Geography (2007)
Sample assessment instrument and student responses

Stimulus response essay
June 2010
Purposes of assessment

The purposes of assessment are to:

- promote, assist and improve student learning
- inform programs of teaching and learning
- provide information for those people — students, parents, teachers — who need to know about the progress and achievements of individual students to help them achieve to the best of their abilities
- provide information for the issuing of certificates of achievement
- provide information to those people who need to know how well groups of students are achieving (school authorities, the State Minister for Education and Training and the Arts, the Federal Minister for Education).

It is common practice to label assessment as being formative, diagnostic or summative, according to the major purpose of the assessment.

The major purpose of formative assessment is to help students attain higher levels of performance. The major purpose of diagnostic assessment is to determine the nature of students' learning, and then provide the appropriate feedback or intervention. The major purpose of summative assessment is to indicate the achievement status or standards achieved by students at a particular point in their schooling. It is geared towards reporting and certification.

Syllabus requirements

Teachers should ensure that assessment instruments are consistent with the requirements, techniques and conditions of the Geography syllabus and the implementation year 2007.

Assessment instruments

High-quality assessment instruments:

- have construct validity (the instruments actually assess what they were designed to assess)
- have face validity (they appear to assess what you believe they are intended to assess)
- give students clear and definite instructions
- are written in language suited to the reading capabilities of the students for whom the instruments are intended
- are clearly presented through appropriate choice of layout, cues, visual design, format and choice of words
- are used under clear, definite and specified conditions that are appropriate for all the students whose achievements are being assessed
- have clear criteria for making judgments about achievements (these criteria are shared with students before they are assessed)
- are used under conditions that allow optimal participation for all
- are inclusive of students' diverse backgrounds
- allow students to demonstrate the breadth and depth of their achievements
- only involve the reproduction of gender, socioeconomic, ethnic or other cultural factors if careful consideration has determined that such reproduction is necessary.

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2 Assessment instruments are the actual tools used by schools and the QSA to gather information about student achievement, for example, recorded observation of a game of volleyball, write-up of a field trip to the local water catchment and storage area, a test of number facts, the Senior External Examination in Chinese, the 2006 QCS Test, the 2008 Year 4 English comparable assessment task.
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Stimulus response essay

Compiled by the Queensland Studies Authority
May 2010

The QSA acknowledges the contribution of District and State Review Panels for Geography in the preparation of this document.

About this assessment instrument

The purpose of this document is to inform assessment practices of teachers in schools. For this reason, the assessment instrument is not presented in a way that would allow its immediate application in a school context. In particular, the assessment technique is presented in isolation from other information relevant to the implementation of the assessment. For further information about those aspects of the assessment not explained in this document, please refer to the assessment section of the syllabus.

This sample provides opportunities for students to demonstrate:

- breaking information into parts by identifying and explaining patterns or the steps in a process
- understanding the meaning of information by transforming, interpreting and extrapolating text or illustrative material
- identifying relationships
- suggesting causes for some of these relationships
- recognising the environmental, social, economic and political implications of an issue
- examining alternative proposals, strategies, solutions and plans
- applying appropriate criteria
- making a judgment/decision about the alternatives
- justifying this decision
- selecting and organising information
- acknowledging sources of information
- communicating information in essay genre
- demonstrating use of clear written expression and language conventions

This sample assessment instrument is intended to be a guide to help teachers plan and develop assessment instruments for individual school settings.
Assessment instrument

The student work presented in this sample is in response to an assessment task which is a type of assessment instrument involving students applying and using relevant skills to create a response to a problem or issue.

Task:

You are a representative of the National Science Foundation and have been given the responsibility to make a decision about the future of Yingxiu. This is a town within Wenchuan County, Sichuan, in the People's Republic of China. It is located south of Wenchuan County's urban centre and prior to the earthquake in 2008, when 80% of the town was destroyed, it had a population of 6,906. (Source: Wikipedia, Accessed: 25 February, 2009)

In completing your response, you should undertake the following:

• describe the location of Yingxiu and the causes of the Sichuan Earthquake
• explain the effects of the earthquake on Yingxiu and the challenges that the people face in securing a sustainable future.

Evaluate the three (3) alternatives listed below, assessing each for its suitability in securing the future of Yingxiu.

