Environmental systems and societies: Subject-specific guidance

See also: EE generic guide and EE Teacher support materials

Overview

Environmental issues occupy a position of increasing significance on the world agenda. An EE in environmental systems and societies gives students an opportunity to explore an environmental topic of particular interest to them.

Since the subject is interdisciplinary, the student will need to select and integrate theoretical contexts and methodologies with those academic disciplines appropriate to the chosen topic.

In this respect, a systems approach is particularly effective, and students will be expected to use this approach in the analysis and interpretation of their data.

Choice of topic

Environmental systems and societies focuses upon the interaction and integration of “natural” environmental systems and human societies. An EE in this subject should give significant (though not necessarily equal) weight to both these dimensions.

The topic should allow the student to demonstrate some grasp of how environmental systems and societies function together. For example:

- studying pure ecological principles within the context of human interaction with the environmental system
- addressing philosophical approaches to the environment in relation to specific natural systems.

Students must ensure that their topic would not be better submitted under one of the specialized subject areas of the experimental or the human sciences. For example, topics focusing exclusively on human health, disease or politics are usually more appropriate to a single-discipline essay.

The topic must be open to analytical argument. If it lends itself only to a descriptive or narrative treatment, the student will be unable to achieve marks for critical thinking in the assessment criteria.

For example, it would be of minimal value simply to describe a given nature reserve. Instead, the topic should involve an evaluation of the reserve’s relationship with a local community, or a comparison of its achievement with its original objectives or with those of another conservation initiative.

The topic must enable students to construct and support an argument from their own analysis of the information, rather than simply reporting others’ analysed data.

Some topics are unsuitable for ethical or safety reasons, such as those requiring experiments that might:

- inflict pain on living organisms
- cause unwarranted environmental damage
• put pressure on others to behave unethically.

Experiments that pose a threat to health, possibly using toxic or dangerous chemicals, or putting oneself at physical risk during fieldwork, must also be avoided unless adequate safety apparatus and qualified supervision are available.

Students must adhere to the IB animal experimentation policy. They must familiarize themselves with this before undertaking an EE in environmental systems and societies.

The topic must have a sharp focus. If it is too broad, it will inevitably lead to a relatively superficial treatment that is likely to self-penalize the student from the start.

In topics that are too broad, it is unlikely that students will be able to produce any significantly fresh analysis, arguments or meaningful conclusions of their own.

Examples of topics

These examples are just for guidance. Students must ensure their choice of topic is focused (left-hand column) rather than broad (right-hand column).

<table>
<thead>
<tr>
<th>Focused topics</th>
<th>Broad topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ecological recovery of worked-out bauxite quarries in Jarrahdale, Western Australia</td>
<td>Environmental effects of mining</td>
</tr>
<tr>
<td>A comparison of the energy efficiency of grain production in the Netherlands and Swaziland</td>
<td>Efficiency of world food production</td>
</tr>
<tr>
<td>The comparative significance of different sources of carbon dioxide pollution in Nairobi and Mombasa</td>
<td>Impacts of global warming</td>
</tr>
<tr>
<td>Managing the environmental impact of paper use at a school in Quito (Ecuador)</td>
<td>Paper recycling</td>
</tr>
</tbody>
</table>

Treatment of the topic

Students can investigate their question by:

• primary data collection, eg from fieldwork, laboratory experimentation, surveys or interviews
• secondary data collection, eg from literature or other media
• a combination of primary and secondary data collection.

If collecting primary data, the student needs to select appropriate methods to do this and carry them out effectively.

Literature review

All students must demonstrate that they have engaged in background reading on their topic, regardless of their method of research.
Primary data
Before beginning the investigation, students should read about the different methods of collecting data and any pertinent research that may give them guidelines and useful points of theoretical comparison.

Students’ reading should be evident both in their essay and its bibliography. They can refer to what they have read to support their choice of methods or provide an academic context for their conclusions.

Secondary data
If the essay is focused on secondary data, students need to ensure their sources are:

- of a sufficient quantity and range
- all reliable.

Students should use only those sources that have academic credibility, whether in print or online. Their bibliography should be substantial, not limited to just a few sources.

Analysis
Whatever their sources of data, students must produce their own analysis and argue their own conclusions.

For some students this will happen more naturally if the essay is based on primary data.

If students are using secondary data, they must disregard any earlier analysis and conclusions. It is essential that students manipulate the data in their own way, or possibly synthesize it with other sources, in order to support their own research question.

Using the systems approach
The systems approach is a central theme in the environmental systems and societies syllabus and this should be reflected to some degree in the EE. The essay should include an attempt to model, at least partially, the system or systems in question.

The term “model” in this context includes, for example:

- mathematical formulas
- maps
- graphical representations
- flow diagrams.

Students should also use the terminology from the environmental systems and societies course, where appropriate.
Examples of topics, research questions and suggested approaches

Once students have identified their topic and written their research question, they can decide how to research their answer. They may find it helpful to write a statement outlining their broad approach. These examples are for guidance only.

