

### Culture, identity, expression

These deeply human concepts focus on how we create a sense of self and shared community. The topics covered examine how characteristics, experiences and perspectives are shared within and between the global community.

Possible topics: belief systems; politics of identity; political movements; contentious places; sporting and other competitions; art and science; music; protests; icons; cultural heritage; the body – modifications; literature and science; psycholinguistics; gaming; exploring identity through cultural narratives in Film and Literature; cultural identity and digital expression (the role of online communities).

### Movement, time, space

These terms can be related to place and to change, whether it be geographical, chronological or spatial. This can inspire topics related to development as well as topics focused on particular literal or figurative 'locations'.

Possible topics: migration; refugees; virtual communities; astronomy; travel; urbanism; social media; contested spaces; non-places or non-spaces; conflict; globalization; museums; questions of evolution; space exploration and its sustainability and ethical implications; the perception of time in different cultures; cultural exchanges through trade and globalization.

### Evidence, measurement, innovation

These terms relate to science and technology, two ideas that can be found almost everywhere and often lead to rich interdisciplinary connections.

Possible topics: art and science; literature and science; cross-scientific inquiry; mathematics in science; social media; technological innovations and workforce dynamics; renewable energy and climate change; the role of big data in generating evidence.

### Sustainability, development, change

These terms also link to change, but most obviously with regard to environmentalism and transformations taking place in society.

Possible topics: sustainability – environmental, social, economic; development – economic, social, food, health, political issues, poverty; change – the impact of climate change on coastal communities, social change and family structures; cultural change and its impact on identity and tradition.



## Definitions

◆ **Integration**, in an academic context, involves the combination of different ideas, concepts, terminology and theories into a coherent and cohesive whole. In essence, this means taking things that had been separate (such as different subject content) and combining them meaningfully in a way that creates something new. This is what you will be doing by exploring an interdisciplinary EE.

◆ A **lens** is something that you look through and is used metaphorically in this particular context – imagine a camera lens or lenses of your glasses. This represents that you are essentially looking at things from a particular perspective. In terms of the interdisciplinary EE, you are looking at your research question through the perspectives of your two chosen subjects, considering how any of your knowledge, concepts, theories, perspectives and methods of those subjects help you understand the topic matter and come to conclusions.

**Thinkers and Knowledgeable:** The interdisciplinary EE provides you with the ideal opportunity to demonstrate your knowledge and thinking skills as an IB learner. Being a thinker requires you to make reasoned analysis of your chosen interdisciplinary research topic and to apply knowledge of your two chosen DP subjects in a critical and creative way.

## Frequently asked questions

These frequently asked questions provide some guidance and definitions of terminology regarding the interdisciplinary EE.

### ■ What am I actually linking between the two subject lenses?

Taking your ideas for a topic and eventual research question, you need to consider how the combined lenses of two different DP subjects will be of benefit. **Integrating** them should lead to fresh insights and create new and/or deeper understandings that would not have been possible using only one subject **lens**.

When taking the interdisciplinary pathway, you need to consider what you will be integrating from each of the subjects. These can be organized into five clear categories or interdisciplinary elements: knowledge, concepts, theories, perspectives and methods. You might be taking some mathematical theories and methods, for example, and applying them to knowledge in sports, exercise and health science (SEHS).

■ **Table 9.1** Categories in the interdisciplinary pathway

Interdisciplinary element	Definition
Knowledge	The information, understanding and insights that individuals acquire through study, research and intellectual engagement
Concepts	General overarching ideas that can be thought of as categorizations, labels or foundational organizers for ideas and knowledge
Theories	An explanation as to why a particular outcome happens that can be applied across a range of examples
Perspectives	Viewpoints or more specific lenses from which an idea can be understood
Methods	The procedures used to conduct research, gather data and generate new knowledge

## ● Task 1

With this in mind, match the interdisciplinary element number to the correct example letter.

	Interdisciplinary element		Example
1	Knowledge	A	Business management: Porter's generic strategies
2	Concepts	B	Mathematics: modelling and simulation
3	Theories	C	Computer science: neural networks, network topologies and protocols
4	Perspectives	D	Economics: equality, efficiency, change and sustainability
5	Methods	E	English A: gender perspectives

## ● Common mistake

Students often assume they need an equal 50:50 split between the two subjects in their interdisciplinary EE. This is not the case. The pathway is designed so that you can integrate whatever you think is relevant from each of the two subjects, even if this leads to an uneven split.



■ **Figure 9.6** Show the two subject lenses appropriately, but you do not need to focus on each one equally

## ■ How balanced does the essay need to be between the two subjects?

You do not need to focus on balance. What is important is that you clearly show you are using the two subject lenses appropriately and where required in the essay. You do this by showing evidence of clearly integrated elements of the two subjects being used to come to an effective conclusion to the interdisciplinary research question. This means including one or more of the aforementioned elements of knowledge, concepts, theories, perspectives and methods from each of the subjects chosen for your interdisciplinary EE.

### ● Expert tip

If you are only studying one of the two subjects being used in your interdisciplinary EE, consider the balance between them. In this case, it is highly recommended to focus on the subject you are actively studying, with the non-studied subject playing a complementary and supportive role.

### ● Expert tip

The two subjects chosen for the interdisciplinary EE have to be approved IB DP subjects, so subjects such as accounting, engineering, law or education do not qualify. It is vital that both subjects are considered adequately, though this does not necessarily mean equally. The essay should clearly identify which two subjects are being explored and frequent mention must be made of how these subjects relate to the topic being researched.

## ■ Can I only choose from my studied subjects?

It certainly makes things easier if you study both of your chosen subjects, but it is not mandatory. However, the IB strongly recommends that you study at least one of the two chosen subjects as this makes the process far more manageable and ensures you have a strong understanding of at least one subject of the interdisciplinary EE. You can then focus your energies on studying the elements from the other subject that you may be less confident with, ensuring you can still effectively integrate its relevance into your research.

## ■ How does the interdisciplinary essay affect supervision?

You will still only be assigned one supervisor. Your supervisor does not necessarily have to be a teacher in either of your chosen subjects (this is also the case for the subject-focused pathway). This is because the EE is marked using a common and generic assessment rubric that applies to all essays, irrespective of the chosen pathway (see Chapter 1 Understanding the assessment criteria for more on how your EE will be assessed).

Clearly, when dealing with two DP subjects but with only one supervisor, it is unlikely your supervisor will have expertise in everything you need to cover. This is where showing some initiative and self-management ATL skills can be important. For example, you may have to occasionally rely on subject teachers and other resources in the school to assist you with developing your interdisciplinary EE. Your support network is explained in more detail in Chapter 6 The role of the extended essay supervisor.

Ideally, your supervisor for the interdisciplinary essay will be a subject specialist in at least one of the two subjects, though this is not always possible in every school. As a minimum, the IB recommends that your supervisor for the interdisciplinary essay should be suitably qualified to give you advice in at least one of the two chosen subjects. At times, you may have to consult with a subject specialist for additional advice – this is permitted by the IB.

### ATL ACTIVITY

#### Self-management skills

When managing an interdisciplinary essay, what problems do you think you may come across and what can you do to best manage them? See the back of the book for some possible problems and suggested solutions.

## Common mistake

Students often try and focus on both subjects so intently that they are almost doing the work of two extended essays in one. This is not the aim of the interdisciplinary pathway, and it should be no more work than a single-subject pathway EE. Ensure that you are going into an appropriate level of depth in your interdisciplinary EE and not making things too hard for yourself.

## Do I need primary data?

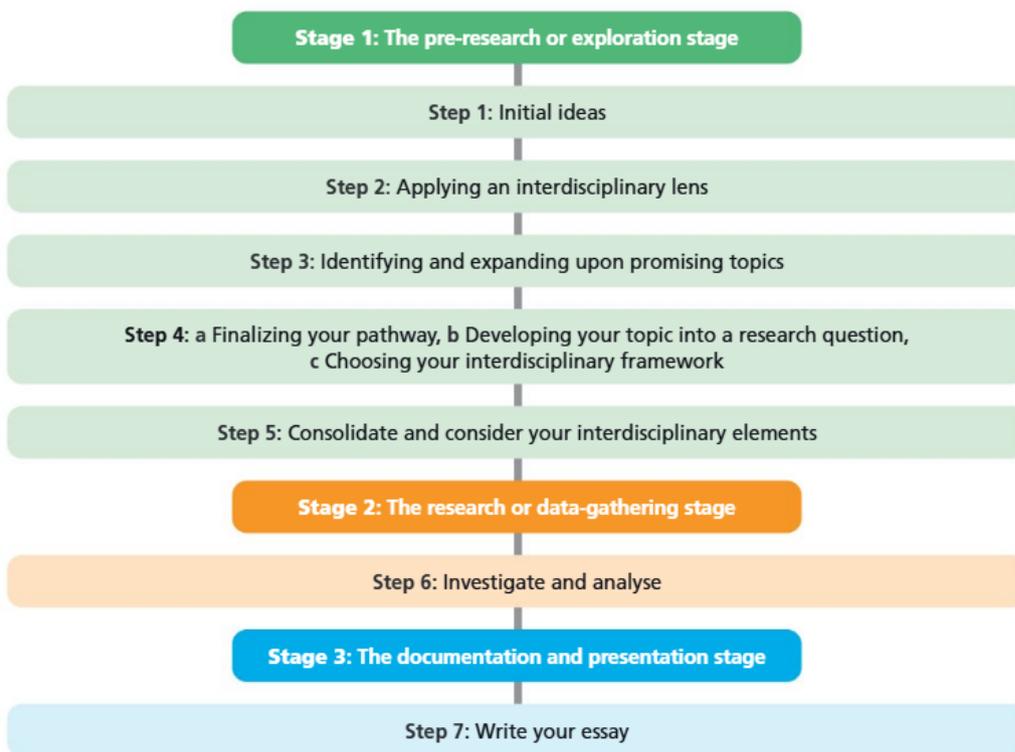
You will need secondary sources from both of your subject lenses, but there is no formal requirement for primary data collection in an interdisciplinary EE. This does not mean it is not allowed, however, and if you think it is relevant to explore your research question, you can and should gather relevant data in one or both of your subject lenses where permitted.