Alternatives:

1. Rebuild the settlement using stricter building codes for earthquake resistant structures. These would be for all private homes and public buildings such as schools and hospitals. Place bans on the construction of dams, chemical factories or other highly toxic industries in this town.

2. Rebuild the town as well as can be done and run an education earthquake preparedness program for the whole community.

3. Build a new town on the fertile plain to the east away from the junction of the two fault lines that caused the Sichuan Earthquake.

Note: These alternatives should be evaluated using the following criteria:

Criterion 1: Will the alternative maintain/improve the long term quality of life for the Chinese people of Yingxiu?

Criterion 2: What are the short- and long-term costs of rebuilding on the existing site or in a new location?

Criterion 3: Will the alternative encourage the Chinese government to help provide aid/resources for this town?

Decide which alternative is the most suitable and indicate why the other alternatives are not as suitable.

Justify your decision using well-reasoned and logical arguments. You should also indicate why the other alternatives were not as suitable.
Some suggested guidelines:

- use a suitable introduction and conclusion
- use well-structured paragraphs
- respond to the primary stimulus
- refer to the stimulus materials to support your argument where appropriate.

Stimulus provided for the essay:

Figure 1: Photograph (colour) showing road damage caused by the earthquake
Figure 2: Written report of damage from National Geographic News, July 16 2008
Figure 2a: Photograph (colour) from Google Earth Community, May 12 2008, showing the town of Yingxiu in Wenchuan County after the quake
Figure 3: Map (colour) from Google images, showing the location of the earthquake
Figure 4: Written description of Sichuan Province and the earthquake from MCEER Information Service.mht, February 23 2009
Figure 5: Map (colour) from Google images, showing earthquake details and the proposed site for the new town
Figure 6: Written news report “20081111: AFP: Six months after deadly China quake, jobs are key to recovery” by Robert J. Saiget, Saturday, January 3 2009
Figure 7: Comment on USGS website posted by David Smith, Faculty of Geology and Environmental Science ID: 975859869, Wednesday, January 3 2001, [http://quake.wr.usgs.gov/prepare/factsheets/SaferStructures/](http://quake.wr.usgs.gov/prepare/factsheets/SaferStructures/)
Figure 8: Written news report from BBC News “Fears of disaster after the quake”
Figure 9: Map (colour) China: Earthquake as of 27 May 2008 from Relief Web [http://www.reliefweb.int](http://www.reliefweb.int)
Figure 10: Photograph (colour) showing a destroyed building, [http://environment.newscientist.com/data/images/ns/cms/dn14361/dn14361-1_564.jpg](http://environment.newscientist.com/data/images/ns/cms/dn14361/dn14361-1_564.jpg)
Figure 11: Map (colour) showing converging fault lines, [http://news.bbc.co.uk/2/shared/spl/hi/picture_gallery/08/asia_pac_journey_towards_the_epicentre/html/3.stm](http://news.bbc.co.uk/2/shared/spl/hi/picture_gallery/08/asia_pac_journey_towards_the_epicentre/html/3.stm)
Instrument-specific criteria and standards

Schools draw instrument-specific criteria and standards from the syllabus dimensions and exit standards. Schools will make judgments about the match of qualities of student responses with the standards descriptors that are specific to the particular assessment instrument. While all syllabus exit descriptors might not be assessed in a single assessment instrument, across the course of study, opportunities to demonstrate all the syllabus dimensions and standards descriptors must be provided.

The assessment instrument presented in this document provides opportunities for the demonstration of the following criteria:

- Analytical processes
- Decision-making processes
- Research and communication

This document provides information about how the qualities of student work match the relevant instrument-specific criteria and standards at standards B and C. The standard B and C descriptors are presented below. The complete set of instrument-specific criteria and standards is in the appendix.