<table>
<thead>
<tr>
<th>Topic</th>
<th>The ecological footprint of the school cafeteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>What overall estimate of the environmental impact of the school cafeteria can be made in terms of an ecological footprint?</td>
</tr>
<tr>
<td>Approach</td>
<td>An analysis of records and practical measurements assessing the inputs and outputs of the cafeteria, and a synthesis of data into a holistic model indicating the environmental impact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Architectural sustainability and the future of Vancouver Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>What forms of sustainable construction may be utilized in the future on Vancouver Island (Canada)?</td>
</tr>
<tr>
<td>Approach</td>
<td>An analysis of current sustainable building techniques and comparison of the environmental impacts of two options of sustainable housing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Revival of the gray wolf in the National Forest of Colorado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>Is the reintroduction of Canus lupus in the Pike and Isabel National Forests of Colorado (USA) possible, even with a significant cattle presence?</td>
</tr>
<tr>
<td>Approach</td>
<td>Presenting a potential reintroduction area and analysing, using secondary data, the viability of wolf introduction within the proposed area.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Topic</th>
<th>Comparing air pollution levels between a rural and an urban area in the UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>Is there a significant difference in air quality between central Cambridge and Sawston (UK)?</td>
</tr>
<tr>
<td>Approach</td>
<td>A fieldwork investigation using data loggers and probes to collect data. Comparison of the results with secondary data from different regions.</td>
</tr>
</tbody>
</table>

An important note on “double-dipping”

Students must ensure that their EE does not duplicate other work they are submitting for the Diploma Programme.

The environmental studies EE and internal assessment

In particular, an EE in environmental studies is not an extension of the internal assessment (IA) task. Students must ensure that they understand the differences between the two.

- For the IA there is a specific requirement to address a broad issue from the course and to develop a focused research question based on this issue. For the EE there is a greater emphasis on a detailed literature review that leads onto the research question.
• For the IA the findings of the study must be applied to offer a solution or proposal to address the broad issue initially identified by the student. This stage is not required for the EE.

• The IA is limited to a maximum of 2,250 words and therefore the scope of the investigation is smaller.

Supervisors play an important role here in guiding students on these distinctions. Students risk their diploma if academic misconduct is detected.

Interpreting the EE assessment criteria

Criterion A: Focus and method

(Strands: Topic, Research question, Methodology)

An EE in environmental systems and societies should focus upon the interaction of the natural environment and human societies. Students must ensure that the topic would not be better submitted under a subject area within the experimental or human sciences.

The topic should be precise and focused and clearly established in the research question, which must be posed as a question. For example, “The potential of residential solar power systems to meet the demands in Canberra, Australia” is better than “Efficiency of solar energy”.

The research question should not be understood as a statement of the topic but rather as a specifically expressed question that the research will attempt to answer. It leads on from the topic area chosen, for example: “To what extent can residential solar power systems meet the energy demands in Canberra, Australia?”

The question must encourage critical argument rather than a descriptive or narrative response.

Students should explain the significance of the research and indicate how the research question relates to existing knowledge.

They also need to demonstrate that the research has been well planned and that they have selected an appropriate approach to address the research question.

If the approach involves experimentation or practical fieldwork, a detailed description of the methodology used should be provided that would allow the work to be repeated.

The sources consulted must be sufficient and each must contribute to the research focus of the essay.

If the study is based on secondary data, students need to ensure that the selection of sources is wide and reliable. Students must be particularly aware of the potential unreliability of internet-based sources.

Criterion B: Knowledge and understanding

(Strands: Context, Subject-specific terminology and concepts)
The EE must demonstrate an effective understanding of the place of the research question in a broader environmental systems and societies context. For example, in an essay on the effects of a specific human activity on the environment, the student may use repeated measurements on the ground, satellite images or maps.

Students should show clear and perceptive links between their own study and the body of theoretical knowledge associated with the subject. The literature cited should predominantly come from acknowledged scientific sources and be applied effectively to support the student's argument.

Students need to show fluency in the use of appropriate environment-related terminology and avoid excessive use of jargon. Any technical terms that are used should be clearly explained. The student must demonstrate an understanding of these terms by using them appropriately within the text.

There should be a clear step-by-step and logical argument linking the raw data to the final conclusions.

Students should maintain a consistent linguistic argument throughout the essay.

Students are expected to use appropriate scientific and systems terminology, as employed in the Environmental systems and societies guide.

**Criterion C: Critical thinking**

(Strands: Research, Analysis and Discussion and evaluation)

Students can carry out their research using:

- data taken from literature sources
- data they have collected themselves.

Their research must be consistently relevant to the research question.

Students can demonstrate analytical skills in the selection, manipulation and presentation of any quantitative or qualitative data that they collect. These skills are well displayed in graphical representations, mathematical manipulations or flow diagrams.

Analytical skills may also be evident in the student’s ability to:

- select specific data from sources
- identify the data’s relevance and relationships to one another
- reorganize the data to support an effective verbal argument.

Evaluative skills will be apparent in the students’ reflections on the reliability and validity of the data gathered, and their subsequent interpretations.
Students should not select essays in which ideas are presented as a simple list of the pros and cons of the topic followed by an overall summary as this shows a lack of true analysis. For example, essays comparing two different sources of energy tend to be largely descriptive in nature with no real argument. These do not provide any evidence of analytical skills and will therefore be compromised under this assessment criterion.

Students can include their person opinions but must substantiate them with available evidence.

Students must evaluate their own research, particularly in terms of unresolved issues and further research questions that may be generated by their study.

**Criterion D: Presentation**

(Strands: Structure, Layout)

This criterion relates to the extent to which the essay conforms to accepted academic standards in relation to how research papers should be presented. It also relates to how well these elements support the reading, understanding and evaluation of the essay.

Students should provide a section and subsection structure to their essays, with appropriate informative headings.