## Is the interdisciplinary EE marked in the same way as subject-focused EEs?

There is no special mark scheme or assessment criteria for the interdisciplinary EE and the generic EE assessment criteria will be applied. However, the examiner will take into consideration how the assessment criteria are interpreted within your two chosen subject lenses and within the context of the interdisciplinary framework. For the interdisciplinary links to the assessment criteria, see the later section of this chapter as well as the interdisciplinary section of the *Extended essay guide*.

## Developing an interdisciplinary EE

This section includes an abridged version of the EE development process with a focus on interdisciplinary extended essays. The various steps have been organized into the three stages, as recommended by the IB.



■ Figure 9.7 Developing an interdisciplinary EE

## Stage 1 of 3: The pre-research or exploration stage

### Step 1: Initial ideas

Much like developing an EE in the subject-focused pathway, you begin with considering your passions and curiosities. Consider what topics are getting you passionate or curious in your

## Expert tip

Though very flexible, one limit put on interdisciplinary EEs is that you cannot choose environmental systems and societies (ESS) or literature and performance as one of your subject lenses. This is because these subjects are already considered 'cross-disciplinary', so using them in an interdisciplinary EE is essentially linking three subjects, which requires too much complexity for a 4000-word essay.

DP subjects so far. There are many ways of coming up with such topics, and many different starting points.

- **Subjects:** As advised in Chapter 2 *Developing a suitable research question*, you might begin with your higher-level subjects. Consider what topics you have covered so far, class discussions and sub-topics that were touched upon but not examined in detail, as well as secondary reading you completed and found interesting. You could also narrow this down to two of your favourite subjects if you feel there is too much to cover.
- **The five interdisciplinary frameworks:** Alternatively, you could begin with the five interdisciplinary frameworks as a way of generating ideas. Look back in this chapter at the more specific list of ideas covered by each framework and consider any interesting topics raised or any links you can make to topics or studies covered in class. For example, when you think about the term 'urbanism' from the interdisciplinary framework 'movement, time, space', it may well link to some studies you conducted in geography about city expansion or visual arts when you looked at the architectural movement of Brutalism.

## Task 2

Create a mind map of various topics and ideas you have found interesting.

### Step 2: Applying an interdisciplinary lens

With these initial ideas, you can start making connections. This can involve colour-coding common ideas (for example, ideas that are related to 'identity'), drawing lines between different topics and labelling them with what connects them (for example, 'sustainability') or simply adding further words and ideas around your existing ones to explore in more detail.

Again, you may want to use key words from the five interdisciplinary frameworks to help you draw links, or you can come up with your own suitable ones. This process is a way of breaking down barriers between subjects and topics and a great example of thinking conceptually.

## Task 3

Add as many details and links between subject topics and ideas for your interdisciplinary essay as you can to your mind map.

### Step 3: Identifying and expanding upon promising topics

You should now have a fairly extensive (and hopefully rather aesthetically pleasing) mind map that includes a collection of your ideas with links and categorizations. It is time to start narrowing things down and making choices before finalizing your chosen pathway.

Have the following in mind:

- **Curious and passionate:** Chosen topics should be something you can imagine spending months exploring without it becoming a chore, and lead to something you are genuinely excited to create and find the answer to.
- **Academic and arguable:** Your topic should lead to a research question that will be arguable (contestable or questionable), not have a self-evident answer and require some research and analysis to come to a considered conclusion.

## Task 4

Highlight some of the topics on your mind map that you can imagine writing a 4000-word essay about.

Once you have your topics, you need to ask some vital questions:

- What aspect or issue within this broad topic area really interests me?
- Why is an interdisciplinary approach appropriate for my topic?
- Which framework best suits my topic?
- Which two DP subjects can I integrate to investigate my topic successfully within that framework?

These questions can be answered in a table. Below, you will find three examples from the *Extended essay guide*. More can be found in the interdisciplinary section of the guide.

■ Table 9.2

Broad topic area: Literature and science	
Question	Comments
What aspect or issue within this broad topic area really interests me?	Poems move me. I would like to know why and how this happens, to learn about how poetry impacts cognitive processes in the brain.
Why is an interdisciplinary approach appropriate for my topic?	I have read that new brain imaging technology is connecting art and science by mapping the different ways in which the brain responds to poetry. I would like to explore this interdisciplinary idea further.
Which framework best suits my topic?	Depending on the emphasis of my research question, either culture, identity, expression or evidence, measurement, innovation will be suitable frameworks.
Which two DP subjects can I integrate to investigate my topic successfully within that framework?	Poetry, as experienced through language and literature, integrated with cognitive neurobiology, i.e. biology.

■ Table 9.3

Broad topic area: Cross-scientific inquiry	
Question	Comments
What aspect or issue within this broad topic area really interests me?	I am interested in ideas that are relevant to more than one field of science. Specifically, I want to understand more about enzyme activity.
Why is an interdisciplinary approach appropriate for my topic?	To understand enzyme activity fully, I need to explore it from more than one perspective, i.e. the structure of proteins and also reaction kinetics. That points me towards biochemistry; an area I am really interested in.
Which framework best suits my topic?	Evidence, measurement, innovation.
Which two DP subjects can I integrate to investigate my topic successfully within that framework?	I will be able to integrate knowledge and understanding from both biology and chemistry.

■ Table 9.4

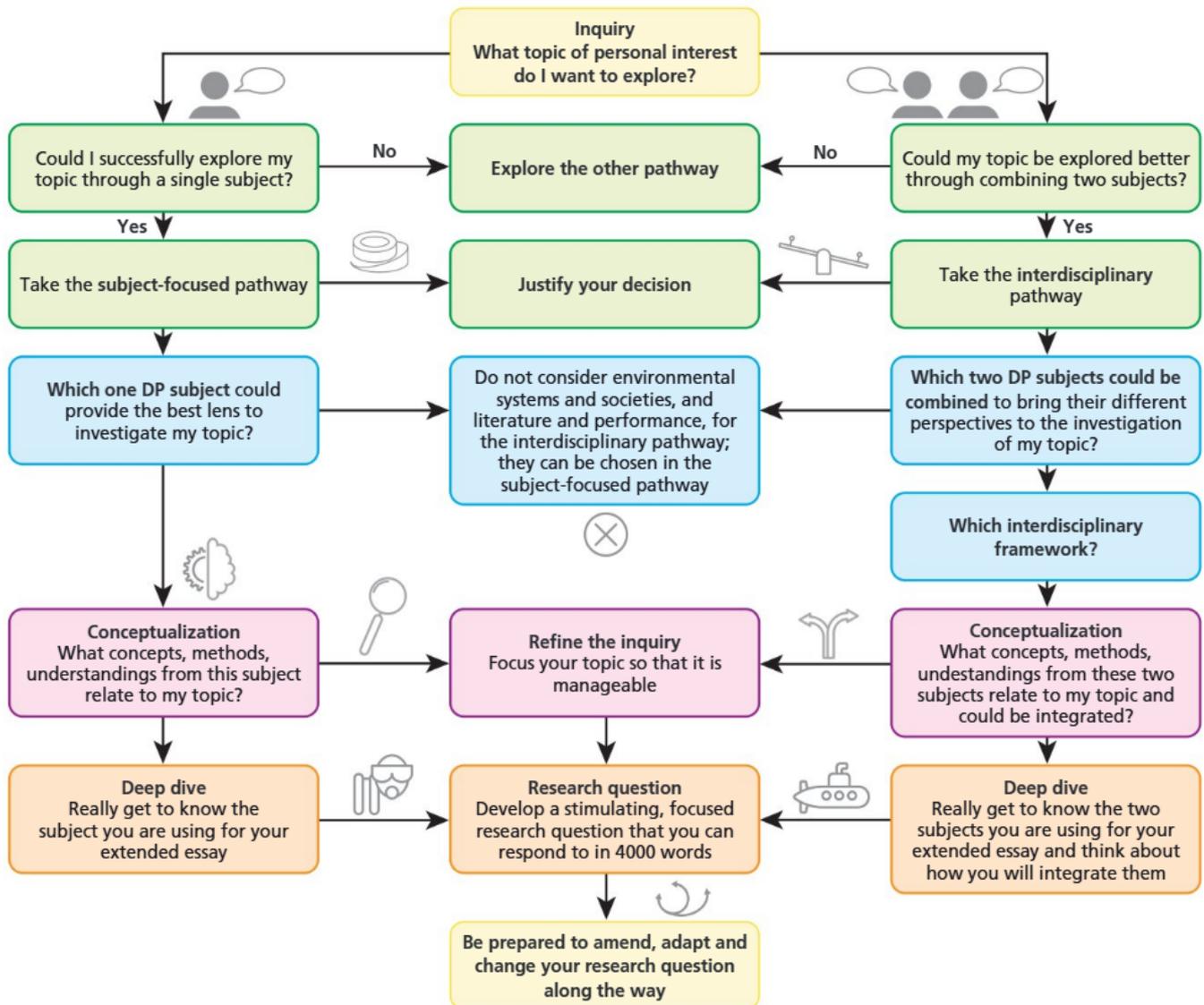
Broad topic area: Art and science	
Question	Comments
What aspect or issue within this broad topic area really interests me?	I am interested in exploring how cognitive processes work as artists create abstract art. I am curious about Wassily Kandinsky's work because he is said to have used his synaesthesia (the capacity to 'see' sound and 'hear' colour) to create abstract paintings.
Why is an interdisciplinary approach appropriate for my topic?	Applying insights from psychology to the content of visual arts will add to my understanding of the artistic process.
Which framework best suits my topic?	Culture, identity, expression.
Which two DP subjects can I integrate to investigate my topic successfully within that framework?	I think visual arts and psychology. The ideas and practice of the artist will be unpacked by engaging with the study of the human mind and its functions, applying understanding of cognitive processes.

