Teacher Guide Section 2

6 Climate change

General

This chapter is part of a new phase of learning for students. It will help students to become more independent, to take early steps for themselves and to develop their skills without the pressures of assessment. In this section, the emphasis is on independence in remembering and attempting to use skills, and on students beginning to be independent in setting up their own work.

For the teacher this means starting to move into a mentoring and guidance role, controlling the environment rather than the students. It means focusing on praising attempts at independence, asking questions to develop thinking and an almost terrifying move away from “getting it right”. If you are setting targets, these could relate to independence, motivation and trying to think of the next step or to the next level. Try not to worry about performance yet. It will come with practice, and with that willingness to think to the next level.

For the students this transition can be terrifying, but also liberating. As in Section 1, students will need:

- reassurance that it is ok not to be perfect – failure, mistakes and partial attempts are all acceptable, and indeed, essential parts of the learning process
- encouragement to try thinking and acting for themselves
- reminders that the content is important and interesting, but that the ability to find, think about and use information is much more important than the actual information
- support as they learn to direct and manage their own learning – it is particularly important to give students time to make this step, rather than giving up in frustration and telling them what to do.

Guidance to activities

Activity 6.1

As in Section 1, encourage students to choose in line with their interests, but also to keep their minds open to change as they gain new information.

Consider how well it can work for your class to have groups of students working on different topics or different aspects of the topic. Students do not need to come out of the course with the same knowledge, but rather with the same skills and the same ability to think about their knowledge. As students gain independence, it should be possible, for example, for one group of students to work on a specific coastal engineering project (and its personal, national and global perspectives), while another group works on political agreements regarding climate change, another works on the
possibilities for producing renewable energy, and a fourth group works on a topic from chapter 7 on water, food and agriculture. Being able to make some choices in their learning can inspire and motivate even quite challenging students. This kind of organisation with groups working on different content can also help teachers to avoid the trap of delivering content rather than encouraging skills development.

**Activity 6.2**

Encourage students to think about the issues, consequences and perspectives rather than about the answers to the questions. Encourage students to find a way of working which helps them to clearly separates issues, consequences and perspectives (but acknowledge an overlap if necessary). This might include: use of colours; internet searches; skim reading; note taking; use of diagrams; reference to Skills Section 2, figures 2, 3 and 4; reference back to Skills Section 1, figures 3a, 3b and 4.

Do all students need to work on all of these? Are they better off choosing two to consider? Could students use their diagrams, posters and so on to present their thinking to the class or to make attractive displays which focus on the Global Perspectives skills?

Examples of possible student responses to the statement in (a) are:

<table>
<thead>
<tr>
<th>Maybe the cold summer is actually caused by global warming. Some people think that melting ice caps is affecting warm water streams in the oceans like the Gulf Stream and stopping them reaching northern Europe.</th>
<th>☎ The student has done some research and has addressed a chain of causes and consequences but hasn't made this clear. They also need to separate and clarify the issue, the consequences and the perspectives. Encourage this student by helping them to focus on different perspectives about how much it matters if northern Europe gets a bit colder as part of global warming. Does it matter if you live in New Zealand or Botswana? Do the actions of people in northern Europe have an effect on you if you live in the Maldives, Botswana or New Zealand?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue: There is a need for education about climate change as a global problem and not just as local effects. Consequences: If people only see local effects, they are only likely to change their behaviour if the effects are locally negative. Perspectives: This summer might be cool in Europe/North America/New Zealand, but the global temperatures might be the highest ever, with more polar ice melting, drought and famine in desert regions.</td>
<td>☎ This student has clearly separated the issue from possible consequences and perspectives. The perspectives section is a clear analysis of different perceptions based on perspectives, but the student could be encouraged to spell out the personal, national and global perspectives more clearly and more fully, perhaps using a table such as the one on page 48. The student could also be encouraged to consider more than one issue, and more than one consequence per issue.</td>
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**Activity 6.3**

Encourage independence here – help students to refer back to the relevant skills from Skills Sections 1 and 2, and to set up their own procedures. They could, for example, ask, “Where are you going to look to remind yourself about identifying key issues?”
As students are working, interact with them by asking questions to prompt deeper thinking and independent recognition of areas that need attention. For example: What is it that’s causing problems? You can’t think of any global perspectives? Well, are there any international consequences? Are there any international actions that could be taken? Does this matter at all to people in other countries? Why?

Some students may be ready to consider that there may be multiple national perspectives on an issue. Be ready to discuss this with these students.

Activity 6.4
Encourage independence and use questions to prompt development. Assist students in setting up their own procedures and in referring back to the relevant parts of Skills Sections 1 and 2. Try to help students to spot changes or improvements they need to make, but emphasise independence and interest over performance at this stage.