Any charts, images or tables from literature sources included in the essay must be carefully selected labelled and referenced. They should only be used if they are directly relevant to the research question, contribute towards the understanding of the argument and are of a good graphic quality.

Large tables of raw data collected by the student are best included in an appendix, where they should be carefully labelled. Tables of processed data should be designed to clearly display the information in the most appropriate form. Graphs or charts drawn from the analysed data should be selected to highlight only the most pertinent aspects related to the argument. Too many graphs, charts and tables will distract from the overall quality of the communication. Only processed data that is central to the argument of the essay should be included in the body of the essay, as close as possible to its first reference. Tables should enhance a written explanation; they should not themselves include significant bodies of text. If they do, then these words must be included in the word count.

If an experimental method is long and complex, students may place the protocol in an appendix and just include a summary of the methods in the body of the essay. Students who choose this option must ensure that the summary contains all elements that contribute to the quality of the investigation, since appendices are not an essential section of the EE and examiners are not required to read them. In other words, any important information that contributes to the evaluation of the method must be in the body of the essay and not the appendix.

For experiments where numerical results are calculated from data obtained by changing one of the variables, it is generally good practice to show one example of the calculation in the main body of the essay. The remainder can be displayed in tabular or graphical form.
Any material that is not original must be carefully acknowledged, with specific attention paid to the acknowledgment and referencing of quotes and ideas. This acknowledgment and referencing is applicable to audiovisual, material, text, graphs and data published in print and electronic sources. If the referencing does not meet the minimum standard as indicated in the guide (name of author, date of publication, title of source and page numbers as applicable), and is not consistently applied, work will be considered as a case of possible academic misconduct.

A bibliography is essential and has to be presented in a standard format. Title page, table of contents, page numbers, etc must contribute to the quality of presentation.

The essay must not exceed 4,000 words of narrative. Students should be aware that examiners will not read beyond the 4,000-word limit, nor assess any material presented thereafter. Graphs, figures, calculations, diagrams, formulas and equations are not included in the word count.

**Criterion E: Engagement**

(Strands: Reflections on planning and progress)

This criterion assesses the student’s engagement with their research focus and the research process. It will be applied by the examiner at the end of the assessment of the essay, and is based solely on the candidate’s reflections as detailed on the RPPF, with the supervisory comments and extended essay itself as context.

Students are expected to provide reflections on the decision-making and planning process undertaken in completing the essay. Students must demonstrate how they arrived at a topic as well as the methods and approach used. This criterion assesses the extent to which a student has evidenced the rationale for decisions made throughout the planning process and the skills and understandings developed.

For example, students may reflect on:

- the approach and strategies they chose, and their relative success
- the **Approaches to learning** skills they have developed and their effect on the student as a learner
- how their conceptual understandings have developed or changed as a result of their research
- challenges they faced in their research and how they overcame these
- questions that emerged as a result of their research
- what they would do differently if they were to undertake the research again.

Effective reflection highlights the journey the student has engaged in through the EE process. Students must show evidence of critical and reflective thinking that goes beyond simply describing the procedures that have been followed.

The reflections must provide the examiner with an insight into **student** thinking, creativity and originality within the research process. The **student** voice must be clearly present and demonstrate the learning that has taken place.
Literature and performance: Subject-specific guidance

See also: EE generic guide and EE Teacher support materials

Overview

A literature and performance extended essay (EE) gives students an opportunity to explore in detail the relationship between a written text and its performance. Students are able to focus on the transformation from one form to another and examine the creative and critical relationship that exists between both.

The adaptation may take many forms: theatre, film, dance, opera and even video games.

Although an EE in this subject may involve an element of creativity, analysis and reasoned argument are fundamental to success.

Choice of topic

A literature and performance essay must include:

- a balanced consideration of the written text and the performance
- an exploration of the ways they function in a creative and critical relationship with one another.

Students should provide those materials that give a good account of both the text and its transformation into any of the genres mentioned in “Overview” above. These materials may include, for example, diagrams and photographs, but students should be aware that the heart of the essay is their written discussion of both forms.

Crucially, the topic should be susceptible to critical analysis. The EE’s central purpose is one of research and analysis. Students must present their perceptions in a reasoned argument well supported by evidence.

Students should make clear the temporal and spatial contexts of both elements: text and transformed production. This will involve a consideration as far as is necessary of the work’s:

- history—both literary and theatrical
- geography
- linguistic circumstances
- ethnic circumstances
- socio-economic circumstances.

While formal elements are likely to be in the foreground, they must not be treated in isolation.

Finally, the essay should indicate, explicitly or implicitly, the appropriate theoretical understanding or awareness of the chosen genres, and should employ terminology appropriate to the form where relevant.

Examples of topics

These examples are just for guidance. Students must ensure their choice of topic is focused (left-hand column) rather than broad (right-hand column).
<table>
<thead>
<tr>
<th>Focused topics</th>
<th>Broad topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A study of the evolution of identity in a theatrical adaptation of <em>The Color Purple</em></td>
<td>Identity in <em>The Color Purple</em></td>
</tr>
<tr>
<td>The way narrative motifs in <em>The Berlin Stories</em> present themselves theatrically in the musical <em>Cabaret</em></td>
<td>Narrative motifs in the musical <em>Cabaret</em></td>
</tr>
<tr>
<td>A study of the portrayal of Christopher Boone in the stage adaptation of <em>The Curious Incident of the Dog in the Night-Time</em> in comparison with the original literary characterization</td>
<td>A study of Christopher in <em>The Curious Incident of the Dog in the Night-Time</em></td>
</tr>
</tbody>
</table>

**Treatment of the topic**

The focus of the EE must be on the research and critique of an existing adaptation. Students are not permitted to adapt a text themselves.

