



Chief Reader Report on Student Responses: 2023 AP[®] Human Geography Set 2 Free-Response Questions

• Number of Students Scored	247,043		
• Number of Readers	1,030		
• Score Distribution	Exam Score	N	%At
	5	39,620	16.04
	4	49,299	19.96
	3	45,447	18.40
	2	34,514	13.97
	1	78,163	31.64
• Global Mean	2.75		

The following comments on the 2023 free-response questions for AP[®] Human Geography were written by the Chief Reader, Lisa Benton-Short, Professor of Geography at the George Washington University. They give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student preparation in these areas are also provided. Teachers are encouraged to attend a College Board workshop to learn strategies for improving student performance in specific areas.

Question 1

Task: Free-Response Question

Topic: Political Geography, Territoriality, and Sovereignty

Max Score: 7

Mean Score: 2.36

What were the responses to this question expected to demonstrate?

This zero-stimulus question focused on political geography concepts of territoriality and sovereignty at different scales of analysis. Students were expected to draw from two main units for this question: Unit 4 (Political Patterns and Processes) and Unit 6 (Cities and Urban Land Use). In addition, the main skills for this question were found in Skill Category 1 (Concepts and Processes) and Skill Category 2 (Spatial Relationships).

In part A students were asked to define the concept of territoriality in terms of political geography.

In part B students were asked to describe the concept of sovereignty as it relates to the state.

In part C the concept of territoriality was addressed in terms of territorial organization. Students were asked to compare one difference in territorial organization between the governments of unitary states and the governments of federal states.

In part D students were asked to apply the concept of sovereignty to a real-world situation. Students were asked to explain one possible reason why sovereignty would play a role in the United Kingdom's decision to withdraw from the European Union.

Recognizing that territoriality can be analyzed at different scales, part E asked students to explain a possible reason why territoriality would play a role in the devolution of the state (such as Scotland's proposed independence from the United Kingdom).

Part F asked students to make connections between political geography and urban geography. In this part, students were asked to explain how the political process of redrawing district boundary lines may affect election results within a city.

Part G also challenged students to make connections between political geography and urban geography. Part G asked students to explain why neighboring local governments may face challenges in providing transportation services to residents of a rapidly growing metropolitan area.

How well did the responses address the course content related to this question? How well did the responses integrate the skills required on this question?

Qualified students scored primarily in parts A, B, and F. Highly qualified students scored in those areas as well as parts C and D. Parts E and G were the most challenging for all students. Notably, part G proved the most difficult, and many students did not appear to understand why neighboring local governments could face challenges in providing transportation services.

Many students earned a point for part A by correctly defining territoriality. The most common definition was that territoriality is the connection of people, their culture, and their economic systems to where they live.

Territoriality is found in PSO-4.C.2 in Topic 4.3 (Political Power and Territoriality). While most qualified students earned a point in part A, there were numerous students who did not respond correctly. Most of the responses that did not earn a point were definitions of sovereignty. Other students confused territory with territoriality.

In part B many students correctly described the concept of sovereignty as it relates to the state. This concept is found in PSO-4.B.1 in Topic 4.2 (Political Processes). The students also understood that the legitimacy of the state was contingent upon recognition by external states. The most common correct response was that sovereign states have the right to control what is inside their borders without interference from outside states and entities. Some students described sovereignty as a state's right to rule itself but did not include the idea that this is without interference from outside states or that a state is recognized by the international community, and so did not earn a point.

In part C students were asked to compare the difference in territorial organization between governments of unitary states and those of federal states, concepts found in IMP-4.C.1 and IMP-4.D.1. under the Topic 4.7 (Forms of Governance). Some students successfully addressed differences in territorial organization. However, some students did not earn a point because they did not reference both unitary states and federal states. For example, some students wrote only that unitary states have a more top-down form of governance but did not say anything about federal states. Highly qualified students tended to score on this part of the FRQ.

In part D students were asked to explain one reason why sovereignty would play a role in the United Kingdom's decision to withdraw from the European Union (EU). This question connects to SPS-4.B.4 under the Topic 4.9 (Challenges to Sovereignty). Students who correctly answered the question recognized that there were multiple reasons why the United Kingdom (UK) decided to withdraw. The most common responses were that the UK had surrendered too much sovereignty to the supranational government of the EU, or that the UK did not want to abide by EU policies around immigration or trade.