Activity 6.5
There are suggested answers here, but at this stage it is more important for students to begin to set up strategies they can use to help them to answer these questions independently than it is for them to achieve a specific level in their answers. Encourage students always to move one level deeper or further by asking questions.

Note also that the sample answers are not “expected” answers in terms of level. They are examples of ways that students can be encouraged to develop their thinking. For some students, identifying the consequences at all will be success for them. Others will be able to say that the consequences are reasonable (or not) but struggle to identify why. Some will be ready to push their thinking much deeper.

(a) (i) A blog on a newspaper website is linked to the newspaper’s name and to its legal obligations. The writers are likely mostly to use opinions but to at least have a track record of good writing, checking their facts (or getting an editor to do this) and working within legal limits. Personal blogs may be excellent, well researched and well reasoned, and many experts do have personal blogs, but anyone can have a personal blog. This means you will find rants, mistakes, personal nastiness, inaccuracies, long-winded and boring accounts and all sorts of other problems on many personal blogs.

(ii) This blog is published by a reputable newspaper, so its facts are likely to be reliable. On the other hand, it’s an opinion piece rather than a factual or researched piece, so most of the facts and information are common knowledge – and as reliable as common knowledge usually is. We wouldn’t argue that there is a grand show of fireworks at the start and end of the Olympics or New Year celebrations in many cities. Whether India invests heavily in nuclear power plants or electricity-driven trains is not common knowledge and it is unclear here whether the author means that “India doesn’t invest at all heavily” in these or “India doesn’t invest in these at all”.

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(b) Yes, the main causes of pollution are reasonably summarised. Households might play a larger role than the author allows.

(c) If we removed power plants, industries and vehicles which produce CO₂ and effluent, we would go quite a long way towards solving problems related to pollution (and climate change). But we would still have to deal with problems that are already set in motion. We might find we replaced them with other harmful things. Or we might find we had serious economic problems that seemed worse than the pollution problems. So the consequence is quite reasonable, but not as simple as the author makes it sound.

(d) (i) Some good reasons are given, but little evidence. The author is mostly trying to persuade us that “to suggest that this single night of revelry is anti-environment and a major cause of pollution is blatantly unfair”. Reasons include: “blaming firecrackers for pollution is typical of our habit of misrepresenting the truth and directing the blame in the wrong direction”; “the real reasons for pollution are … four-wheelers”; we don’t do enough to move towards a clean environment; and everyone else is allowed to have firecrackers, why can’t we? The first three of these do give us a reason to accept that blaming firecrackers for pollution is unfair. The last is just a version of “all my friends are allowed, why can’t I?” It might be that Sydney, Singapore and London would be better off reducing their pyrotechnics.

(ii) In this piece emotion is used alongside reason – calling people who are against a noisy Diwali pseudo intellectuals plays on people’s fear of being seen to be stupid. The rhetorical or loaded questions at the end of paragraphs 2 and 3 play on people’s emotions of righteous grievance, unfairness and injustice.

(iii) Mostly this piece is opinion stated as opinion, but the following could be taken as opinions pretending to be facts: “Almost everyone is against a noisy Diwali: most of all the intellectuals (pseudo?)”; “Not at all”; “Worldwide, firecrackers are the preferred way to celebrate any happy occasion”.

(e) Encourage students to think this through, organising themselves as independently as possible. Do students want a class discussion, or would they rather work in groups or pairs? Would they rather write about this or talk about it? Can they remember how to set up discussions, with class rules, and manage it themselves? What measures should they take to ensure that people are talking about the right things?

Activity 6.6
Encourage students to attempt to set up their own procedures and to work independently (in groups, pairs or individually). Ask questions to prompt thinking to the next level.

Activity 6.7
Encourage students to really think about the issues, to spend time pondering in structured and unstructured ways. This activity is not about finding an answer but about finding your own place and perspective.
As in Skill Section 2, spend some time thinking about the difference between well thought through, supported opinions and prejudices. Encourage students to empathise but not to be governed by emotional responses.

Students might like to share plays, poems, film clips, and songs that are relevant to the issues, and talk about what they mean.

**Activity 6.8**

Encourage students to look back at the mini project plan from Section 1. They should remember how they approached the task, and think of ways to improve on that. What didn’t work last time? What can be made to work better this time?

Encourage students to think of one positive thing about the last attempt, and one area that needs improvement which they can focus on this time.

Encourage students to cooperate to find strategies to deal with classmates who didn’t pull their weight in the project last time. Can those students be made to feel more engaged? How? Can they be given a more personal stake in the project? Can they be made to feel that their contribution matters? Encourage students to consider that the attitudes of those who are hard-working and conscientious might contribute to the attitudes (and low self-esteem) of those who are not.

Once again, encourage students to focus on task planning rather than content at this stage.