The student will first need to identify a situation where a text has been adapted to some form of performance, whether this be theatre, film, opera, dance, music or other contemporary forms of transformation.

**The text**

The text must be fully available to the student and referenced as such. It must be of sufficient depth and complexity to enable the student to apply critical thinking skills.

Genres for the text may range widely, with poetry, fiction and non-fiction as the most likely starting point. Appropriate literary works may be chosen from any source including the Diploma Programme prescribed list of authors.

Forms such as flash fiction, fan fiction, interactive digital texts and the like may also be viable. Their suitability to this research task must be explored by the student in order to fully satisfy the criteria of the EE. The student should do this in consultation with their supervisor.

Students may choose to use two or more texts, but should always aim for depth rather than breadth.

**The adaptation for performance**

There needs to be some form of adaptation that can be identified as having its roots in a particular text or even a set of short texts. Such adaptations may take many forms.

Students need to work with both the primary text and the adaptation. They will explore the decisions that have been made for the performance, both generally and in the specific details. The process and the outcomes will form the basis of the student’s research question to be explored in the essay.

The focus of discussion in the essay must be:

- critical analysis of both artistic forms—text and performance
- the process of transformation from one to the other, and
• the effects of this transformation.

A narrative approach—retelling the content and sequence of either form—will not meet the demands of the essay.

The student is permitted to include visual material to convey the nature of the transformation, insofar as it is needed to support the argument. All visual material should be clearly annotated to explain its relevance.

Secondary sources, both print and digital, relating to both text and performance, will have a "secondary" role, as the focus of the discussion must be the student’s own exploration and evaluation of the two elements. The purpose of the research undertaken is for students to deliver a critical argument based on their perceptions of the transformation and how meaning and experience are shaped by establishing a relationship between the two forms.

Examples of topics, research questions and suggested approaches

Once students have identified their topic and written their research question, they can decide how to research their answer. They may find it helpful to write a statement outlining their broad approach.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Jerome Robbins' choreography of West Side Story and William Shakespeare’s Romeo and Juliet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>The question could be phrased as: “How does the Jerome Robbins choreography of West Side Story transform the original meaning and effect of Shakespeare’s Romeo and Juliet?”</td>
</tr>
<tr>
<td>Approach</td>
<td>The student will need to identify some central aspects of Shakespeare’s play and point out their presence in West Side Story. Then the choreography will need to be closely examined to discern and evaluate how dance has been used to transform and heighten the meanings and emotional effects of the original play. Presumably the student will possess the appropriate vocabulary for discussing choreography.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Benjamin’s Britten’s transformation of The Turn of the Screw into an opera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>What elements of the original James story has Britten successfully delivered in the operatic version?</td>
</tr>
<tr>
<td>Approach</td>
<td>The student will need to select some elements of the original story that Britten has chosen as his focus, analyse how the opera has presented these, and with what degree of success, judged in terms of such elements as suspense and atmosphere.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Costuming in Flaubert’s portrayal of Emma in Madame Bovary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>How is Flaubert’s portrayal of Emma in Madame Bovary delivered and affected by the costuming in the film version by Claude Chabrol (1991) or that of Vincente Minnelli (2014)?</td>
</tr>
<tr>
<td>Approach</td>
<td>The question asks the student to look carefully first at Emma in the novel and how the details of her dress contribute to her overall portrayal in tandem with her actions, words and gestures. Then, choosing a film, the student will need to cite particular instances of costuming, critiquing the comparative outcomes as they are viewed by modern audiences. Presumably, some evaluative comments might well ensue from this study.</td>
</tr>
<tr>
<td>Topic</td>
<td>Sherlock Holmes and Watson as they are depicted in the current television production of <em>Elementary</em></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Research question</td>
<td>How have the changes in Watson in the television production <em>Elementary</em> affected the portrayal of both Holmes and Watson?</td>
</tr>
<tr>
<td>Approach</td>
<td>The student will need to consider Conan Doyle’s delivery of the relationship between Holmes and Watson, exploring some of the critical work that has been written on this aspect of the fiction. The treatment of <em>Elementary</em> will then need to analyse the quality of this new dynamic, critiquing how it affects the partnership.</td>
</tr>
</tbody>
</table>

An important note on “double-dipping”
Students must ensure that their EE does not duplicate other work they are submitting for the Diploma Programme. For example, the same work cannot be used for the EE that has formed the basis of the written coursework on major playwrights in performance.

The literature and performance EE and other assessment components
An EE in literature and performance is not an extension of any other assessment task for the subject.
Students must ensure that they understand the clear distinction between these assessment tasks and the EE.

*Supervisors play an important role here in guiding students on these distinctions. Students risk their diploma if academic misconduct is detected.*

Interpreting the EE assessment criteria

**Criterion A: Focus and method**

*(Strands: Topic, Research question, Methodology)*

Students embarking on a research question for literature and performance should be aware that this is an interdisciplinary course. The research question and angle of investigation must involve the relationship between a written text and its adaptation into a performative piece. The adaptation may take many forms: theatre, film, dance, opera and even video games.

