Goal

Develop insights about the assessment of critical thinking skills through performance assessment.

Instructions

1. [2 Minutes] – **Form a group of 3**
2. [5 Minutes] – **Individual reading**
   a. Review the sample student work. (pg. 2)
   b. Document responses to the following reflection questions:
      - *What strikes you about this work?*
      - *What questions does this work sample raise for you?*
      - *What evidence did you find that the student demonstrated critical thinking/problem-solving?*
3. [5 Minutes] – **Small Group Discussion**
   Take turns discussing responses to the reflection questions listed above.
Earthquake Risk in Bangladesh Performance Task Prompt

How should the residents of Dhaka avoid disaster if an earthquake hits? After reading articles and watching videos about the earthquake risk problem, write a letter to local leaders in Dhaka in which you explain (in summary form) the risks faced by the people. A number of solutions have been offered by scientists regarding how to solve the problem. Your task is to recommend the two highest priority actions that the residents of Dhaka should take to minimize the effects of an earthquake. Support your ideas with information (evidence) from the text and video sources.

7th Grade Student Work Sample

Dear City Leader of Dhaka,

An earthquake is coming. Fast. It has the potential to be a serious natural disaster in Bangladesh. You may already know about the dangers that threaten your city. Let me take a moment and share with you the research that proves the theory and suggestions you could follow to help save lives, for you, your people, and all of Bangladesh.

Bangladesh sits on the border of three tectonic plates: the Indian plate, the Eurasian plate, and the Burmese plate. Tectonic plate boundaries and the areas surrounding them are extremely prone to all kinds of natural disasters, such as earthquakes. Often near plate boundaries, faults are found. Earthquakes are most often caused by faults. Bangladesh is home to one of the largest faults in the world: the Dauki Fault. The fault is over 300 kilometers long and about 100 kilometers from Dhaka. The Dauki Fault can be found on the northern border of Bangladesh. The movement near and around the Dauki Fault has caused the formation of the Shillong Plateau. Scientists have proven that the Dauki Fault is an underground fault. The exact location of the Dauki Fault has not been determined, but it is known to be moving south toward the city of Dhaka, as determined by a GPS system at the Jaflong Station along the Shillong Plateau. The GPS has figured out that the Shillong Plateau is moving about eight millimeters south per year. As you know, Bangladesh also has three main river systems: the Brahmaputra, the Ganges, and the Meghna rivers. All of those rivers come together to make the world’s largest river delta. As I understand, the city of Dhaka sits atop the soft delta ground where the rivers meet.

Because of the location of Bangladesh, scientists believe a major earthquake in Bangladesh is going to happen. It’s just a matter of time. The city of Dhaka is at risk in many ways. According to Humayan Ahkter, "The city has grown out very fast, like a mushroom," to accommodate the ever-growing population. Because of the rapid growth, many of the buildings are not earthquake-proof, which is a serious issue if there was a major earthquake. The buildings are more likely to collapse, killing many more people than if the buildings were designed to withstand earthquakes. But that’s only one reason. The rivers in Bangladesh are very important to everyday life. They sustain towns, provide transportation for the city, and irrigate the land. If there was an earthquake, however, the directions of the rivers may be altered.
change course, then whole towns would be wiped out. Dhaka would be stuck without a main port, or worse, destroyed completely.

Earthquakes can’t be prevented. But you and your people can take action to make the results less disastrous. The main reason this earthquake could be such a horrific event is that most people don’t believe the threats are serious. They just disregard the scientific evidence that this could be one of the worst earthquakes Bangladesh. The people need education. They need to understand the reason why this could be so catastrophic. Being educated about the event will lead to understanding of the event, what measures to take, and how, when, and why to act on it. Also, many people don’t believe an earthquake will come because that they haven’t seen one in their lifetime. According to Seeber, "You may say, 'Oh, we never had an earthquake, why should we worry?' Geology tells you no, there is a fault, it is active, and the reason you haven’t seen a major earthquake during recent history is simply that the repeat times are very long.”.

Another way we can prevent the after-effects of an earthquake is by reinforcing the buildings. If an earthquake happens, the most of the buildings will collapse in a domino effect, taking more lives than if the buildings were designed to withstand the earthquakes. Standard building codes should be put in place in Dhaka and the rest of Bangladesh for that matter. Bangladesh should build earthquake-proof community buildings for people to meet after or during an earthquake (Saha). Bangladesh should also place steel beams in the interior of tall buildings and skyscrapers. The steel beams will make any building safer than it is now.

Bangladesh is at a higher risk for an earthquake than ever before. You and your people need to take action if you want to minimize the death and destruction. I sincerely hope you listen to my suggestions and take action in the city of Dhaka.

Sincerely,

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Grades 7-8 Critical Thinking-Problem Solving Rubric Row

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<td>1</td>
<td>Is hesitant to share ideas about how to best solve the problem, meet the challenge, or answer the inquiry question.</td>
<td>Shares ideas about how to best solve the problem, meet the challenge, or answer the inquiry question, but the explanation is somewhat unclear.</td>
<td>Clearly explains ideas about how to best solve the problem, meet the challenge, or answer the inquiry question; clearly describes why their ideas make sense.</td>
<td>Ideas about how to best solve the problem, meet the challenge, or answer the inquiry question are very convincing.</td>
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