

## Support materials for students

### Your extended essay and the DP core

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

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

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

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

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

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

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

### *The Diploma Programme core : A springboard to the future*

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

- Extended essay pathways
- Researching and writing the extended essay

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

### **Inquiry and the extended essay**

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



The IB inquiry cycle model reflects this: it captures the way in which the three elements of the process overlap and merge into each other, illustrating how inquiry is an iterative process. As you address your questions, reflection may suggest new questions and potential new actions (figure 8). Your TOK discussions will help you appreciate that “facts” and answers often seem “right” until further evidence

then suggests otherwise. Similarly, different people may understand or believe different things, and all of these may arguably be “right” when there is no overall consensus and evidence for one view over another.

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

There are three main stages in the extended essay process.

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

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

*[The research and writing process for the extended essay](#)*

## Researching your extended essay

### The pre-research or exploration stage

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

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

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

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

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

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

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

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

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

find out. By the time you are ready to write the essay, your outline may be so detailed that your essay will unfold relatively smoothly.

## The research and data-gathering stage

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

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

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

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

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

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

			and intentional reading behaviour”
	#online #reflect #deepthinking	My own ideas	Questions to explore: Does online activity overstimulate the brain, make it harder to rest, harder to think, reflect? Does being online diminish a child’s capacity to think deeply?
Mueller, Oppenheimer The pen is mightier than the keyboard: Advantages of longhand over laptop note taking <a href="https://pubmed.ncbi.nlm.nih.gov/24760141/">https://pubmed.ncbi.nlm.nih.gov/24760141/</a>	#informationprocessing #conceptualquestions	Quotation	From the abstract: “The present research suggests that even when laptops are used solely to take notes, they may still be impairing learning because their use results in shallower processing. In three studies, we found that students who took notes on laptops performed worse on conceptual questions than students who took notes longhand. We show that whereas taking more notes



			can be beneficial, laptop note takers' tendency to transcribe lectures verbatim rather than processing information and reframing it in their own words is detrimental to learning."
--	--	--	---

**Table 4** *Example note-making table*

### Keeping a record of research for an interdisciplinary essay

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

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

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

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

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

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

***Researching an interdisciplinary extended essay***

***Outline for an interdisciplinary extended essay***

## Secondary research

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

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

- provide a context for your investigation and essay
- provide a springboard for your own specific research topic and question

- show why your investigation of the topic is worth doing
- provide material, information and data that you might use as you analyse and evaluate your findings and arguments.

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

Sometimes you might find information and data that contradict the information you are relying on. Do not ignore this—it can contribute to the overall answer you give in your essay. For example, you might be able to discount or discredit the contrary information or use it to discuss some controversies and uncertainties about what is known in this field. It is worth looking at what others have said about the contradictory information and what those who support it have said too. It is useful to evaluate your source materials in the body of your essay itself, instead of presenting them in a separate “Evaluation” section.

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

## Primary research

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

Note that in the context of the extended essay, primary research methods are not considered to be suitable for all subjects, for example, psychology. In these subjects, you can use other researchers’ primary data, but you will not be able to collect primary data yourself. Make sure you find out what

you need to know about this at the start of the extended essay process, referring to the relevant extended essay subject-specific guidance.

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

- experiments
- investigations and fieldwork
- interviews
- surveys.

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

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

### **Quantitative and qualitative research**

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

#### **Quantitative research**

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

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

## Qualitative research

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

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

## Research methods

### Experiments

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

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

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

### Investigations

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

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

- maps
- photographs
- historical documents (including diaries and letters)
- organization policies

- law
- original art.

## Interviews

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

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

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

Successful interviews require careful preparation, including:

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

## Question design

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

## Recording the interview

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

As electronic copies/recordings of the interview are not permitted for the extended essay, an example transcript (or extracts from the interview) will need to be attached as an appendix. If points from the interview are important to your argument, be sure to include in the body of your essay appropriate quotations from the transcript.

## Surveys

Surveys can be carried out:

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

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

Successful surveys require:

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

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

- have a limited number of responses

or

- have choices that are scaled

or

- require the respondent to prioritize items.

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

### Sample size and selection

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

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

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

### Considerations for primary research

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

- measurable or observable
- relevant
- reliable
- replicable.