## Task 5

Create tables for three of your most promising topics.

### Step 4a: Finalizing your pathway

You now need to make a key decision as to whether you should move ahead with an interdisciplinary EE or consider the subject-focused pathway for your particular topic ideas. Use the flow-chart taken from the *Extended essay guide* for help in making this decision.



■ Figure 9.8 Extended essay pathways

Essentially, if you are drawn to a topic that may work as an interdisciplinary EE, ask yourself the following questions:

- Why is an interdisciplinary approach the most appropriate for my chosen topic?
- Does it seem like it will fit within one of the five prescribed interdisciplinary frameworks?
- Which two DP subjects seem the most relevant?

If you are drawn to a topic that seems more suited to a single subject, switch to the subject-focused pathway.

### Step 4b: Developing your topic into a research question

When developing your topic into a more specific research question, make sure you have read Chapter 2 *Developing a suitable research question* where there are many examples of research questions. Also look back at step 3 where you answered 'What aspect or issue within this broad

topic area really interests me?’ – this can be a good place to start coming up with your research question. What do you want to find more out about and how can it be posed as a question?

Your RQ should be:

- **focused and worthy:** you must be clear about what you specifically intend to address in your essay. It also needs to be ‘worthy’ (in the academic sense) in that there is not an obvious answer – it is not worth going through the process of inquiry if there is nothing academically worthy of inquiring about.
- **feasible within 4000 words:** your research question must be neither too broad nor too narrow. For example, if you are looking at a variety of factors in your potential RQ, consider narrowing it down to just one. If you are struggling to judge whether the RQ will need 400 or 40,000 words, quickly run it by your supervisor or subject teacher(s).
- **analytical and arguable:** it is incredibly important that your research question does not lead to descriptive or overly simple responses. There should be a clear line of argument you can make that involves analysis, interpretation and discussion when responding to the research question.
- **interdisciplinary:** the essay should lead to integrating some combination of knowledge, concepts, theories, perspectives or methods from two DP subjects.

### ● Task 6

Write down your thoughts on the following interdisciplinary research questions, including **a** what two subjects they may link to, **b** what framework they likely fall under and **c** why they are/are not effective interdisciplinary research questions. Suggested answers can be found at the back of the book.

	Interdisciplinary research question
1	To what extent is rainforest destruction the result of development, and is this process necessary for the growth of the Republic of Ecuador?
2	Sink or swim: to what extent is the Maldives supported in fighting the consequences of climate change?
3	What impact does social and financial background have on obesity rates in Australia?
4	How effective are the measures Singapore has taken since 2018 to ensure food security and sustainability for its people?
5	How has the growing popularity of influencers on Instagram marked an innovative shift in how service industries market their products?

#### Step 4c: Finalizing your interdisciplinary essay framework

You almost certainly have some idea of this already from developing your topic, but finalize which of the five prescribed interdisciplinary frameworks below best fit what is now your research question.

- 1 Power, equality, justice
- 2 Culture, identity, expression
- 3 Movement, time, space
- 4 Evidence, measurement, innovation
- 5 Sustainability, development, change.

### ● Task 7

Complete the three stages of Step 4:

- a Finalizing your pathway
- b Developing your topic into a research question
- c Choosing your interdisciplinary essay framework.

## Step 5: Consolidate and consider your interdisciplinary elements

If you are moving forwards with an interdisciplinary EE, you also need to think ahead to the investigating and writing of the EE and consider where the interdisciplinary elements are actually going to come from. By this stage, you should already have a good sense of:

- an initial version of your research question
- the interdisciplinary framework your RQ best fits within
- the two DP subjects that your RQ is related to.

You now need to consider which of the five main elements from each subject will help you answer your interdisciplinary research question. Consider knowledge, concepts, theories, perspectives and methods. It is really important that there is a justifiable reason for the RQ being interdisciplinary, so there should be at least one element from each of your subjects.

You may want to fill in a table containing all the information considered so far as well as your ideas for what elements you will be using from each of your two subjects. This can help organize and clarify your thoughts. Below is an example adapted from the *Extended essay guide*.

■ **Table 9.5** Example topic, research question and approach

<b>Subjects</b>	Economics and global politics
<b>Topic</b>	The impact of rising economic power on the balance of forces in a particular region
<b>RQ</b>	To what extent has the rise of India as an economic power affected the balance of forces in the region with reference to China and the USA?
<b>Framework</b>	Power, equality, justice
<b>Interdisciplinary elements</b>	<b>Concepts:</b> power and equality (economics and global politics) <b>Perspectives:</b> The global economy (economics), geopolitical strategies and power dynamic (global politics) <b>Knowledge:</b> The growth of the BRICS economies (economics and global politics), statistics and data on their varying rates of economic growth and development (economics) <b>Theories:</b> postcolonialism (global politics), modernization theory (global politics) <b>Methods:</b> n/a

### Task 8

Make a similar table for your current interdisciplinary EE idea(s).

### Expert tip

Remember, there does not necessarily have to be equal balance between the two subject lenses. This is completely fine so long as the second, less-focused-on subject lens is justifiable in the context of your chosen topic and RQ – that is, it must be necessary to exploring your research question and coming to your conclusions. It is fairly typical that there is one ‘main’ subject and one ‘secondary’ subject focus in an interdisciplinary EE.

### Common mistake

Students often start with an interdisciplinary EE but lose sight of the ‘interdisciplinary’ aspect as it progresses. This can lead to including token elements from other subjects that are not genuinely necessary for your arguments, resulting in an essay that is essentially single pathway. It is crucial to ensure that the interdisciplinary nature of your EE is fully justified and integral to your work.

## ■ Stage 2 of 3: The research or data-gathering stage

### Step 6: Investigate and analyse

You now need to put all your planning and preliminary research into action. Depending on your specific research question, this process will involve collecting secondary sources from both of your subject lenses and potentially gathering some primary data if this adds value.

Your investigation does not necessarily have to be discrete between the two subjects. That is, you should not necessarily be suddenly 'switching' from one subject to another but doing your best to authentically integrate and synthesize the two. You may well be applying a theory from one subject and a different theory from another and applying them both to the same data, for example. Draw on each of the subject areas when relevant rather than keeping them entirely separate.

## ■ Stage 3 of 3: The documentation and presentation stage



■ Figure 9.9 Stage 3 encompasses Step 7: writing your essay

### Step 7: Write your essay

When writing the interdisciplinary EE, you will be following much of the same advice that applies to the subject-focused EE pathway. It is important that you read the subject-specific guidance on your two subject lenses as well as the interdisciplinary guidance found in the *Extended essay guide* in order to write a successful interdisciplinary essay.

Some general tips about the sections of your interdisciplinary essay:

#### Introduction

You should put particular care into your introduction in an interdisciplinary EE. In the opening (introduction) section, consider establishing the:

- **outline of argument:** Re-state your research question, provide any necessary elaboration and sum up your argument that will be expanded upon in the main body and fully developed in your conclusion section.
- **scope:** Explain the boundaries of the RQ you have developed – what have you decided to focus on and what limits have you placed on your exploration to keep it within 4000 words? In particular, you need to explain the scope of each of your subject lenses – summarize to what extent each subject has been used and why. It is important that your justification for taking the interdisciplinary pathway is clear from the outset.
- **worthiness:** Why is your research question worth exploring? This applies to all EEs, but you should also explain *why* you feel your RQ needs two subject lenses to fully explore the RQ. You can describe which of the five elements of knowledge, concepts, theories, perspectives and methods you have used from your two subject lenses.
- **methodology:** Summarize what approach you took to exploring your EE and, in particular, to what extent you used methods from your two subject areas and why.

#### Main body

The main body of the essay will vary significantly depending on your RQ and chosen subjects, but consider the following advice:

- The discussion of your exploration and the line of argument formed in the main body of the essay should help guide the examiner through your use of the two subject lenses.
- The findings that come from your analysis should clearly have come from the combination of the two subject lenses you have used (remember, this does not necessarily have to be equally balanced).
- You may want to consider sections and sub-sections when relevant to help provide structure to your response.
- You should embed evaluation as you discuss your analysis – this should include evaluating when and why you have used elements from the two subjects to explore your research question.

### Conclusion

Again, your conclusion will vary depending on your particular RQ, but consider the following advice:

- Ensure you have addressed your research question in a way that has clearly drawn on both subject lenses.
- Though this will have been done to some degree throughout the essay, perform an evaluation on the limits of your conclusions and how successfully your integration of the two subjects was in answering the research question.

### ■ Assessment criteria

It is important for you to understand how an interdisciplinary EE will be assessed.

Table 9.6 is a summary of the IB's advice regarding how the generic assessment criteria (see Chapter 1 Understanding the assessment criteria) are interpreted when applied to an interdisciplinary EE.