Students are expected to explore a question about the nature of the original text and the ways in which it is remediated as performance. The essay should present a clear argument based on the student’s view of the transformative process. The angle of analysis should be made clear from the outset of the EE and subsequent development should stay within this critical frame.

Students should not take on too wide or complex an enterprise, such as two very different transformations of a text. The text itself needs to receive ample critical attention so that the analysis of the performative aspect is well grounded.

**Criterion B: Knowledge and understanding**

*(Strands: Context, Subject-specific terminology and concepts)*
Context needs to be a part of the investigation, both that of the original text and of the adaptation. Students will need to carry out background research to ensure that their analysis of text and adaptation is located in time and place.

Students need to display a solid grasp of the text as well as the choices made in the process of adaptation and their outcome. The last element, the effect, is often the best cue as to the student’s knowledge and understanding of the materials involved in the transformation.

Students must demonstrate an understanding and knowledge of both literature and performance. They should also address some of the theoretical models governing the adaptation.

Students should use terminology appropriate to both modes of delivery throughout the essay.

**Criterion C: Critical thinking**

(Strands: Research, Analysis and Discussion and evaluation)

Students should make the angle of analysis clear from the outset of the EE and subsequent development should stay within this critical frame. One measure of success in critical thinking will be the actual choice of the two forms: first the text, and then the adaptation that is paired with it. The student will need to display some initiative in these choices, as well as provide a critical examination that validates them.

The student will need to be well grounded in a careful reading and viewing. They should be ready to give a good account of the text itself with analysis appropriate to its genre. They must also bring some skills in terminology and analysis to the adaptation, addressing its conventions and its delivery.

Students should use critical perspectives and secondary source materials judiciously. They must take care in selecting and using these, so that they do not overshadow their own critical insights.

**Criterion D: Presentation**

(Strands: Structure, Layout)

This criterion relates to the extent to which the essay conforms to accepted academic standards in relation to how research papers should be presented. It also relates to how well these elements support the reading, understanding and evaluation of the essay.

Generally, the essay should be presented as a continuous text. However, given the EE’s interdisciplinary nature and dual focus (the text and the transformation of the text) students may opt to give it a sections and subsections structure, with informative subheadings, if this seems appropriate. The subheadings should not distract from the overall structure of the essay or argument presented.

Any charts, images or tables from literature sources included in the EE must be carefully selected and labelled. They should only be used if they:

- are directly relevant to the research question
- contribute towards the understanding of the argument
- are of a good graphic quality.
Students must take care in their use of appendices as examiners are not required to read them. All information with direct relevance to the analysis, discussion and evaluation of the EE must be contained in the main body of the essay.

Any material that is not original must be carefully acknowledged, with specific attention paid to the acknowledgment and referencing of quotes and ideas. This acknowledgment and referencing is applicable to audiovisual material, text, graphs and data published in print and electronic sources. If the referencing does not meet the minimum standard as indicated in the guide (name of author, date of publication, title of source and page numbers as applicable), and is not consistently applied, work will be considered as a case of possible academic misconduct.

A bibliography is essential and has to be presented in a standard format. Title page, table of contents, page numbers, etc must contribute to the quality of presentation.

The essay must not exceed 4,000 words of narrative. Other visual materials are not included in the word count. Students should be aware that examiners will not read beyond the 4,000-word limit, nor assess any material presented thereafter.

**Criterion E: Engagement**

*(Strands: Reflections on planning and progress)*

This criterion assesses the student’s engagement with their research focus and the research process. It will be applied by the examiner at the end of the assessment of the essay, and is based solely on the candidate’s reflections as detailed on the RPPF, with the supervisory comments and extended essay itself as context.

Students are expected to provide reflections on the decision-making and planning process undertaken in completing the essay. Students must demonstrate how they arrived at a topic as well as the methods and approach used. This criterion assesses the extent to which a student has evidenced the rationale for decisions made throughout the planning process and the skills and understandings developed.

For example, students may reflect on:

- the approach and strategies they chose, and their relative success
- the *Approaches to learning* skills they have developed and their effect on the student as a learner
- how their conceptual understandings have developed or changed as a result of their research
- challenges they faced in their research and how they overcame these
- questions that emerged as a result of their research
- what they would do differently if they were to undertake the research again.

Effective reflection highlights the journey the student has engaged in through the EE process. Students must show evidence of critical and reflective thinking that goes beyond simply describing the procedures that have been followed.
The reflections must provide the examiner with an insight into student thinking, creativity and originality within the research process. The student voice must be clearly present and demonstrate the learning that has taken place.
World Studies: Subject-specific guidance

See also: EE generic guide and EE Teacher support materials and the IB World studies extended essay process video.

Overview

An EE in world studies gives students the opportunity to undertake an interdisciplinary study of an issue of contemporary global significance.

“Interdisciplinary” in this context refers to research that draws on the methods, concepts and theories of two Diploma Programme subjects. It is strongly recommended that students are undertaking a course of study in at least one of the subjects chosen for their essay.

“Contemporary” in this context refers to events that took place during the student’s lifetime.

Students are required to

- identify an issue of global importance
- identify a local manifestation of the issue of global importance
- develop a clear rationale for taking an interdisciplinary approach and use the conceptual framework and vocabulary of two Diploma Programme subjects.

This provides an opportunity for students to conduct independent interdisciplinary research (not necessarily primary research) that draws on Diploma Programme subjects and integrates them to produce a coherent and insightful analysis of the global issue they choose to investigate.