Questions for you to consider include the following.

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



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

Analysing primary research includes:

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

You should spend time researching:

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

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

### **Problems arising from primary research**

Some primary research fails for predictable reasons.

- The survey sample is too small or poorly controlled; therefore, you cannot reach any conclusions relevant to the research question.
- The survey or interview questions do not take proper account of the secondary research findings or the research question, and so do not lead to relevant conclusions.
- Unacceptable methods have been used to collect information. The following are examples where IB regulations and ethical guidelines may have been breached.
  - Using a recording device without the interviewee being aware that the interview was being recorded.
  - Taking photographs in prohibited areas.

- Downloading copyrighted music to demonstrate how it has been put together.
- You have otherwise used a research method that is not appropriate or not permitted for the subject in which you are submitting your extended essay.

## Compiling and organizing your data and information

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

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

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

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

You can use an appendix to include supplementary material, for example, the transcript of an interview, a list of survey questions or a set of raw data. But be aware that examiners are not required to read information presented in an appendix or in non-bibliographical footnotes. If the information is essential to your argument or discussion, it must be included in the text of the essay itself.

## Writing your essay: The documentation and presentation stage

### A step-by-step approach

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

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

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

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

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

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

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

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

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

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

Be aware of writing conventions in your subject. In some subjects, much evidence is based on direct quotation from primary and secondary sources. In other subjects, direct quotation is rarely used and summarizing and paraphrasing of what other people have said and found is far more common. If you are summarizing or paraphrasing someone else's thoughts and ideas, especially if your summary continues through several sentences, be sure to make clear:

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

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

For example:

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

Instead of:

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

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

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

Thunberg, Greta (2019). "I have a dream that the powerful take the climate crisis seriously. The time for their fairytales is over". Address to US Congress, 18 September 2019, quoted in *The Independent* newspaper. <https://www.independent.co.uk/voices/greta-thunberg-congress-speech-climate-change-crisis-dream-a9112151.html>

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

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

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

## Word count

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

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

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

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

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

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

**Table 5** *Word count techniques and strategies*

## Proofreading

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

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

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



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

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

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

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

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

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

- Does the table of contents show the correct page numbers for the sections?
- Are illustrations and graphics placed where you want them?
- Are the captions of these illustrations in the right place?
- Is the font(s) consistent throughout?
- Is line spacing consistent throughout?

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

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

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

## The assessment criteria and your extended essay

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

### Understanding the assessment criteria

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

This criterion is all about the framework for your essay

The question explains the focus of the criterion

These three strands must feature in your essay

Aim to match the descriptors in the highest markband (5–6)

<b>Criterion A: Framework for the essay</b>	<b>Guiding question:</b> Do the research question, research methods and structural conventions followed provide an effective framework for the essay?			
	<b>Note:</b> If the work does not reach a standard outlined by the performance level descriptors, 0 marks are awarded for this criterion.			
	<b>1–2 marks</b>	<b>3–4 marks</b>	<b>5–6 marks</b>	
	<b>Research question</b>	A research question is stated but it lacks relevance to the topic of investigation, clarity or focus.	The research question is relevant to the topic of their investigation and clear but only partially focused in relation to the scope of the essay.	The research question is relevant to the topic of investigation, clear and focused in relation to the scope of the essay.
	<b>Research methods</b>	Research methods are used, but these are mostly unsuitable for the research question.	Research methods that are mostly suitable for the research question are explained and applied with partial effectiveness.	Research methods that are suitable for the research question are explained and applied effectively.
	<b>Structure</b>	Structural conventions are present in the essay but these do not support communication of the research.	Structural conventions used in the essay support some aspects of the communication of the research.	Structural conventions used in the essay effectively support communication of the research.