■ **Table 9.6** How generic assessment criteria are applied to an interdisciplinary EE

Criterion	Interdisciplinary guidance
A: Framework for the essay (6 marks)	<ul style="list-style-type: none"> <li>● Your research question needs to reflect your interdisciplinary approach, including the interdisciplinary framework. This may come through in the wording of the RQ itself or in the introduction of the essay.</li> <li>● The reader should be able to see that you have drawn on the research methods that relate to the two DP subjects that you are integrating.</li> <li>● You should show an awareness of any structural conventions in the two subjects you have chosen and apply these appropriately.</li> </ul>
B: Knowledge and understanding (6 marks)	<ul style="list-style-type: none"> <li>● You should show your disciplinary grounding in the two DP subjects through combining effective use of relevant terminology and concepts.</li> <li>● There should be knowledge and understanding of both DP subjects, but this does not necessarily have to be equally balanced.</li> </ul>
C: Analysis and line of argument (6 marks)	<ul style="list-style-type: none"> <li>● The findings that come from your analysis should reflect the combination of the two DP subject lenses you are using.</li> <li>● Your line of argument should give the reader a sense of the development and flow of the integration of the perspectives of the two DP subjects.</li> </ul>
D: Discussion and evaluation (8 marks)	<ul style="list-style-type: none"> <li>● Discussion is the key tool for integrating the concepts, understandings and, as relevant, theories of the two DP subjects in relation to your interdisciplinary research question.</li> <li>● Evaluation of the effectiveness of your essay should include an appraisal of the interdisciplinary approach that you have taken.</li> </ul>
E: Reflection (4 marks)	<ul style="list-style-type: none"> <li>● In addition to the advice in <b>Chapter 7 The importance of reflections</b>, your reflection should include some mention of the interdisciplinary approach you have taken.</li> </ul>

## Chapter summary

- As it is an interdisciplinary essay, there must be direct links to two IB Diploma Programme subjects.
- The interdisciplinary EE provides you with the opportunity to draw on knowledge, concepts, theories, perspectives and methods from two DP subjects.
- There does not need to be equal balance between the two chosen DP subjects, but both must be evident in the essay and be necessary for coming to the conclusions drawn.
- When formulating your research question for the interdisciplinary EE, think carefully about the justification for linking the RQ to your two chosen DP subjects.
- Your choice of sources is important. Use academic sources and do not rely too much on current news media or the internet.
- There are five interdisciplinary frameworks or themes for the interdisciplinary EE and your essay must fall into one of these for IB registration purposes.
- The chosen interdisciplinary framework may encompass aspects related to one or more of the other frameworks.
- It is also important to note that the EE topic does not need to connect with all the words describing the chosen interdisciplinary framework. The degree of connection to the chosen interdisciplinary framework will not be specifically assessed.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	An interdisciplinary EE involves approaching an inquiry from the perspective of two DP subjects.		
2	The two subjects chosen for an interdisciplinary essay can be any academic discipline.		
3	The interdisciplinary EE must mention both DP subjects explicitly on the cover or title page.		
4	The interdisciplinary essay is unique in that it encompasses two DP subjects, so the normal word limit of 4000 words does not apply.		
5	Subject-specific rules do not apply to the interdisciplinary EE.		
6	You need to evaluate your use of the two DP subjects throughout your response.		
7	You do not have to be studying both DP subjects that you choose to form the basis of your interdisciplinary essay.		
8	You can base your interdisciplinary essay on more than two DP subjects to ensure it is interdisciplinary in nature.		
9	You may have two supervisors for the interdisciplinary EE as it is multifaceted in nature.		
10	The two DP subjects you choose must be from different DP subject groups.		

## Chapter 10

# Managing the extended essay process

### Understand the requirements

- Assessment criteria
- Research question
- Formal presentation (for example word limit, citations and referencing)
- An uploaded RPF

### Get started

- The extended essay process is about 40 hours in duration.
- It's a marathon rather than a sprint, so pace yourself and take regular breaks.
- Avoid the demotivation cycle!
- Take control of time, rather than allowing time to take control of you.

This final chapter provides you with an overview and reminder of the most important aspects of the extended essay to support you in submitting your essay successfully to your supervisor.

## Common mistake

There is a common misconception that the word limit can be exceeded by up to 10 per cent without any penalty applied. As the EE needs to be electronically uploaded, this will make it easy for examiners to know at which point your essay has reached the 4000-word count limit. Examiners are instructed not to read beyond the 4000th word in your essay. You have been warned!

## Understanding the requirements

This book has explained the various requirements of the extended essay (EE), from its formal presentation to interpreting and understanding the assessment criteria. Make sure you are familiar with all aspects of the formal requirements of the EE, be it about the type of research question asked (see Chapter 2 Developing a suitable research question), adherence to the word count limit (see Chapter 3 The formal presentation of the extended essay and Chapter 4 Academic integrity) or the use of citations and referencing (see Chapter 5 Citation and referencing). You should obtain a copy of the IB's assessment criteria for the EE (see Chapter 1 Understanding the assessment criteria) and the research and progress form (see Chapter 7 The importance of reflections) from your supervisor to guide you throughout the process.

## The research question

With regards to your research question (RQ), it is common that students refer to exemplary samples of effective EE RQs from past candidates. However, it is important to note that you must consider these in the context in which these former essays were written – what worked well and was appropriate in the recent past may no longer be the case today. Remember, too, that essays written before 2027 will have been assessed using different criteria. What you thought may have been an excellent research question may already have been answered definitively, have been found to be unanswerable or perhaps needs further research and resources that you do not have access to.



■ Figure 10.1 Use whatever methods work best for you

## Researcher's reflection space

Once you have a research question that you and your supervisor agree on, think about the different sections and sub-section headings of your essay, along with the information or points you might include in these sections. You can use the researcher's reflection space (RRS) for this purpose, as it is naturally part of the research and writing process. Also, have a think about how the arguments and counterarguments are likely to flow. To support this, you will need to consider the empirical evidence (relevant data and information) and how you intend to go about finding these through secondary research, along with primary research where permitted and appropriate.

The RRS will also help to provide stimulus and evidence for your mandatory reflection sessions with your supervisor. As there is no prescribed format for the RRS, use whatever format works best for you as a learner, for example notes in bullet-point format, images, charts, photos, infographics, statistics or mind maps. (See Chapter 7 The importance of reflections for further information about the RRS.)



■ **Figure 10.2** Primary research involves you collecting original data that does not currently exist

### Expert tip

Citing as you write is a good idea for academic integrity reasons and can save you time as it can be inefficient to add your citations at the end of the writing process.

## Citation and referencing

You will need to plan your methodology, ensuring that secondary research is used to support your lines of argument. Secondary research will provide you with data and information that reveals the findings and knowledge gathered by others. You can, if permissible for the chosen subject, use primary research if it adds value in addressing your research question. For example, there is likely to be some gaps in what you can find through secondary research, so this may create opportunities to use primary research to address the research question.

In all cases, it is important to remember to include proper citation and referencing (see Chapter 5 Citation and referencing) of your research findings throughout the essay. Remember to always cite as you write. In terms of academic integrity, proper citation and referencing shows respect for the words, ideas and works of other people.

## Discussion and evaluation

The IB recommends that you evaluate your findings and source materials as you use them in the body of the essay, rather than doing this as a separate 'evaluation' section towards the end (see more information about this in Chapter 1 Understanding the assessment criteria about understanding the assessment criteria and Chapter 8 Showing evidence of critical thinking about showing evidence of critical-thinking skills). Remember to consider contrasting data and information as opposed to only evidence that points in one direction. This will help you to think more critically about the evidence in relation to your chosen topic and research question.

## Appendices

You can use an appendix to include supplementary (supporting) material, such as interview transcripts, survey questions or raw data. This should appear after the bibliography (list of references). However, note that EE examiners are not obligated to read any of the information in the appendices. If any information is crucial to your analysis or discussion, make sure it is included in the main body of the essay. This will ensure you get appropriate credit for assessment criterion C (Analysis and line of argument) and assessment criterion D (Discussion and evaluation).

## Word count limit

Make sure you understand and stick to the word count limits for the EE and RPF:

- 4000 words for the EE (any essays in excess of 4000 words are subject to penalties as examiners are instructed not to read material in excess of the word count limit).
- 500 words for the RPF. The same rule applies to the RPF – examiners will not read beyond the 500th word.

### Expert tip

Once you have completed your first draft essay, check the word count and make necessary changes to ensure it does not exceed 4000 words. Make sure that you do this before seeking feedback from your supervisor and *again* before submission of your final draft.

## Proofreading

It is important that you spend time reviewing and checking your essay before final submission. Although it can be the most tedious part of the writing process, proofreading is definitely worthwhile. However, it is important to note that you must do the proofreading yourself; you cannot let others proofread, correct or edit your essay. This is because the work you submit for assessment must be expressed in your own words. Nevertheless, you can use computer software to check your spelling, punctuation and grammar, but be careful that this does not change what you want to say and how you want to express this in the essay.

### Expert tip

The IB suggests that you think about recording yourself reading your final draft essay aloud, then listen to the recording while reading along with your essay before submission to your supervisor. A key benefit of this approach to proofreading is that you may identify any points where you stumble or hesitate, as these may indicate areas where your words or understandings are unclear, even to you, the author of the essay. Reading aloud also helps you to examine your essay more objectively.

## Subject-specific advice

It is important to refer to the subject-specific advice in the IB *Extended essay guide* for details and clarification of the requirements for your chosen subject. For example, psychology students must adhere to the use of secondary research only, as the collection and use of primary data is not permitted in a psychology EE. For social and cultural anthropology EEs, primary research can only be used to supplement the mandatory use of secondary data and sources. Note these same rules apply to students writing an interdisciplinary extended essay that includes psychology or social and cultural anthropology as one of the chosen subject disciplines.

As mentioned in Chapter 3 *The formal presentation of the extended essay*, you should save your final draft essay as a PDF file. Converting your essay into a PDF document ensures everything looks correct irrespective of the device or operating system used by the EE examiner. Once you have read the PDF version of your essay, you are ready to turn your attention to the final reflection session and write up the reflective statement on the RPF.