<table>
<thead>
<tr>
<th>Standard B</th>
<th>Standard C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analytical processes</strong></td>
<td></td>
</tr>
<tr>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- detailed identification and explanation of geographical patterns and processes</td>
<td>- identification and explanation of some geographical patterns and processes</td>
</tr>
<tr>
<td>- effective transformation, interpretation and extrapolation of geographical information</td>
<td>- some transformation, interpretation and extrapolation of geographical information</td>
</tr>
<tr>
<td>- mostly accurate identification and significant explanation of simple and complex relationships</td>
<td>- identification and explanation of simple relationships</td>
</tr>
<tr>
<td><strong>Decision-making processes</strong></td>
<td></td>
</tr>
<tr>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
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<tr>
<td></td>
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<tr>
<td>- detailed evaluation of alternative proposals, strategies, solutions and plans</td>
<td>- evaluation of alternative proposals, strategies, solutions and plans</td>
</tr>
<tr>
<td>- effective and balanced application of appropriate criteria to the decision</td>
<td>- application of some criteria to the decision</td>
</tr>
<tr>
<td>- supported arguments to justify decisions</td>
<td>- justification of decisions</td>
</tr>
<tr>
<td><strong>Research and communication</strong></td>
<td></td>
</tr>
<tr>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- current, valid and reliable information from a variety of sources and settings</td>
<td>- information from relevant sources and settings</td>
</tr>
<tr>
<td>- clear expression, using appropriate language and geographic conventions</td>
<td>- mostly clear expression, using basic language and geographic conventions</td>
</tr>
<tr>
<td>- effective organisation and presentation of information with mostly correct use of genre</td>
<td>- appropriate organisation and presentation of information</td>
</tr>
<tr>
<td>- effective integration of maps, diagrams, statistics and referencing, mostly adhering to geographic conventions</td>
<td>- integration of maps, diagrams, statistics and referencing with some adherence to geographic conventions</td>
</tr>
</tbody>
</table>

Key: Qualifiers that define the standard

Aspects of the general objectives
On May the 12th 2008 (figure 4) a major earthquake sent a small Chinese town, Yingxiu into ruins. A catastrophic event which saw 67,183 killed, approximately 5.46 million homes destroyed and even more damaged has promoted the Chinese government to seek aid from the National Science Foundation. After a lot of research and analysis of Yingxiu, its rich culture and current state three possible alternatives have been chosen.

Situated in Wenchuan Country, Sichuan in China’s west Yingxiu before the earthquake had a population of around 11,000 (Figure 4). After the events of May the 12th 2008 only 20% of the town was left standing and only 2,400 people remained after many fled for safety and are too scared to return or they were one of the 87,873 people killed or missing (Figure 9). The massive 8.0 – magnitude earthquake and the 169 aftershocks above the magnitude 4.0 (Figure 4) where caused by the slipping of two plates along the Yingxiu – Beichuan fault. (Figure 11). As seen in Figure 3 Yingxiu was the most greatly affected of the Wenchuan Country. As the epicentre was at the heart of the city. This means the most damage was done (Figure 2a) as the earthquake has the most power at the epicentre. Reprocussions of this earthquake other and the aftershocks included wide – scale flooding from broken river banks (figure 8) and mass – oil and chemical spills as a result of collapsed oil and chemical plants.

After seeing the amount of damage caused and the number of lost lives, missing and/or injured people. Many people from all over the world poured their hearts out and struck a worldwide aid campaign to help the remaining residents. However, many wondered whether after such a devastating event would Yingxiu ever really recover?

A few years on and the Chinese government have decided to seek help from the National Science Foundation on what steps could be taken to the rebuilding of Yingxiu. The National Science Foundation has assessed the situation and come up with three possible alternatives to helping the population of Yingxiu rebuild their lives. In order to narrow down these alternative a set of criteria was used. This criteria included considering the social (what is best for the people), economical, (what is the short and long term costs), and political (how will it impact and what does the Chinese government need to do) repercussions of each alternative. The fist alternative is to rebuild the city using stricter building codes for earthquake resistant structures. Socially this alternative is good and bad for the population. Is it good as it keeps them in their land where many would have good memories of their childhoods and events before
may 2008. However, by putting these restrictions the architecture they may have to alter/or change the design of traditional buildings such as temples. Although this alternative will cost millions of dollars it is probably the least expensive of all alternatives. Alternative one is both socially and economically like all the alternatives beneficial to the population as it will give them work and an income which is what the people want (Figure 6). The criteria with the most negative effects is politically as the Chinese government will need to keep providing and along time after the rebuilding as it will take sometime before things will go back to normal. This reprocussion however is a negative across all alternatives. The second alternative is much the same as the first as it has many of the same benefits; however it proposes to rebuild the existing site as best as they can and to run educational programs for the community. In some ways this is better for the residents socially as it does not effect their cultural values but still provides them with work and an income. The economic and political effects are much the same as alternative one however this way politically the Chinese government are providing more for the residents in terms of the awareness program than alternative one.