Note that the descriptors incrementally differentiate with each markband

### How do examiners apply the criteria?

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

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

*Using the assessment criteria*

## Approaches to learning and your extended essay

Approaches to learning skills	Brief description	Points to consider
<b>Thinking skills:</b> <b>Metacognition</b>	<p>Improving metacognition (awareness and understanding of your own thought processes) through your extended essay experience provides a foundation for improving all other skills.</p>	<ul style="list-style-type: none"> <li>• The extended essay is a space where you can improve metacognitive awareness, helping you to become more aware of the ways in which you process information, find patterns, build conceptual understandings and remember key facts and ideas.</li> <li>• Once you are aware that you are using techniques and strategies to perform the tasks associated with your extended essay, you are encouraged to consider whether there are more effective or efficient ways to achieve those same outcomes.</li> <li>• You are also encouraged to try new ways of learning and to evaluate the results.</li> </ul>
<b>Thinking skills: Critical thinking</b>	<p>Critical and creative thought is an integral aspect of writing an extended essay.</p>	<ul style="list-style-type: none"> <li>• In the extended essay, you can demonstrate a deep understanding of a specific area of research,</li> </ul>

examining it critically as you develop your discussion and argument.

- As you carry out your research, you engage with different sources of information and data and are exposed to a range of new perspectives.
- You need to engage with your research in an analytical and evaluative way.
- To provide a balanced perspective, you must be critical of the sources you use, and also try to think of ways your own arguments could be critiqued.
- You must be self-critical of your own work and be able to derive counterarguments and evaluate whether your research methods are as effective as they could be.
- You should propose how any limitations could be reduced and how you could extend your research to provide a clearer answer to your research question.

<b>Thinking skills: Reflection</b>	<p>Reflection throughout your extended essay experience allows you to become aware of the approaches to learning skills you have developed and how you can transfer these skills into other areas of your studies and use them in the future.</p>	<ul style="list-style-type: none"> <li>• Writing RRS journal entries and keeping track of research undertaken and interviews carried out will be an invaluable reflection aid at the end of the process.</li> <li>• Consider how you demonstrated strengths yet found other areas challenging in the extended essay process. For example, how did you learn from mistakes and improve the way you research and write?</li> <li>• One good point of focus for the three mandatory reflection sessions is what you are learning from your extended essay experience as a researcher and writer.</li> <li>• Reflection is developed through structured reflection sessions with supervisors. These allow you to articulate what you have learned and to identify how you can transfer skills learned to other areas of your studies and potential future experiences.</li> </ul>
<b>Research skills</b>		<ul style="list-style-type: none"> <li>•</li> </ul>

Training in the research process, including information literacy and media literacy skills, is vital for every student engaged in the inquiry-based learning underpinning the extended essay.

Feeling overwhelmed by information is natural, but by developing your research skills you can learn to narrow down the scope of your research and manage efficiently the volume of information it produces.

The research methods chosen need to be appropriate for your area of inquiry and choice of topic. You will also need to undertake a literature review that informs your knowledge and understanding in context and helps you to make choices about the relevance, reliability and validity of secondary source materials.

- To be an ethical researcher, it is important that you align with the principles and practices of academic integrity, following guidance from your supervisor.
- Read the *Extended essay guide* and support material carefully to understand what is involved in primary and secondary research and how these inform your extended essay.
- Research will help you to find different perspectives on your topic.
-

		Using an effective citation and referencing system is vital.
<b>Communication skills</b>	<p>In the extended essay, communication skills mostly concern giving a well-considered response to your research question accurately, reliably and concisely, in written form.</p> <p>You also need to be able to communicate your needs to your supervisor and be a good listener to any advice they share with you.</p>	<ul style="list-style-type: none"> <li>• Possible communication pathways experienced in the extended essay include student–expert communication, student–supervisor communication, and written communication.</li> <li>• You may need to reach out to send well-designed surveys to people and contact experts for interviews. This involves always using an appropriate tone or register, being responsive to any queries and being proactive in following up if needed.</li> <li>• For interviews, be organized, prepare questions beforehand, be proactive in asking follow-up questions and maintain a positive tone or attitude, respectful of the interviewee.</li> <li>• During sessions with your supervisor, develop your ability to communicate your research ideas,</li> </ul>



		<p>progress, successes and challenges, both orally and as a summative reflection on your RPF.</p> <ul style="list-style-type: none"> <li>• Be proactive in updating your supervisor on your progress and be responsive to their questions.</li> <li>• In your extended essay, demonstrate your ability to communicate your findings on a research topic of your choice in a specific way, in the format of an academic paper.</li> <li>• Formulate your arguments clearly and coherently and make well-evidenced conclusions.</li> <li>• Be clear and concise when writing; in your essay and RPF, you are working with word limits.</li> <li>• Your RRS can make use of a range of different communication techniques, digital and otherwise, to record your thoughts, ideas, progress, timelines and arguments.</li> </ul>
<b>Social skills: Collaboration</b>		<ul style="list-style-type: none"> <li>•</li> </ul>

