Geography 2007
Advice for teachers

Data response tests
July 2014
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Compiled by the Queensland Curriculum and Assessment Authority

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About this advice

This advice is intended to help teachers implement the syllabus in their school setting. It provides information about:

- purpose
- conditions
- criteria
- design
- making judgments.
Description and purpose

Data response tests require students to respond to stimulus materials and interpret geographical information. Responses are written (by hand or on a computer) and tests are conducted under supervised conditions to authenticate student work. The technique provides flexibility in designing an assessment plan by offering opportunities to test analytical and/or decision-making processes so that the minimum number of performances can be met at verification and exit.

Conditions

The following conditions apply to the implementation of data response tests:

- supervised conditions
- data and questions are unseen
- appropriate time allocation, e.g. 30 minutes for each criterion is suggested (but not mandated) with perusal
- in-depth responses, e.g. paragraphs of up to 150 words and extended paragraphs of up to 200 words.

Criteria

Data response tests generally gather evidence for either criterion 2 (Analytical processes) or criterion 3 (Decision-making processes) but can gather evidence of both. This assessment technique does not assess criterion 4 (Research and communication).

Criterion 2: Analytical processes

Analytical processes involve a number of thinking processes that are investigative and recursive in nature as students record information by:

- identification and explanation of geographical patterns and processes: breaking information into parts, identifying and explaining the elements of a pattern or the steps in a process
- transformation, interpretation and extrapolation of geographical information: understanding the meaning of information and explaining trends
- identification and thorough explanation of simple and complex relationships, including anomalies: identifying and suggesting causes of relationships.

Analytical processes relate to the following key questions of geographical inquiry:

- What and where are the issues or patterns being studied?
- How and why do these issues and patterns develop?
- What are the impacts of these issues and patterns?

Criterion 3: Decision-making processes

Decision-making requires students to select between valid alternatives and make judgments supported by evidence. These processes include:

- evaluation of alternative proposals/strategies/solutions/plans
- application of a range of appropriate criteria to the alternatives
- making a judgment/decision about the alternatives
- recognising the need to balance or prioritise the decision-making criteria
• justifying the decision.

Decision-making processes relate to the following key question of geographic inquiry:
• What is being done and what could be done to sustainably manage these impacts?

Design

Composition of data

The type of geographical information provided in data response tests could include:
• maps
• photographs
• satellite images
• graphs
• statistics
• text
• cartoons.

The data should take up no more than two A3 sheets and should be succinct enough so that students have time to engage with it. This would also allow large-sized geographical data (e.g. maps, photographs) to be included and if necessary, text with a readable font. Ideally data will have the following features:
• high visual quality: avoid poor reproduction (especially in black and white) and avoid reducing the size of images when detail may be compromised
• clear numbering and acknowledgment of sources in accordance with geographic conventions:
  – e.g. FIGURE 1: RATE OF DEFORESTATION IN KALIMANTAN, 2008
• adequate and relevant stimulus to enable students to demonstrate the criteria being assessed.

Question structure

Questions should:
• lead to in-depth responses in the form of paragraphs of up to 200 words
• avoid short-answer, single-word responses, as well as essays, which are not appropriate for this technique
• use the language of the general objectives and standards matrix
  – e.g. Identify, explain, analyse, apply criteria and justify with reasoned and logical argument
  – e.g. Refer to Figure 1. Describe the pattern of malaria prevalence in Nigeria. What factors would account for this pattern? (This might involve the student making reference to low, medium and high concentrations of the disease based on interpretation of the key, orientation and scale of the map and location relative to rivers, low-lying land (topography) and population centres.)
• provide two or three valid and feasible proposals for evaluation when assessing decision-making processes. It is not appropriate to ask students to put forward their own proposals.

• provide criteria for evaluation in the form of clearly worded statements or questions. It is not appropriate to ask student to develop their own criteria for evaluation. Ideally three criteria for evaluation should be given, for example:
  – Will infrastructure in the area be protected from storm surges?
  – Can businesses in the local area continue operating?
  – Will residents continue to enjoy the coastal lifestyle?

• require students to justify their decision, recognising the need to balance the decision-making.

Making judgments about student responses

Teachers should:

• use an instrument-specific criteria sheet as a tool for making judgments

• clearly identify how the qualities in the student response match the standards described on the criteria sheet.