However; both alternatives one and two still does not prevent the earthquakes which Yingxiu feel on a regular basis. This is why the National Science Federation proposes alternative three as the best alternative.

Alternative three: to build a new town on a fertile plain which is east away from the fault line which caused the earthquake (can be seen in figure 5.) is the better option has it many prevent the residents from going through the same amount of pain which was caused in May 2008. Socially although the residents may not want to more from the land where many of them and lived for so long it gives them a chance to live a worry free life (low risk earthquake prone area) amongst traditional architecture which is so much part of their culture. However; the economic impact on the nation is much greater than that of the other two alternatives as the cost of moving and rebuilding is worth millions of dollars.

Key:
- **Qualities of student work that relate to analytical processes**
- **Qualities of student work that relate to decision-making processes**
- **Qualities of student work that relate to communication**
Standard C

Note: “[…]” indicates where the text has been abridged.

<table>
<thead>
<tr>
<th>Standard descriptors</th>
<th>Student response C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of essay unclear</td>
<td>On the 21st of May 2008, the Chinese province of Sichuan was devastated by a 7.9 Magnitude earthquake. The town of Yingxiu was closest to the epicentre (refer to fig 9) leaving an estimated 68, 620 people dead, 17 445 missing and 374 142 injured. <strong>Alternative for this town must be made and evaluated.</strong></td>
</tr>
<tr>
<td><strong>Basic language</strong></td>
<td>As seen in <strong>figure two a</strong>, the town of Yingxiu was reduced to rubble. The Sichuan Provence is of the major agricultural production basis in China, providing the country with fruits, rice, wheat and many other commercial crops. Though, the most devastated are was Yingxiu, the epicentre of the 7.9 earthquake 6,000 people were found dead in the town, and survivors lived in prefabricated homes built by the government. Yingxiu is located to the west of the Chaping Mountains as seen in <strong>Figure 5</strong>, in the Wenchuan Country. This province is located on the Yingzhu. Beichual fault, converging with the Logmen Shan fault. As these are <strong>two fault lines converged, it caused the devastating 7.9 earthquake, affecting the Sichuan province, and destroying Yingxiu</strong> (refer to figure 11). After aide witnessed the ruins which used to be the town of Yingxiu, $125 million US, was raised to help the community of Yingxiu.</td>
</tr>
<tr>
<td><strong>Simple relationship</strong></td>
<td><strong>Pattern</strong> of damage explained with supporting <strong>detail</strong> – aligns to B standard for this aspect of criterion 2</td>
</tr>
<tr>
<td>(link between seismic activity and damage)</td>
<td>After the devastating earthquake, <strong>145 confirmed after shocks</strong> were felt by neighbouring countries from China to Bangkok, Thailand and Beinjing. All aftershocks were high than level four. In Beichuan country, an estimated <strong>80% of old towns and 60% of new towns</strong> were destroyed. In Yingxiu, an estimated <strong>1.5 million people</strong> were left unemployed, with no hope of finding employment as majority of business and enterprises were destroyed. Though as the town began to rebuild its infrastructure, more jobs were provided to repair the badly damaged by hydroelectric system along the Min river. Many of the Yingxiu community were living off <strong>$80 dollars a month</strong>, though they were lucky to even have a job. Many schools were destroyed leaving students trapped under rubble, and a <strong>confirmed 50 students dead</strong>. As time went on, <strong>780 people</strong> in Yingxiu were employed for low paying cleaning jobs. Many efforts were underway to create employment, through establishing re-employment programme, which <strong>7000 small businesses and 700 business</strong> would be set up, to provide at least one job per family. The destruction of this town led to alternatives to decrease the amount of destruction in case of another earthquake.</td>
</tr>
<tr>
<td><strong>Relevant sources</strong></td>
<td><strong>Evaluation of alternatives but lacks detail necessary for B standard</strong></td>
</tr>
<tr>
<td>acknowledged but not a variety</td>
<td>Alternatives that are suggested are: Rebuild the settlement using stricter building codes for earthquake resistant structure, Rebuild the town on the best they can and run and education earthquake preparedness for the whole community, build a new town on fertile</td>
</tr>
</tbody>
</table>
plain to east away from the junction of the two fault lines that caused the Earthquake. Alternative one provided many positive aspects, as this alternative has worked in other countries that are prone to earthquakes. This provides safer options than those of the second alternative. Though it is a very expensive alternative, it will reduce the damage compared to those of the second alternative. Though the best alternative for the town, is to relocate to the proposed site for a new town as seen in fig.5. Though this may seem very expensive, it will reduce the damage more so than alternative one. Alternative three seems to be the best alternative, to sustain the future of the Yingxiu people.