## Reflection

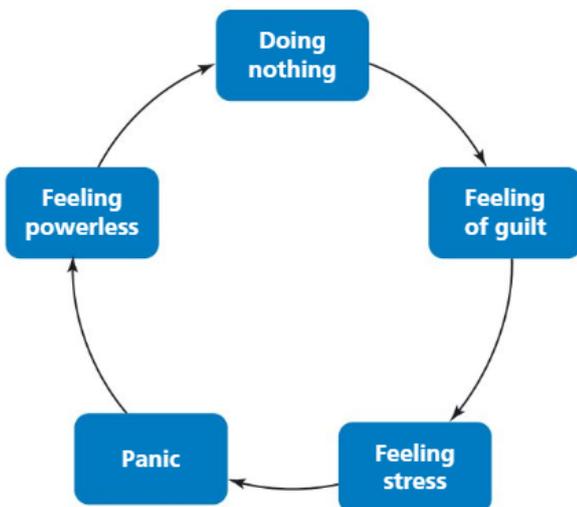
Reflection is a crucial skill assessed under criterion E, worth 4 out of the 30 marks. Demonstrating reflection shows your engagement in your learning journey. Authentic engagement in the EE process can make it more enjoyable and meaningful for you too. This engagement helps you grow as a learner and allows you to take pride in what you have learned throughout the process. After each of the three mandatory reflection sessions, your supervisor will need to sign (initial) and date the RPF.

For a comprehensive checklist of tasks to complete for the EE, see the appendices.

## Getting started

The duration of the overall EE process is about 40 hours. Getting started means you are taking control of time, rather than allowing time to control you. This will also help to prevent a negative spiral effect on your level of motivation.

At the beginning of the EE process your school's DP coordinator, EE coordinator and/or EE supervisor may provide differentiated learning tasks to support you with this demanding but rewarding task. For example, teachers may be able to provide you with study skills classes focused on developing your academic research skills, including how to use citation and referencing. The root cause of the problem faced by many DP students – the demotivation cycle – is doing nothing. You will likely feel better as soon as you begin doing something about your essay, while not doing anything (yet) means nothing will change. See the section on procrastination below for further guidance on getting started and keeping motivated.



■ Figure 10.3 The demotivation cycle



■ Figure 10.4 All aspects of the extended essay must focus on and relate to the research question

## Definition

◆ A **literature review** is an essential component of the research process, where students synthesize and evaluate existing secondary sources to form the basis for their inquiry. It involves assessing the relevance, reliability and validity of the research materials to build contextual knowledge and understanding of the chosen topic, while adhering to academic integrity and ethical research practices.

## ATL ACTIVITY

### Research skills

The EE provides an ideal opportunity for you to develop and demonstrate your research skills. The research methods chosen (secondary research, supplemented by primary research where suitable and permitted) need to be appropriate to the chosen topic and research question. The research will require you to undertake a **literature review (secondary research)**, which forms your knowledge and understanding with an awareness about the degree of reliability and validity of secondary source materials. As you conduct your research and reading, consider the content and its reliability, which will help you to answer your research question.

## Expert tip

Working on your EE for even just ten minutes a day will go a long way. You can only get better at the things you do regularly.

## Dealing with procrastination

<del>Probably</del> 5	<del>I wonder</del> 6	<del>It's possible</del> 7	<del>Maybe</del> 8
Eventually 12	<del>It's conceivable</del> 13	<del>I should</del> 14	<del>One day</del> 15
19	20	<b>Today!</b> <b>Here we go!</b> 21	22
26	27	28	29

■ **Figure 10.5** Actions speak louder than words

One of the biggest hurdles facing DP students is how to handle the challenge of procrastination. We are constantly faced with tempting distractions, such as our smartphones, the urge to check and share updates on social media platforms and irrationally trying to convince ourselves that 'there is always tomorrow'. However, promising to get things done is not enough to actually get anything done!

Procrastination refers to the psychological barriers that prevent you from working. It is natural and everyone does it to some extent. However, the EE writing process will become far more manageable as soon as you do something about it.



■ **Figure 10.6** Smartphones can be a major distractor to work

## Chapter summary

- Make sure you are familiar with the formal requirements of the EE.
- Read the subject-specific advice in the *Extended essay guide* to get details and clarification of the requirements for your chosen DP subject.
- While you may find some of the research material to be interesting, make sure you only include content that actually helps you to address the specific research question that appears on your title page.
- There are so many distractions in modern society, so you need to have effective strategies to tackle procrastination (psychological barriers to work).
- Set yourself SMART goals to help you with the planning process.
- Create a planner and stick to it in a strict and disciplined way. This will help you to better manage the overall process.
- You are expected to do your own proofreading of your first and final drafts of the essay (this is *not* the role of the EE supervisor). Make sure you carefully check your essay, including spelling, punctuation and grammar. Once you have done this, have one more check to ensure you have not exceeded the 4000-word count limit for the essay or 500 words for your reflective statement on the RPF. Do all of this before submitting your final draft essay to your supervisor.
- Your supervisor needs to sign and date the RPF after each of the three mandatory reflection sessions. This is a formal requirement as part of the process to authenticate your work for IB assessment.
- You need to complete a reflective statement (of no more than 500 words) after the *viva voce*. This goes on the RPF for submission to the IB.
- The duration of the EE process is about 40 hours, so plan and use your time sensibly and productively throughout this journey.
- Your supervisor and EE coordinator are at hand to help you throughout the overall process.

## END-OF-CHAPTER QUIZ

	Question	True	False
1	To score well in the EE, careful planning with reference to the assessment criteria is vital.		
2	Procrastination is one of the largest barriers to effective management of the EE.		
3	The duration of the EE process is about 50 hours in total, including the reflection sessions.		
4	The use of citation and referencing throughout your essay shows respect for the ideas and work of other people.		
5	The supervision process should total 3–5 hours, which includes the three mandatory reflection sessions.		
6	Setting SMART targets can help you to better manage the EE process.		
7	Engagement in the EE process helps you to grow as a learner.		
8	As the EE needs to be electronically uploaded, you can use any font and font size.		
9	Your supervisor must sign and date the RPF shortly after each of your compulsory reflection meetings, including the <i>viva voce</i> .		
10	Creating a planner and sticking to it can help you to better manage your EE.		

# Appendices

## Top ten tips for writing a successful extended essay



■ Remember to cite as you write

### ■ Tips from former Diploma Programme students

- 1 Start early!
- 2 Get your research question right; your supervisor can help you with this to ensure your chosen topic and research question are a viable area of academic research.
- 3 Spread your workload into manageable tasks, setting yourself mini deadlines.
- 4 Meet your supervisor regularly – turn up for all the check-in meetings and be totally prepared for the three mandatory reflection sessions.
- 5 Be fully aware of and understand the rules on academic integrity in the context of the EE. This includes sticking to all school deadlines.
- 6 Don't leave the citations and referencing until the end of the process as you'll find it near-impossible to compile a decent bibliography. Remember to cite as you write.
- 7 Ask your supervisor for help with the structure and format of the essay, including the use of citation and referencing.
- 8 Use a range of secondary sources and avoid source bias. Use primary sources (if permitted in your subject) if this will add balance and real purpose to answer your research question.
- 9 Make sure you write in an objective way – your arguments and conclusion should be derived from the academic research and evidence presented in the essay.
- 10 Do not procrastinate – this is the number one reason that students struggle with the EE!

### ■ Ten more top tips from the authors

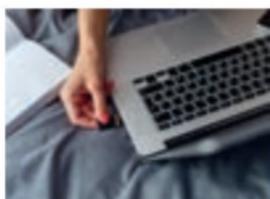


■ Get help from your school librarian on research and referencing skills for the EE

- 1 Phrase your research question as a probing question that is worthy of academic study.
- 2 Conduct thorough and meaningful research. This will help to improve the accuracy and credibility of your analysis, line of argument, discussion and evaluation in the essay.
- 3 To limit potential source bias, consider the strengths and limitations of your sources. This also helps with providing evidence for analytical and evaluative thinking (see Chapter 8 Showing evidence of critical thinking for further details and guidelines).
- 4 Make sure you understand the assessment criteria (see Chapter 1 Understanding the assessment criteria). To score well, you must show evidence of meeting the five assessment criteria, including reflection on the RPF (see Chapter 7 The importance of reflections).
- 5 Make sure you understand the subject-specific rules for your EE. Refer to the appropriate IB subject guide(s) to check that your area of research complies with the general requirements of the subject(s) as well as the subject-specific guidelines in the *Extended essay guide*.
- 6 Read at least one previous essay to identify strengths and possible limitations to improve your own work (but be mindful about the rules on academic integrity).

- 7 Get help from your school librarian on research and referencing skills for the EE. You can also seek help from your subject teacher(s), EE coordinator and DP coordinator.
- 8 To support your reflections and progress, use a RRS and keep this up to date, prior to and following your check-in and mandatory reflection sessions with the supervisor.
- 9 Pay careful attention to the three mandatory reflection sessions, not only the *viva voce*, as these are an integral aspect of the EE as well being assessed under criterion E.
- 10 It is strongly recommended that you type your essay (if you don't already) as examiners do not accept hard copies. Handwritten essays or those that include hand-drawn figures/diagrams must be scanned for electronic upload. In all cases, it is strongly recommended that you upload your essay as a PDF file (see below).

## ■ Why you should upload your essay as a PDF document



■ Converting your essay into a PDF document ensures everything looks correct irrespective of the device or operating system used by the supervisor or EE examiner

Prior to sending your final draft of the essay to your supervisor, save it as a PDF document and proofread this version. PDF stands for 'portable document format' and is therefore formatted in a way that works across different platforms and devices, such as iPads, Android, Windows, Apple iOS and Linux. In contrast, word processing software like Google Docs, Microsoft Word, Dropbox Paper and Pages may display slightly different versions when opened on various operating systems or with different settings. For example, page numbering, text boxes and illustrations in an A4 document may appear differently when viewed on a page set to different sizes, such as US letter, Legal, A3, A5, B4, B5 and custom (according to user's own choice and page settings). Therefore, converting your essay into a PDF document ensures everything looks correct irrespective of the device or operating system used by the supervisor or EE examiner.

