

Academic honesty

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

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

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

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

Bibliography

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

Citations

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

Referencing

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

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

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

The IB's minimum requirements include:

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

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

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

Referencing online materials

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

Accessing sources: technology literacy—using electronic sources

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

Students should:

- know appropriate search engines to use
- not rely exclusively on sources found on the internet
- have a clear and focused research question to help them search more directly on the internet (given the amount of information available it is easy to be overwhelmed)
- critically evaluate the reliability and validity of the information presented on the internet
- keep a detailed record of all references, in accordance with the IB’s minimum requirements, ensuring that the URL of where the source was located is written down correctly. This includes recording the date that the site was accessed. The Researcher’s reflection space (RRS) is a good tool for supporting this practice.

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

Desirable source attribute	Questions to consider in order to determine this
Authority	<ul style="list-style-type: none"> • Is the author of the information identified? • If the author has chosen to remain anonymous, why might this be? Is this significant in terms of your evaluation of the information presented? • Is there enough information available to establish the author’s credibility? • Is the author affiliated to an academic institution or credible organization? • Is the author qualified to write about the subject?
Audience appropriate	<ul style="list-style-type: none"> • Who is the intended audience? • Does the information presented appropriately address the target audience? • Is the information relevant to your area of research?
Reliability and credibility	<ul style="list-style-type: none"> • Does the information appear to be valid and well researched? • Can it be supported by evidence?

Desirable source attribute	Questions to consider in order to determine this
	<ul style="list-style-type: none"> • Can the information be verified through other sources? • Is there a non-web equivalent of this material that could be used to verify the information? • Does the URL (web address) give you any indication of the source of the information?
Accuracy	<ul style="list-style-type: none"> • Is there an indication as to who has responsibility for the accuracy of the information provided? • Do you know if the information has been reviewed? • Are there grammatical, spelling or typographical errors? If there are, what does this suggest about the source? • Is there a bibliography?
Objectivity	<ul style="list-style-type: none"> • Is the information fact or opinion? • Is the language used free of bias? • Is the author's point of view objective or do they make it clear when they are expressing a personal opinion? • Is it a personal website? • Is the author affiliated with any institution or organization which might create a bias in the information?
Currency	<ul style="list-style-type: none"> • Is the information kept up-to-date? • Is there any indication of when the information was last updated? • Are any links up to date and working?

Using online encyclopedias and other similar information websites

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

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

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

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

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

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

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

The key point to remember, if students do use information that is found on the internet, is that they are responsible for ensuring that it is both reliable and accurate. One way a supervisor could facilitate this as a learning opportunity is in terms of a discussion with students about the quality of their sources. This

could take the form of asking students to produce an annotated bibliography as part of their Researcher's reflection space. An annotated bibliography provides a concise summary of each source and some assessment of its value and relevance. A good annotated bibliography will:

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

Use of computer programs

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

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