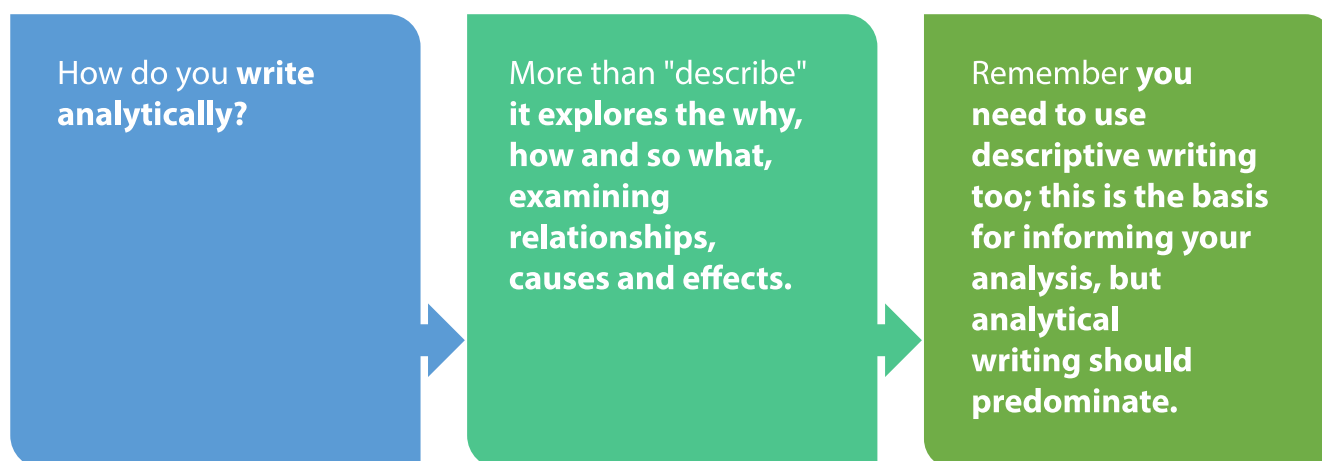
	<p>As you work on your extended essay, it is important that you are adept at both peer-related and teacher-related social communication. These skills are closely linked to attributes of the IB learner profile, such as being caring, principled and open-minded.</p>	<p>There are strong links between social skills and the affective skills associated with self-management, which is an important part of the extended essay experience.</p> <ul style="list-style-type: none"> <li>• You are managing a substantial task, not only in terms of workload and timelines but also in terms of intellectual challenge.</li> <li>• Supervisors can assist by suggesting a variety of strategies to help support and guide you through the process.</li> <li>• Developing a good working relationship with your supervisor is an important aspect of your skills development in this area.</li> </ul>
<b>Social skills: Affective skills</b>	<p>Affective skills provide you with the resilience to overcome hardship, enabling you to maintain your strength of character for long-term learning throughout your extended essay experience.</p>	<p>Here are some useful practices.</p> <ul style="list-style-type: none"> <li>• Managing states of mind</li> <li>• Practising focus and concentration</li> <li>• Practising strategies to develop mental focus</li> <li>• Practising strategies to overcome distractions</li> </ul>

		<ul style="list-style-type: none"> <li>• Demonstrating persistence and resilience</li> <li>• Practising delayed gratification</li> <li>• Emotion management</li> <li>• Practising strategies to reduce stress and anxiety</li> <li>• Practising self-motivation</li> <li>• Practising analysis of failure and attributing its causes</li> <li>• Practising and managing self-talk</li> <li>• Practising positive thinking</li> <li>• Practising “bouncing back” after adversity, mistakes and failures</li> <li>• Practising dealing with disappointment and unmet expectations</li> <li>• Practising dealing with change</li> </ul>
<b>Self-management skills: Organization</b>	<p>Supervisors provide support and guidance, but the overall extended essay experience is owned and driven by you. As such, being able to navigate the research and writing of the essay independently is important.</p>	<p>Aspects of the extended essay that develop your self-management skills include:</p> <ul style="list-style-type: none"> <li>• establishing a schedule of achievable deadlines, managing expectations</li> <li>•</li> </ul>