It should be noted that law and education are not Diploma Programme subjects.

World studies EEs are registered in one of six areas of study: these are not the same as the Diploma Programme subjects. They are:

- Conflict, peace and security
- Culture, language and identity
- Environmental and/or economic sustainability
- Equality and inequality
- Health and development
- Science, technology and society.

The interdisciplinary essay is designed to provide students with the opportunity to:

- engage in, and pursue, a systematic process of research appropriate to the topic—a process that is informed by knowledge, concepts, theories, perspectives and methods from two chosen subjects
- develop research and communication skills—including the ability to communicate with readers who have a background in more than one subject or discipline
• develop the skills of creative and critical thinking—particularly those skills involved in integrating concepts, theories, perspectives, findings or examples from different subjects to develop new insights or understandings
• experience the excitement of intellectual discovery—including insights into how different subjects complement or challenge one another when used to address the same topic or issue.

Furthermore, in line with the IB’s mission, the world studies EE seeks to advance students’ emerging global consciousness. This comprises:

• a sensitivity to local phenomena as manifestations of broader developments on the planet
• the capacity to think in flexible and informed ways in understanding issues of global significance
• a developing perception of the student’s own identity (self) as a global actor and member of humanity, capable of making a positive contribution to the world

Choice of topic
Many topics are potentially suitable for a world studies EE. The chosen topic must:

• address an issue of global significance
• invite an interdisciplinary approach.

The most successful topics reveal connections between specific or local places, people, phenomena or experiences and the larger global framework in which they take place.

Topics must invite a critical examination of the issue in light of relevant theories, methods and arguments in two subjects.

When choosing a topic, students should remember that it must encourage analysis and evaluation rather than description, unsupported generalizations and value judgments.

Students must also ensure that they can meet the various assessment criteria within the 4,000-word limit. They should avoid topics that are too broad in scope to permit an in-depth study within the word limit. A limited topic thoroughly researched and with a clear focus is preferable to a broad topic that can only be examined superficially.

Examples of topics
These examples are just for guidance. Students must ensure their choice of topic is focused (left-hand column) rather than broad (right-hand column).

<table>
<thead>
<tr>
<th>Focused topics</th>
<th>Broad topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sustainability of high-speed rail travel in China: the case of the Beijing–Tianjin high-speed railway line</td>
<td>Sustainability and rail travel</td>
</tr>
<tr>
<td>How street art helped to transform black South African communities during apartheid</td>
<td>Theatre and disadvantaged communities</td>
</tr>
<tr>
<td>Focused topics</td>
<td>Broad topics</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>An examination of the extent to which subsistence farmers in the Himalayan foothills are influenced by short-term economic motivations and long-term environmental sustainability in determining their farming practices</td>
<td>Subsistence farming in the Himalayas</td>
</tr>
<tr>
<td>The extent to which the policies of the Thai government have prohibited the Karen ethnic group from progressing alongside the rest of Thai society</td>
<td>Government policies that lead to inequality</td>
</tr>
</tbody>
</table>

Students may use journalistic or visual material, interviews or data from the internet, but their EEs should not be based solely on such sources. Students should display a knowledge and understanding of relevant theories, research methods or findings in the selected Diploma Programme subjects.

**Treatment of the topic**

Students should craft a specific research question that is:

- interesting to them
- challenging
- sufficiently narrow to allow them to examine an issue in depth
- manageable within 4,000 words.

The question should also require the student to collect or generate information and/or data for analysis and evaluation.

**Local case study**

The local case study can have a number of functions:

- It may illustrate a local manifestation of the issues of global importance.
- It may offer an opportunity to explore the complexities of the issue in a manageable way.
- It may document “best practices” and offer lessons beyond the local focus.

Occasionally, students may choose to compare two local manifestations or examples from different contexts.

**Subject knowledge**

It is expected that students will have a good grounding in at least one of the Diploma Programme subjects used in the EE.

If they are unfamiliar with a discipline used, they must access its syllabus so that they can identify the concepts, terminology and modes of thinking required for their EE. (Many IB syllabuses contain lists of key concepts.)
The student’s supervisor should be qualified to give advice in at least one of the subjects used by the student. If other subjects are touched upon in the essay and there are appropriate specialists available in the school, students are encouraged to consult them about research, concepts and approaches.

However, each student must only have one main supervisor who takes on the role as outlined in the introduction to this guide.

**Researcher’s reflection space**

The researcher’s reflection space (RRS) is strongly recommended as part of the world studies EE process. It provides a space for candid reflection on the issue being studied and how it relates to a student’s own world view, values and aspirations as global citizens.

The RRS gives students an opportunity to reflect on their work and its progress and reversals in personally meaningful ways. It can take the form of a notebook or a blog.

It is created by students to:

- record notes on their readings
- gather topic-related media clips
- paste selected and marked readings
- reflect upon interviews, data and emerging findings.

Most importantly, it is a space where students can reflect candidly upon their own views and lifestyles, feelings, values, aspirations and commitments as global citizens in relation to the topic under study.

The world studies EE offers an opportunity for students to develop their global consciousness. The RRS is the place where particular moments of such development are documented, enabling students to reflect upon and deepen their personal connections to the problems under study and gain an insight into whether, or how, learning about contemporary world issues informs their values, beliefs or commitments in this key phase of their lives. The best examples of RRS exhibit students’ ongoing realization and reflection upon who they are as local, regional and global actors.