## Extended essay student checklist

<b>Cover page (title page)</b>	✓
Have you included the research question? This must be phrased as a probing question.	
Have you stated the DP subject(s)?	
For those following the interdisciplinary pathway, have you stated the interdisciplinary framework?	
Have you included your student code (personal code)?	
Have you ensured you have kept the cover page anonymous (no mention of your candidate name, candidate number, centre name and centre number)?	
Have you declared a precise and accurate word count?	
<b>Declaration of authenticity</b>	✓
Have you included a signed declaration of authenticity with the essay?	
Have you initialled and dated the declaration of authenticity?	
Have you submitted the declaration of authenticity to your EE supervisor for safekeeping?	
<b>Introduction and research question (RQ)</b>	✓
Is your topic clearly stated?	
Is your research question phrased as an actual question?	
Is the purpose and focus of your RQ clear and appropriate in the introduction?	
Have you outlined why your RQ is worthy of academic investigation?	
Can your RQ be answered in 4000 words (is it focused rather than too vague)?	
Does the introduction match the actual essay that you ended up writing?	

<b>Contents page</b>	✓
Have you included a contents page?	
Have you used appropriate section headings?	
Does this include page numbers?	
Have you checked the page numbers are accurate?	
<b>Methodology</b>	✓
Have you made it clear why your methodology is relevant to the topic and RQ?	
Have you outlined how your sources help you to address the RQ?	
Have you used a sufficient range of suitable sources?	
Is there evidence of informed selection of appropriate sources?	
Have you used all aspects of the methodology mentioned in the introduction of your essay?	
<b>Analysis, line of argument, discussion and evaluation</b>	✓
Have you used subject-specific terminology and concepts appropriately, accurately and consistently to address the RQ?	
Have you made explicit links between your research findings/data collected and your research question?	
Have you explained the significance of the information/data in your essay?	
Are your points supported by evidence?	
Are your arguments consistent with the analysis and evidence presented?	
Have you acknowledged the significance of possible errors or omissions that may have occurred in your research?	
Have you considered the degree of reliability (strengths and limitations) of your sources?	
Have you provided a critical evaluation of the methodologies, data and subject-specific tools or theories used?	
<b>Conclusion</b>	✓
Is your exact research question restated and in bold in the conclusion?	
Is your conclusion consistent with the analysis and discussion provided in the essay?	
Have you provided reasoned arguments with relevant justifications throughout the essay?	
Is your conclusion meaningful and backed by the research evidence you presented?	
Does your conclusion acknowledge any unresolved questions?	
Does your conclusion address new questions that have emerged (if any)?	
<b>Reflections (RPF)</b>	✓
Have you attended all three mandatory reflection sessions?	
Have you demonstrated engagement with your research question and the academic research process?	
Is there evidence of the thinking process behind any changes in direction in your research and methodology?	
Have you highlighted the challenges you faced, and how you overcame these?	
Has your supervisor signed (initialled) and dated the RPF following each of the three compulsory reflection sessions?	
Upon completion of the <i>viva voce</i> , have you completed your final summative reflective statement to your supervisor?	
Is your reflective statement no more than 500 words?	
Has your reflective statement been written in the same language as the essay?	
Do your reflections highlight the successes in your learning journey and how these might help you in the future?	

<b>Format and formal presentation</b>	✓
Is your essay within 4000 words?	
Does your research question appear in bold in the introduction?	
Have you used a font suitable for on-screen reading, such as Arial or Times New Roman?	
Is the font used consistent throughout the essay?	
Is the essay in size 11 or 12 point to facilitate on-screen reading?	
Is your essay 1.5 or double-spaced consistently and throughout the essay (again to facilitate on-screen reading)?	
Are all of your pages numbered?	
Are all illustrations and graphics (if used) placed where you want them?	
Are graphs/charts/images/illustrations numbered appropriately?	
Are each of your graphs/charts/images/illustrations appropriately captioned?	
Are your graphs/charts/images/illustrations referenced appropriately?	
Are all your diagrams, charts and graphs correctly labelled?	
Do the page numbers in your table of contents match the page numbers in the text?	
Have you proofread the entire essay for spelling, punctuation and/or grammatical errors?	
Does the body of your essay flow logically, with each point and section smoothly transitioning to the next?	
Have you used a consistent system to cite and reference your sources?	
If quotations have been used, have you clearly indicated these (by using quotation marks or an indented paragraph)?	
Has the source of each quotation (if used) been cited?	
Where you have used the ideas of someone else, have you clearly indicated where this starts and ends?	
Does the appendix (if used) contain only relevant and necessary information?	
Does each appendix item (if used) have a title and an appropriate source?	
Are each of the appendix items (if used) clearly mentioned in the text of the essay?	
Are all references to items in the appendix clearly cross-referenced, including the relevant page number(s)?	

<b>Bibliography (works cited or list of references) and appendices (if used)</b>	✓
Have you included a bibliography, containing all your sources used to research and write the EE? <i>This includes primary research sources, if used.</i>	
Has the bibliography been produced in alphabetical order?	
Do your citations in the body of the essay match the correct references in the bibliography?	
Does your bibliography list each and every source used in the essay?	
Does your bibliography specify author(s), title, date of publication and the publisher for every reference?	
Is the presentation of the sources in the bibliography consistent?	
Have you checked that all materials presented in the appendices (if used) are directly relevant/necessary and match the information in the bibliography?	

<b>Other</b>	✓
Is your work anonymized, that is, your candidate name and candidate number do not appear anywhere in the essay?	
Have you made sure that any acknowledgments in the essay do not disclose your identity or the school you attend?	
Have you referred to your RQ throughout the essay (not only in the introduction and conclusion)?	
Are you fully satisfied that your essay conforms with the IB's principles and practices of academic integrity?	
Have you shared a soft copy of the full and final version of the EE with your supervisor (preferably as a PDF file)?	
Do you have everything ready to submit your completed essay to your supervisor, including the RPF, by the final deadline?	

# Answers

## Chapter 1

### ■ Tasks and ATL Activity

#### Task 1

You will almost certainly have come across these words in your previous studies, but you may not have put too much thought into them. Take 'discussion' as an example. Discussion may typically make you think of conversations with people, but in an academic context it takes on a very different meaning. In researching and writing an essay like this, you are entering into a discussion with the wider academic community and do so by reading the work of others as secondary sources and using their ideas in your own response by either building on them or challenging them. You are also discussing your own interpretations and conclusions, using formal language and the academic conventions of essays in your particular subject area.

#### Task 2

- **Knowledge and understanding:** In terms of knowledge, you can improve by becoming more proficient at using databases and academic journals to research ideas. You also need to work on note-taking skills to then record this knowledge – think about your summarizing skills, how you structure your notes, use of colour-coding and other ideas that may help with recording knowledge. For understanding, this can involve paying attention in class as your teacher explains ideas and concepts, deepening your understanding of theories within your subject that can then be applied to your knowledge as well as doing wider reading on your subject and topics covered in class.
- **Application and analysis:** Application can generally be improved through practice. This can involve practising your research methods related to your subject but can also involve practising more practical skills such as experimentation and data gathering. You should be doing some of this in the course of your studies in the classroom but consider extra practice in order to further improve. As for analysis, you will again be getting guidance and some practice of this in your classroom studies – ensure you take careful notes and consider analysing extra subject matter beyond what is studied; this will put you in good stead for the more independent analysis you will have to conduct when developing your EE.
- **Synthesis and evaluation:** Any time you write an essay you are synthesizing by expressing your ideas based on evidence and analysis. Consider how your essay writing is successful and what targets you have for improvement. Also consider reading exemplar EEs or academic studies in your subject area to see how others synthesize their work into academic writing. Evaluation is a skill you will have been practising throughout your IB schooling. Always think critically about your own work in terms of its successes and limitations. You also need to evaluate the work of others, so any time you are using secondary sources or reading the work of others, again consider the successes and limitations.

- **Communication of research:** You will practise this in various IAs and will also have communicated research in the PYP exhibition and MYP personal project. Consider any feedback you receive and what could make your communication clearer and more structured. Much like the 'synthesis' objective, looking at the work of others and exploring how they have communicated their research can also help you learn from the good practice of others.

### ATL Activity: Thinking skills

Student's own answer. Besides showing thinking skills through the deep understanding of your specific area of research, you are also going to demonstrate 'metacognition'. Metacognition is an awareness of your own thought processes and the patterns behind them. In particular, you should show self-awareness, self-monitoring, self-regulation and reflection – all important aspects of being an independent life-long learner.

#### Task 3

The details of your answer will vary depending on your chosen subjects, but the skills should be broadly applicable. Every subject involves:

- 1 the general process of gaining knowledge
- 2 understanding the knowledge
- 3 applying it yourself to subject matter
- 4 analysing your findings
- 5 drawing it all together to synthesize your new findings
- 6 evaluating its successes and limitations
- 7 communicating what you have come up with in the form of an essay or an oral.

This process is similar in the EE, but with more depth than is typical in internal assessments.

#### Task 4

Your answer will vary depending on your subject area and the RQ you come across, but take this Language A example: 'How do speakers persuade their audiences about gun violence?'

In terms of being clearly stated and focused, this has clear problems as it does not specify a text or texts, and vaguely deals with 'persuade', which encompasses a lot of different techniques.

In terms of a strong line of argument and encouraging analysis, this also has problems. In using the word 'how', it is likely to be descriptive and not lead to a clear 'argument' that can form the backbone of the response.