	<p>Immediate benefits of these skills are recognized when you move on to university and the workplace, where you are expected to manage your workloads and competing priorities.</p>	<p>guidance and support regarding study techniques, such as time management, note-taking, mind mapping and digital behaviour</p> <ul style="list-style-type: none"> <li>• maintaining an RRS as a planning and progress tool</li> <li>• supervision and reflection sessions that provide you with an opportunity to discuss your progress.</li> </ul>
--	--	---

## How to write analytically

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



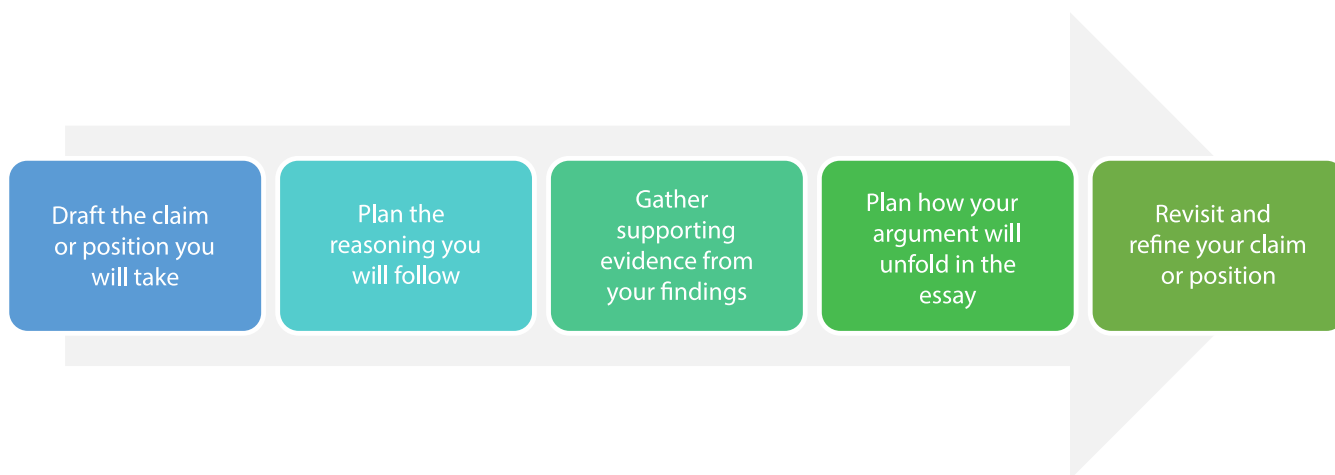
Descriptive writing	Analytical writing
<ul style="list-style-type: none"> <li>• <b>What? Where? Who?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Why? How? So what?</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Presents research</b></li> </ul>	<ul style="list-style-type: none"> <li>• Engages with research to develop and evidence an argument</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Provides pieces of information</b></li> </ul>	<ul style="list-style-type: none"> <li>• Explores relationships and patterns connecting the pieces of information</li> <li>• Uses these connections to support an argument and draw conclusions</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Provides context or background</b></li> </ul>	<ul style="list-style-type: none"> <li>• Digs deep into the significance and meaning of facts and ideas</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Explains ideas or theories</b></li> </ul>	<ul style="list-style-type: none"> <li>• Applies ideas or theories and evaluates their strengths and limitations</li> </ul>

### Examples of analytical writing

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

### The argument development model

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



## Final checklist: Have you done everything?

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

- Is it clear that you have responded to your research question with thorough analysis, discussion and evaluation?
- Are you satisfied that your line of argument is clear to the reader?
- Are you satisfied that your extended essay aligns with the principles and practices of academic integrity?
- Have you chosen a font suitable for on-screen reading?
- Do the font size and line spacing facilitate on-screen reading?
- Does your title page include the following?
  - Your candidate code
  - Your research question
  - The DP subject(s)
  - The interdisciplinary framework (if applicable)
  - The word count
- Have you prepared an accurate table of contents, with page numbers that match the page numbers in the text of your essay?

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