Throughout the essay, expression is mostly clear with basic language conventions used.

Key:

Qualities of student work that relate to analytical processes
Qualities of student work that relate to decision-making processes
Qualities of student work that relate to communication
## Appendix: Instrument-specific criteria and standards

<table>
<thead>
<tr>
<th></th>
<th>Standard A</th>
<th>Standard B</th>
<th>Standard C</th>
<th>Standard D</th>
<th>Standard E</th>
</tr>
</thead>
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<td>The student work has the following characteristics:</td>
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<tr>
<td></td>
<td>• in-depth identification and explanation of geographical patterns and processes</td>
<td>• detailed identification and explanation of geographical patterns and processes</td>
<td>• identification and explanation of geographical patterns and processes</td>
<td>• identification of simple geographical patterns and processes</td>
<td>• identification of some simple geographical patterns</td>
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<td></td>
<td>• insightful transformation, interpretation and extrapolation of geographical information</td>
<td>• effective transformation, interpretation and extrapolation of geographical information</td>
<td>• some transformation, interpretation and extrapolation of geographical information</td>
<td>• superficial transformation, interpretation and extrapolation of geographical information</td>
<td>• unsubstantiated geographical information</td>
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<tr>
<td></td>
<td>• accurate identification and thorough explanation of simple and complex relationships</td>
<td>• mostly identification and significant explanation of simple and complex relationships</td>
<td>• identification and explanation of simple and complex relationships</td>
<td>• identification of some simple relationships</td>
<td>• identification of some simple relationships</td>
</tr>
<tr>
<td><strong>Decision-making processes</strong></td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
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<tr>
<td></td>
<td>• comprehensive and thorough evaluation of alternatives</td>
<td>• detailed evaluation of alternatives</td>
<td>• evaluation of alternatives</td>
<td>• some evaluation of alternatives</td>
<td>• some unconnected conclusions about the geographical problems</td>
</tr>
<tr>
<td></td>
<td>• insightful and balanced application of a range of appropriate criteria to the decision</td>
<td>• effective and balanced application of appropriate criteria to the decision</td>
<td>• application of some criteria to the decision</td>
<td>• some connections to factors affecting the decisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• well reasoned and logical arguments to justify decisions</td>
<td>• supported arguments to justify decisions</td>
<td>• justification of decisions</td>
<td>• decisions are stated without justification</td>
<td>• no decisions evident</td>
</tr>
<tr>
<td><strong>Research and communication</strong></td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
<td>The student work has the following characteristics:</td>
</tr>
<tr>
<td></td>
<td>• current valid and reliable information from a wide variety of sources</td>
<td>• current valid and reliable information from a variety of sources</td>
<td>• information from relevant sources</td>
<td>• information gathered from restricted sources</td>
<td>• unsubstantiated information</td>
</tr>
<tr>
<td></td>
<td>• clear, concise and fluent expression, using accurate language and geographic conventions</td>
<td>• clear expression, using appropriate language and geographic conventions</td>
<td>• mostly clear expression, using basic language and geographic conventions</td>
<td>• unclear expression, using restricted language and geographic conventions</td>
<td>• obscure expression, with little or no use of language and geographic conventions</td>
</tr>
<tr>
<td></td>
<td>• highly effective organisation and presentation of information with correct use of essay genre</td>
<td>• effective organisation and presentation of information with mostly correct use of essay genre</td>
<td>• appropriate organisation and presentation of information</td>
<td>• organisation and presentation of information completed but it is inappropriate to the essay genre</td>
<td>• inappropriate presentation of information</td>
</tr>
</tbody>
</table>