What would work better is something like 'To what effect do Emma Gonzalez and Wayne LaPierre use exigency to persuade their audiences on the issue of gun violence?'

This is an improvement in terms of focus, but it could still be more specific about which texts from the two writers are going to be looked at. It has also narrowed it down to 'exigency' rather than the much broader 'persuade'.

'To what effect' will make the response less descriptive, but there will need to be clarification in the response as to how 'effect' will be defined and measured. It does, however, provide something that is more arguable to form the backbone of the analysis.

#### Task 5

You may have listed the definitions of terms such as RPF, *viva voce*, assessment objectives, assessment criteria, research question, research methods and research methodology, and any of the terms used in the assessment objectives you were unfamiliar with. However, this list is not exhaustive, and there may be more!

### Task 6

Many IB subjects have specified key concepts but, if you cannot find any, come up with your own based on your experiences in the subject. For example, Business Management specifies creativity, change, ethics and sustainability as the key concepts. 'Sustainability' could easily be applied to other subjects such as geography and design technology. Creativity could be applied to Language A and the Visual Arts. You should find there is lots of overlap and lots of connections you can make between your learning.

### Task 7

Your answer will vary depending on your subject area and your chosen essay, but here are some things to look out for:

- What was included in the introductory sections of the exemplar essay? Was the writer clear about the structure of their essay and their methodology? Did they sum up their ultimate conclusion early on?
- What was included in their main body? Did they have clear sections? Did they frequently refer to or use language from the research question?
- What was included in their conclusions section? Did the writer have a clearly defined answer to their initial research question? Did they evaluate the strengths and weaknesses of their argument?

### Task 8

Though all academic writing is formal and generally follows certain conventions, there is still room for variety and 'voice'. Going through this process of reflecting on your particular voice can help you consider how you will create your own style for your EE. Some students can use sophisticated vocabulary well, whereas others will find this makes their writing convoluted. Some will be more creative with their sentence constructions, whereas others will be more comfortable with consistent sentences that vary a lot less. Some students are able to use semicolons correctly; some students are unable to use semicolons correctly. Make a list of the key features of your 'style' of academic writing and have it in mind when crafting your 4000-word response.

### Task 9

This can be a very useful but sometimes quite confronting process. It is important that you consider your own limitations and patterns of behaviour in order to improve. For example, if you are something of a procrastinator, there is a lot of capacity for procrastination in an extended project such as the EE. What can you do to prevent this becoming a problem? The reflections from this activity can be useful to discuss in your first meeting with your supervisor.

## ■ End-of-chapter quiz

- 1 True
- 2 False. The number of assessment criteria has been reduced to 5, but each is worth either 4, 6 or 8 marks.
- 3 False. The RPF is worth up to 4 marks.
- 4 True. The RRS is a recommendation (especially for interdisciplinary EE students) but not a formal requirement.
- 5 False. An E grade continues to be a failing condition for the entire IB Diploma.

- 6 True. Criterion C (Analysis and line of argument) and criterion D (Discussion and evaluation) are worth 6 and 8 marks respectively.
- 7 True
- 8 True
- 9 True. The essay is marked out of a total of 30 points.
- 10 False. The recommendation is the supervisor spends a minimum of 3 hours and a maximum of 5 hours with each candidate.

## Chapter 2

### ■ Tasks and ATL Activity

#### ATL Activity: Self-management skills

There are lots of possible options for this, but here are some things you may want to consider.

- **Managing time:** Create a schedule of achievable deadlines that give you steps along the development process to aim for, for example 'Document five secondary sources by X date'. Scheduling when you will work on the EE is particularly important as it can quite easily become something that 'hangs over you' and produces anxiety. Consider setting aside certain hours of particular days where you give it intense focus and stick to those timings. Make adjustments if you feel you are falling behind or getting ahead of schedule.
- **Study skills:** Use study techniques to stay on top of your EE, including the aforementioned time management, but also effective note-taking skills, mind mapping and effective use of technology.
- **Reflecting:** Maintaining your RRS to document your work and reflections is also an important part of managing yourself through the process. Remember, your reflective notes will be needed at the end of the process to help form your reflective statement on the RPF.

#### Task 1

- |   |   |    |   |
|---|---|----|---|
| 1 | D | 6  | B |
| 2 | A | 7  | C |
| 3 | G | 8  | F |
| 4 | J | 9  | H |
| 5 | I | 10 | E |

#### Task 2

- **Language A:** This research question is far too broad and will also create a response that lacks sophistication. It is almost certainly going to lead to a descriptive response of the changing styles of adverts rather than being truly analytical.
- **Improved RQ:** To what extent have Lego's advertisements changed through the use of visual images and language since the 1980s to reflect changing attitudes towards gender?  
This is now far more specific and is looking at more technical aspects of the adverts so will avoid becoming simply descriptive.
- **Biology:** Though this RQ may seem quite good at first glance, it is still quite vague by referring simply to 'soap'. Also, in using 'how', it is setting up a response that will likely be descriptive when explaining the process.

- **Improved RQ:** To what extent is the commercially available antibacterial cleaning agent Dettol antiseptic liquid effective at controlling the growth of *Lacticaseibacillus casei* Shirota on nutrient agar plates under laboratory conditions?

This now specifies the type of soap and the use of ‘to what extent’ sets up a more analytical and arguable response.

- **Business management:** ‘How has/have’ questions tend to lead to highly descriptive essays being written. ‘Marketing strategies’ is too broad to maintain focus in a 4000-word essay. Also, being ‘successful’ has different meanings. The RQ also suggests a lack of background reading from the student as Oreo is a brand, while the essay should really focus on Mondelez International, the organization that owns the brand.
- **Improved RQ:** To what extent is Oreo’s promotional mix the main reason why they are the market leader in the US market?

This now avoids the vague term ‘marketing’ and becomes more measurable by specifying a particular market and is more specific about what constitutes ‘success’.

### Task 3

Remember there is a lot of freedom with how you approach a RRS. Factor in your particular context: what platforms does your school use? What is or is likely to be your subject area and what sorts of notes will that subject entail? What will you have access to both at home and at school? If you already have a supervisor, what do they prefer and what do they recommend?

### Task 4

Student’s own answer

### Task 5

Student’s own answer

### Task 6

Student’s own answer

### Task 7

Essay title number	Good or bad?	Reasons
1	Bad	Far too broad – how is it possible to compare all wars?
2	Bad	Too broad, but has potential if certain ‘aspects’ of the First World War are clarified, for example, medical advances from plastic surgery, prosthetics, flu viruses, bacterial infections or disease control hygiene.
3	Good	Specific and focused but needs to be stated as a question.
4	Good	Potentially a good question but needs to be more focused and specific (such as the type of comics and/or type of art).
5	Bad	Far too broad – it is impossible to study all heroes in literature over a 2000-year period!
6	Bad	Needs to be restated as a question and arguably lacks interest.
7	Bad	The topic is too broad and it is not phrased as a question. It is also unclear whether this is an economics, business management, history, psychology, design technology or biology question.
8	Bad	There is no focus to the study of Pi, so the topic is too broad (especially as the title is not stated as a question). It is unclear whether this is a mathematics or computer science essay. What is the focus and purpose? A terrible ‘question’!
9	Good	A good specific question, as long as it is clear which subject discipline (economics or business management) it belongs to.
10	Good	A good specific biology question.

## ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 True
- 4 False. It must be specific to one IB subject (unless you are writing an interdisciplinary EE).
- 5 True
- 6 False. Interdisciplinary EEs should focus on two recognized DP subjects.
- 7 True
- 8 False. The structure must support the reading, analysis and evaluation of the essay in relation to the research question.
- 9 True
- 10 True

## Chapter 3

### ■ Tasks

#### Task 1

Student's own answers

#### Task 2

Ensure you reflect on how not to exceed the word count in your own essay.

Possible strategies include:

- Replace lengthy phrases with shorter alternatives, such 'because' instead of 'due to the fact that'; 'and' instead of 'as well as'; or 'however' instead of 'on the other hand'.
- Remove any superfluous sentences and paragraphs – any statements, explanations or descriptions that do not add significant value in addressing the RQ should not appear.
- Do not use unnecessary qualifiers, such as 'very', 'really', 'extremely' or 'quite', that do not add to the analysis or meaning of your line of argument.

## ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 False. Examiners are not required to access external sources or supplementary material.
- 4 True
- 5 True
- 6 True
- 7 False. Any recognized or consistent referencing system would suffice.
- 8 True
- 9 False. You need to use your personal code instead.
- 10 True

## Chapter 4

### ■ Tasks and ATL Activity

#### Task 1

Student's own answer

#### Task 2

Student's own answer

#### ATL Activity: Critical thinking

Checking and validating information generated by AI software – or any source – is integral to academic research and being a critical thinker. AI-generated content can include errors, inaccuracies, biases, outdated information and even misinformation. Validating this content ensures it is correct, reliable and factual. Therefore, make sure you compare AI-generated information (if you choose to use AI as part of the EE process) with trusted and authoritative sources, such as academic journals, reputable news media and verified databases. You can also assess whether the information logically aligns with known facts in your chosen subject discipline(s) and established tools, theories and techniques. Inconsistencies may indicate a need for further investigation.

#### Task 3

Student's own answer

### ■ End-of-chapter quiz

- 1 True
- 2 False. Allowing a friend to use parts of your work is considered academic malpractice.
- 3 True
- 4 False. The source must be fully referenced.
- 5 False. This is considered to be 'double dipping', so is an example of academic malpractice.
- 6 True
- 7 False. Although this may be encouraged, it is not a formal requirement.
- 8 True
- 9 True
- 10 False. A school competition or sporting event does not exempt you from the official school deadline.