The RRS is a document for the student. Students may choose to share a section of the space with their teachers in preparation for a meeting. Supervisors may assign focused reflection tasks for students to include in their space but, fundamentally, this is a student-led space to be owned by the students.

It is intended that a well-planned RRS should arise naturally out of the research process and should not involve any extra work.

Before providing examples of typical world studies EE layouts for guidance, it is worth considering some pitfalls to avoid. These include essays that:

- rely on basic information from the internet and everyday common sense rather than employing concepts, theories and findings from Diploma Programme subjects
• merely juxtapose theories, methods and findings from different subjects without any attempt to show how they come together to address the topic in a new or compelling way
• do not make clear the underlying Diploma Programme subjects or justify the subjects chosen
• do not give a strong sense of why the inquiry is important and how it links with a global issue but merely offer a description of the problem under study
• define the problem too broadly, given the 4,000-word limit for the essay, and therefore offer a superficial account.

The examples of world studies EEs below are intended as guidance only. They illustrate that multifaceted questions should be encouraged rather than broad ones.

In each case the essay title provides a sharp focus on an issue of global significance. The research question further articulates the focus of the study.

<table>
<thead>
<tr>
<th>Topic</th>
<th><strong>Culture, language and identity: music as an expression of political dissent</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>To what extent can music be used as a method of political expression against oppressive regimes: a comparison of Shostakovich’s work (1932–45) under Joseph Stalin’s regime with Malek Jandali’s work (2000–) under Bashar al-Assad’s regime.</td>
</tr>
<tr>
<td>Approach</td>
<td>By analysing nine musical parameters of two composers as expressions of dissent under repressive regimes in different historical eras, and the contexts in which they were written and their reception, the student draws meaningful comparisons and contrasts using the skills of the historian and those of musical notation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th><strong>Health and development: multiple sclerosis and latitude</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>To what extent do geographical factors play a role in the distribution of multiple sclerosis cases in Canada and Iran?</td>
</tr>
<tr>
<td>Approach</td>
<td>The essay challenges the suggested theory that MS is associated with high latitudes by looking at recent studies of Iran. Genetic factors and vitamin deficiency (biology), migration and environment (geography) are evaluated to enhance understanding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th><strong>Health and development: economic growth and obesity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question</td>
<td>How has globalization contributed to dietary changes and obesity in developed and developing countries?</td>
</tr>
<tr>
<td>Approach</td>
<td>The essay considers metabolic systems and the role of the endocrine system (biology) and recent qualitative and quantitative changes in diet in Liberia, Brazil and the USA to measure energy imbalance and a nutrition transition resulting from globalization (geography/economics).</td>
</tr>
</tbody>
</table>

**An important note on “double-dipping”**

Students must ensure that their EE does not duplicate other work they are submitting for the Diploma Programme. For example, any data, material or research used in the submission of an assessment task for another subject must not be used in the completion of a world studies EE.
Supervisors play an important role in guiding students in this. Students risk their diploma if academic misconduct is detected.

Interpreting the EE assessment criteria

Criterion A: Focus and method

(Strands: Topic, Research question, Methodology)

The student should identify an issue (topic) of global significance and examine it through one or more local manifestations.

The significance and importance of the global issue must be established in the introduction (this might take rather longer than in other subjects).

In this way the issue is accurately and effectively communicated.

The research question should appropriately connect the global issue to the local manifestation. Early in the essay, students should:

• explain or justify their research question
• identify the IB academic disciplines and appropriate key concepts they are going to use
• explain why the research question requires an interdisciplinary approach and indicate the benefits of an integrative approach
• highlight the materials, sources, data and evidence from the two subjects they will be using, with some explanation of why they have been chosen.

Students must show clearly that they have chosen a suitable range of relevant sources. These could be primary or secondary.

Primary sources include:

• works of art
• film
• music
• interviews
• self-generated survey data
• reports of experiments.

Secondary sources should be capable of conveying academic context or be susceptible to academic evaluation, though journalistic, online and media sources are permitted.

Students’ sources must provide sufficient evidence to develop and support arguments that are relevant to the research question.
If the topic or research question is deemed inappropriate for the subject in which the essay is registered, no more than four marks can be awarded for this criterion. This applies to WSEE essays where the issue is not contemporary. (“Contemporary” is defined here as an issue that is relevant during the student’s lifetime.)

Criterion B: Knowledge and understanding

(Strands: Context, Subject-specific terminology and concepts)

Students should select concepts, theories, perspectives, findings or examples from two Diploma Programme subjects. They need to demonstrate a sound grasp of:

- the knowledge bases of the different subjects
- modes of understanding of the different subjects
- methods of communication of the different subjects.

Students should demonstrate familiarity with the terminology and usages of the subjects. They should place the issue in academic context and where possible indicate the limitations of individual subjects in terms of considering the issue.

The award of achievement levels of 2 or above requires evidence that two subjects have been used in the essay. Higher levels (3 or 4) require increasingly explicit awareness of the strengths and limitations of the individual subject concepts or ideas.

Students should show that they understand the conceptual framework of both subjects, even of one they are not studying for the Diploma Programme. For example, if a student is using history to explore an issue, they must use the skills of the historian such as establishing causation, partiality, reliability of sources etc. Simple narrative is never enough.

Use of language must be effective and include terminology and concepts relevant to the issue and subjects under study. Students should define contested or ambiguous terms when necessary. The essay should be accessible and acceptable to audiences from the different subjects being integrated.