**Example 1: Make a poster about climate change**

(a) Leader – Josh; researcher – Ben; poster maker – Ellie

(b)

<table>
<thead>
<tr>
<th>Task</th>
<th>Who will do it</th>
<th>When it should be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Josh</td>
<td>All the time</td>
</tr>
<tr>
<td>Research</td>
<td>Ben</td>
<td>Next week</td>
</tr>
<tr>
<td>Make poster</td>
<td>Ellie</td>
<td>Two weeks</td>
</tr>
</tbody>
</table>

These students need to develop their thinking and planning. For assessment purposes this outcome is too limited, and even for an introductory project it’s too vague – perhaps the students could focus on the causes and consequences of climate change, or on possible solutions. For assessment purposes, a poster of (for example) the causes and consequences of climate change sounds like a good part of a project, but on its own it is not really a global perspectives project – it doesn’t allow enough interaction with the issues or perspectives. Encourage these students to think about how they might use their poster.

The plan needs to be broken down and made more specific. Ask the students what tasks Josh will be doing as leader, how the researcher and poster maker will interact, what specific tasks contribute to research and model making.

**Example 2: Outcome—make a photo display of different problems associated with climate change. Explain the causes and consequences of these problems.**
Team – Josh, Ellie, Ben, Sunita, Kwami; leader – Sunita; creative director – Kwami

<table>
<thead>
<tr>
<th>Task</th>
<th>Who will do it</th>
<th>When it should be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect photos and weather statistics of the local area 50 years ago and now</td>
<td>Josh</td>
<td>Some by next lesson; some in two weeks' time</td>
</tr>
<tr>
<td>Make a poster of the causes of climate change</td>
<td>Ellie</td>
<td>Start by next lesson; finish in three weeks' time</td>
</tr>
<tr>
<td>Prepare a talk</td>
<td>Sunita – causes</td>
<td>Bring first ideas from research to next lesson and discuss</td>
</tr>
<tr>
<td></td>
<td>Ben – consequences</td>
<td></td>
</tr>
<tr>
<td>Discuss progress</td>
<td>All</td>
<td>Next lesson</td>
</tr>
</tbody>
</table>

These students are on the right lines. They have chosen a project from the textbook which allows them to have a SMART outcome and deal with issues, causes and consequences. Encourage them to think ahead a little more in their planning, so that they can schedule all the necessary tasks. For instance, how do you break down “prepare a talk”? Why is Josh collecting weather statistics? What will be done with them? Should Sunita and Ellie be cooperating? How will they organise this? Is splitting the talk into causes and consequences the best organisation? Would it be better to have a meeting to agree on a number of problems or issues (such as erratic weather, polar bears, desertification), and for each student to research the causes and consequences of a specific problem? What is Kwami going to be doing in the first part of the project? Can he be doing early preparation for the display, getting materials or helping the others?

**Activity 6.9**

Encourage students to remember the procedures and processes they used in Section 1 to write their short report, and structure the work for themselves as much as possible. Talk to them about reviewing their research material, and the diagrams and thoughts they have had on the material. Discuss selecting only the most useful and relevant ideas. Students can sometimes be reluctant to discard material that they have researched. Having a real or imaginary shelf for interesting ideas that you can come back to later can help here.

As in Section 1, encourage students to write one, two or three clear sentences for each heading, using their own words. Suggest that they use a maximum of one quotation per section, and/or refer to statistics briefly. For causes and consequences, students might be more comfortable using diagrams or charts, as used in the skills section. This is not intended to be assessment-ready work. Encourage relevance, clear summaries of the issues, use of own words and clear analysis of the issues. Discourage overly long responses, overload of information and long passages clearly taken without manipulation from sources. Some able students may find the restrictions frustrating, and may need to be reminded that selecting the right 300 words is a greater skill than producing 3,000 words with less thought.
Activity 6.10
Encourage students to think carefully about their project work. These questions will lead eventually to project evaluations, but at this stage students are only beginning the process. They may need assistance in considering problems and solutions without unpleasant recriminations or blame casting.

Developing material from this section for assessment
The tasks in this section are intended as introductory materials and not as assessment-ready work. However, the topics are on the IGCSE Global Perspectives syllabus and work in these areas can be submitted for assessment. If students choose to submit work in these areas, it is recommended that they revisit the areas after further study.

Research questions
The research questions suggested in the topic could be used for assessed work, with more developed, analytical answers. It might be useful to move from “how” to “what actions could we/governments take”. Remember to always consider the global perspective as well as the personal and national perspectives.

Projects
The first project suggested in this topic is too limited to be submitted for assessment. It could be amended as follows:

Work with a school in a different country to suggest solutions to two different problems relating to climate change experienced by your countries. Make displays for an open day. Remember to consider causes, consequences and personal, national and global perspectives.

The second project needs only to include cross-cultural communication. Working with students from another country, perhaps T-shirts could be designed and sold to each other.