## Chapter 5

### ■ Task and ATL Activity

#### ATL Activity: Communicators and inquirers

Student's own answer

#### Task

Student's own answer

## ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 True
- 4 False. The IB expects the use of C&R but does not prescribe a particular system.
- 5 True
- 6 True
- 7 True
- 8 True
- 9 False. Both are required.
- 10 False. The EE coordinator and librarian can also help.

## Chapter 6

### ■ Tasks and ATL Activity

#### Task 1

This will be an excellent chance to work on your social skills. Dealing with teachers is always a little different from interacting with your friends, and you need to consider your supervisor's other responsibilities, particularly if they are a classroom teacher juggling lots of classes. You need to be polite but should also try to create a connection – starting off interactions with 'small talk' and providing some insights into how you are feeling, how your day has been, sports/hobbies, and so on can all help lay the foundations for an effective relationship.

ATL activity: Social and communication skills

Student's own answer

#### Task 2

Remember to check whether your school already has a standardized supervision contract first.

#### Task 3

Below is a quick reminder of what these stages involve, but more detail can be found in the previous chapters of this guide.

- **The pre-research or exploration stage:** This stage primarily involves developing your research question and ensuring it is viable. It involves narrowing the focus of your topic and research question, doing a literature review/preliminary reading to ensure there will be enough secondary sources, and confirming everything with your supervisor.
- **The research or data-gathering stage:** This stage primarily involves researching and making sense of the information and data. This may involve finding secondary sources and gathering primary data depending on your subject(s) and research question.
- **The documentation and presentation stage:** This stage primarily involves the writing of your extended essay in a way that effectively communicates your explorations and findings, and fulfils the demands of the assessment criteria.

#### Task 4

There are various approaches you can take, but some key details to include are a citation of the source, an at-a-glance summary, an explanation of its relevance to your EE and any useful quotations or data. Also consider identifying key words for your sources. This allows you to efficiently sort through them using tags when searching the document (Control-F on Windows or Command-F on a Mac). Recording your research in a spreadsheet can also be beneficial, enabling you to sort by column and utilize other spreadsheet organizational features.

#### ■ End-of-chapter quiz

- 1 False. The recommended supervision time is 3–5 hours.
- 2 True
- 3 False. The supervisor is not permitted to edit and annotate at all, though may give feedback and advice on one draft.
- 4 False. The *viva voce* should last 20–30 minutes.
- 5 True
- 6 True
- 7 True
- 8 False. All comments on the RPF should be anonymous.
- 9 True
- 10 False. There must be no similarity between two pieces of work submitted by a candidate for the IB Diploma – this is known as ‘double dipping’ and deemed to be academic malpractice.

## Chapter 7

### ■ Tasks

#### Task 1

Student’s own answer. An example is provided below.

- **Research skills:** Identifying, locating and evaluating primary and secondary sources, such as conducting a literature review to gather data from secondary sources for an essay on the impact of social media on teenage mental health.
- **Problem-solving skills:** Formulating a clear research question and developing a structured approach to answer it, such as developing a hypothesis on the effectiveness of renewable energy sources in reducing carbon footprints and designing experiments or models to test it.
- **Communication skills:** Presenting ideas clearly and coherently in both written and oral forms, including the reflection sessions with the supervisor.
- **Self-management skills:** Planning, organizing and adhering to timelines, including being prepared for check-in and mandatory reflections sessions as well as submission of the first and final draft of the EE.
- **Critical-thinking skills:** Analysing and evaluating data, information, arguments/ perspectives and evidence, such as critically evaluating the credibility of primary and secondary sources and the data used in an essay on the economic impacts of climate change.

## Task 2

Student's own answer

## Task 3

Student's own answer

### ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 True
- 4 False. The RPF is marked out of 4 and graded by an IB examiner.
- 5 True
- 6 True
- 7 False. There is a maximum of 500 words (for all three reflections).
- 8 False. The RRS is a recommendation but not a compulsory element.
- 9 False. The RPF cannot be changed after it has been written and submitted.
- 10 True

## Chapter 8

### ■ Task and ATL Activity

ATL Activity: Critical thinking

- 1 People naturally assume that Friday is a day in the week (which it is, of course). However, why can't Friday also be a name? Friday is the name of the cowboy's horse!
- 2 Many people would think this is a very straightforward question (asked by an 8-year-old) – the answer is clearly 100. However, a critical thinker would consider that the answer could be a negative number, that is, -999.
- 3 Again, why can't someone's name be Each? Each is the name of the (only) person who took an apple from the tree.
- 4 It's daytime! Just because the dog is black and the driver doesn't have his lights on doesn't mean it has to be night-time.
- 5 None of the people are 'single' as they are all married!

Task

Student's own answer

### ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 False. Low marks against assessment criterion C (Analysis and line of argument), worth 6 marks, and criterion D (Discussion and evaluation), worth 8 marks.
- 4 True
- 5 True
- 6 True

- 7 True
- 8 False. Only any unanswered questions that stemmed from your research can be included as new material in the conclusion.
- 9 True
- 10 False. Evaluation should appear throughout the essay.

## Chapter 9

### ■ Tasks and ATL Activity

#### Task 1

- 1 C (Knowledge – Computer science: neural networks, network topologies and protocols. These are topics that are covered during the studies of computer science.)
- 2 D (Concepts – Economics: equality, efficiency, change and sustainability. These are four concepts identified in the economics course. They are used to categorize ideas and can be applied to other subjects too.)
- 3 A (Theories – Business management: Porter’s generic strategies. These approaches to business can be applied to examples in many different contexts.)
- 4 E (Perspectives – English A: gender perspectives. This is a perspective taken in English when texts are re-examined in terms of their portrayal of gender.)
- 5 B (Methods – Mathematics: modelling and simulation. This is a method used in mathematics to provide data and test out theories.)

#### ATL Activity: Self-management skills

This answer is not exhaustive, but here are a few suggestions of the kinds of problems you might face and how you could potentially handle them.

*Problem: Your supervisor is an expert in only one or neither of your EE subjects, and the teachers are too busy to provide much support.*

In this kind of situation, besides taking what support the teachers can offer, you need to remember that the EE is a student-led task. You need to ensure that what little time you do get with the subject teachers is well used, so have very clear, precise and prioritized queries that you think only they can best provide support for. These should only be for queries that you have not been able to find support for on the internet, in books and through asking your fellow students. In addition, get these queries to them in a way that gives them time to respond, perhaps as a clear email rather than putting them on the spot and needing an immediate answer in person.

Outside of the subject specialist support, your supervisor will be able to give you more general advice, but you will otherwise need to rely on your own initiative. The internet is the most obvious resource, and it is rare that a secondary source on a database will not be able to provide answers to any questions you may have. Your fellow students are also a useful resource, and the culture of support engendered by the DP should mean that others are more than willing to help you with any queries you may have about your subjects.

*Problem: You are overwhelmed with queries and are not sure where to start.*

When faced with this kind of situation, you need to get organized. Creating a list of problems and queries is a start and categorizing them in terms of their type is another way of further

organizing yourself (for example, you could have categories such as 'Subject-specific', 'General EE', 'Tech issues', 'Time management', 'Research'). You then need to consider where the best support for each can likely be found. Again, looking back at the support network list is a place to start. Research issues could be best directed at your school librarian, general EE issues could be directed at your supervisor or escalated to the head of subject or EE coordinator if they cannot solve it. It is important that you direct your queries and problems carefully to avoid wasting your own time and the time of others.

*Problem: You feel your interdisciplinary essay is too much for you to deal with having already tried to get support.*

In coordination with your supervisor, and if early on in the process, there may be the opportunity to change your interdisciplinary RQ, subject mix or even change to the single-subject pathway. This is always a last resort though, as it can cause complications with supervision and will require extra work on your behalf to catch up with the development process after starting from scratch again.

#### Task 2

Student's own answer

#### Task 3

Student's own answer

#### Task 4

Student's own answer

#### Task 5

Student's own answer

#### Task 6

- 1**
  - a** Geography and global politics
  - b** Sustainability, development, change
  - c** This is a reasonably effective interdisciplinary RQ that will be arguable.
- 2**
  - a** Global politics, geography
  - b** Power, equality, justice OR Sustainability, development, change
  - c** This has potential and could draw on the politics of the developed world and how smaller countries may struggle for influence and support.
- 3**
  - a** Economics and social and cultural anthropology
  - b** Power, equality, justice
  - c** There is potential with this question, but it could be more evaluative. There are also other possible subjects that could be used to explore the RQ.
- 4**
  - a** Geography and economics
  - b** Sustainability, development, change
  - c** This is an effective question as ideas such as climate resilience and farming can be explored alongside the economic feasibility of food security.
- 5**
  - a** Digital society and business management
  - b** Evidence, measurement, innovation
  - c** This is a good question as it is clear how the two subjects can be integrated.

## Task 7

Student's own answer

## Task 8

Student's own answer

### ■ End-of-chapter quiz

- 1 True
- 2 False. The two subjects must be recognized Diploma Programme subjects.
- 3 True
- 4 False. All EEs written in English have a 4000-word limit.
- 5 True. This is because the interdisciplinary essay is treated as a separate pathway from a subject-specific extended essay.
- 6 True
- 7 True
- 8 False. Interdisciplinary essays can be from the same DP subject group, such as economics and history, or business management and psychology.
- 9 False. All EE candidates must have only one supervisor.
- 10 True

## Chapter 10

### ■ End-of-chapter quiz

- 1 True
- 2 True
- 3 False. It is approximately 40 hours.
- 4 True
- 5 True
- 6 True
- 7 True
- 8 False. The IB recommends Arial or Times New Roman font and point size 11 or 12 to facilitate on-screen reading.
- 9 True
- 10 True

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