If the topic or research question is deemed inappropriate for the subject in which the essay is registered, no more than four marks can be awarded for this criterion. This applies to WSEE essays where the issue is not contemporary. (“Contemporary” is defined here as an issue that is relevant during the student’s lifetime.)

Criterion C: Critical thinking

(Strands: Research, Analysis and Discussion and evaluation)

Research can incorporate the methodologies of the two subjects chosen, such as:

- experimental laboratory work
- library and online research
- generation of primary data through questionnaires
• or many others.

Research should be undertaken with the same integrity as within individual subjects. It must be relevant to the research question. Students should address the value and limitations of research materials.

Students should analyse and evaluate their evidence in a manner appropriate to the research question and the Diploma Programme subjects employed in the essay.

Students should present their ideas in the form of a logical and coherent argument that is relevant to the research question. The argument should be substantiated with evidence and examples. Straightforward descriptive or narrative accounts that lack analysis do not usually advance an argument and should be avoided.

Successful interdisciplinary essays require an integrative argument or explanation—that is, the different subjects should be coherently brought together to address the question through, for example:

• a complex causal explanation
• a leading metaphor
• a model
• an analogy.

At the highest level, students should demonstrate:

• effective and nuanced analysis and evaluation of information and findings
• evaluation of the success and limitations of their own integrative approach to the issue.

In a world studies EE there is an element of risk: it may be that evaluation of the findings of a two-subject approach leads to new and original conclusions, or that conclusions are uncertain, or that it is not possible to make conclusions. Failure to integrate the two subjects’ analyses into the conclusion or to reach a firm conclusion will not prevent the award of high marks: no news is still news so long as it is true to the research question. Indeed, such outcomes can be used to review opportunities for further research and research lessons learned.

If the topic or research question is deemed inappropriate for the subject in which the essay is registered, no more than three marks can be awarded for this criterion. This applies to WSEE essays where the issue is not contemporary. (‘Contemporary’ is defined here as an issue that is relevant during the student’s lifetime.)

**Criterion D: Presentation**

(Strands: Structure, Layout)

This criterion assesses the extent to which the presentation follows the standard format expected for academic writing and the extent to which this aids effective communication.
Students may provide a section and subsection structure to their essays, with informative headings, if appropriate to the topic of the essay. Subheadings should not distract from the overall structure of the essay.

Use of charts, images and tables

Any charts, images or tables from literature sources included in the essay must be carefully selected and labelled. They should only be used if they:

- are directly relevant to the research question
- contribute towards the understanding of the argument
- are of a good graphic quality.

Large tables of raw data collected by the student are best included in an appendix, where they should be carefully labelled. It is not necessary to include all responses to questionnaires; a single sample is sufficient. Tables of processed data should be designed to clearly display the information in the most appropriate form. Graphs or charts drawn from the analysed data should be selected to highlight only the most pertinent aspects related to the argument. Too many graphs, charts and tables will detract from the overall quality of the communication.

Only processed data that is central to the argument of the essay should be included in the body of the essay, as close as possible to its first reference. The inclusion of non-relevant or superfluous material will not be rewarded and may actually detract from the argument.

Any tables should enhance a written explanation and should not themselves include significant bodies of text. If they do, then these words must be included in the word count.

Students must take care in their use of appendices as examiners are not required to read them.

All information with direct relevance to the analysis, discussion and evaluation of the essay must be contained in the main body of the essay.

Any material that is not original must be carefully acknowledged, with specific attention paid to the acknowledgment and referencing of quotes and ideas. This acknowledgment and referencing is applicable to audiovisual material, text, graphs and data published in print and electronic sources. If the referencing does not meet the minimum standard as indicated in the guide (name of author, date of publication, title of source and page numbers as applicable), and is not consistently applied, work will be considered as a case of possible academic misconduct.

A bibliography is essential and has to be presented in a standard format. Title page, table of contents, page numbers, etc must contribute to the quality of presentation.

The essay must not exceed 4,000 words of narrative. Graphs, figures, calculations, diagrams, formulas and equations are not included in the word count. Students should be aware that examiners will not read beyond the 4,000-word limit, nor assess any material presented thereafter.
Criterion E: Engagement

(Strands: Reflections on planning and progress)

This criterion assesses the student’s engagement with their research focus and the research process. It will be applied by the examiner at the end of the assessment of the essay, and is based solely on the candidate’s reflections as detailed on the RPPF, with the supervisory comments and extended essay itself as context.

Students are expected to provide reflections on the decision-making and planning process undertaken in completing the essay. Students must demonstrate how they arrived at a topic as well as the methods and approach used. This criterion assesses the extent to which a student has evidenced the rationale for decisions made throughout the planning process and the skills and understandings developed.

For example, students may reflect on:

- the approach and strategies they chose, and their relative success
- the Approaches to learning skills they have developed and their effect on the student as a learner
- how their conceptual understandings have developed or changed as a result of their research
- challenges they faced in their research and how they overcame these
- questions that emerged as a result of their research
- what they would do differently if they were to undertake the research again.

Effective reflection highlights the journey the student has engaged in through the EE process. Students must show evidence of critical and reflective thinking that goes beyond simply describing the procedures that have been followed.

The reflections must provide the examiner with an insight into student thinking, creativity and originality within the research process. The student voice must be clearly present and demonstrate the learning that has taken place.