In part E students were asked to explain a possible reason why territoriality would play a role in the devolution of a state. This concept is found in SPS-4.A.1 and PSO-4.C.2 in Topic 4.8 (Defining Devolutionary Factors) and Topic 4.3 (Political Power and Territoriality). Those students who did earn a point in part E understood both territoriality and devolution and explained why a group would seek to secede from a particular state. However, the majority of students did not earn a point in part E. In many cases, students provided only a definition of devolution with no explanation. Students who did not earn the point struggled to make the correct connection between territoriality and devolution.

In part F students were asked to explain how the process of redrawing district boundary lines may affect election results in a city. This part asked students to connect political geography at a different scale (urban or local) and to make connections with essential knowledge in Unit 6 (Cities and Urban Land Use). Many students earned a point in part F. Students could explain how redistricting (IMP-4.B.5) and gerrymandering could be used to shift power from one group to another. Specifically, students who used terms such as cracking and packing correctly almost always gained the explanation point.

In part G students were asked to explain why neighboring local governments may face challenges in providing transportation services to residents of a rapidly growing metropolitan area. As with part F, this question also crossed units, connecting to SPS-6.A.5 in Topic 6.10 (Challenges of Urban Changes). This also proved difficult for many students. Few students earned a point in part G as they discussed suburbs, suburbanization, and/or transportation, but they did not explain the conflicts or possible coordination between local governments. Many responses mentioned that a government would not be able to fund

transportation but failed to make the connection that funding would need to be coordinated across governments. The students who did earn a point in part G could explain that different suburban government(s) needed to coordinate, not only with each other, but also with the urban core government(s), despite their differences in competition for federal and state transportation funding.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> Part A: Many students were unable to correctly define territoriality in part A. Most of these responses were definitions of, or variations on, sovereignty. Other students confused territory with territoriality. Most students did not understand that a group of people’s connection to the land is critical to being able to define and understand territoriality. 	<ul style="list-style-type: none"> Part A: Some students were able to correctly define territoriality (PSO-4.C.2) by citing a connection of people, culture, or economic systems to the land or by mentioning that the land is under a recognized jurisdiction, governance, or administrative system.
<ul style="list-style-type: none"> Part B: The students who struggled with part B usually did not provide the characteristic of internal control and lack of interference by outside entities as a major part of sovereignty. 	<ul style="list-style-type: none"> Part B: Most of the students were able to describe sovereignty (PSO-4.B.1) as it relates to the state in part B (Skill 1.D). The students also understood that external states and/or entities were contingent upon recognition by external states.
<ul style="list-style-type: none"> Part C: In part C students who did not receive credit tended to overgeneralize that unitary states had unquestioned power(s) and/or that federal states allowed substate and local governments to have and do whatever they wanted and that federal governments are quite weak compared to unitary governments. Sometimes, the student failed to mention that federal systems have substate units. 	<ul style="list-style-type: none"> Part C: Many students were able to score in part C by comparing unitary and federal government systems (IMP-4.C.1 and IMP-4.D.1). Students discussed the top-down, centralized power, and single system of control that unitary states wield. Conversely, students were generally able to assert that federal states ceded power to substate and/or local units, as well as allowing for different legal systems and types of governance (Skills 1.C & 5.C).
<ul style="list-style-type: none"> Part D: Students who did not receive credit in part D usually did not provide any explanation of why or how the UK had lost some sovereignty. 	<ul style="list-style-type: none"> Part D: Many students correctly explained in part D why sovereignty played a role in the UK’s decision to leave the EU. The students used topics including immigration, limited sovereignty, and lack of a strong, historical European identity as explanations for leaving the EU (Skill 2.C).

<ul style="list-style-type: none"> Part E: Very few students were able to earn a point in part E. In many cases, students provided only a definition of devolution with no explanation or applicable reasons. 	<ul style="list-style-type: none"> Part E: Those students who earned credit understood both territoriality and devolution (SPS-4.B.1) and could provide examples of groups who seek to secede from a particular state (Skill 2.C).
<ul style="list-style-type: none"> Part F: Most of the students who did not earn credit in part F simply mentioned gerrymandering without explaining the accompanying shifts in power. 	<ul style="list-style-type: none"> Part F: Many students earned a point in part F because they could explain how redistricting (IMP-4.B.5) and gerrymandering could be used to shift power from one group to another. Specifically, students who used terms such as cracking and packing correctly almost always gained the explanation point.
<ul style="list-style-type: none"> Part G: Few students earned a point in part G as they discussed suburbs, suburbanization, and/or transportation but did not explain the conflicts or possible coordination between local governments. There also seemed to be confusion among students as Question 3 was framed as a Unit 4 political question. Part G then turned to urban issues contained in Unit 6. This seemed to be problematic for many students. Additionally, this EK (SPS-6.A.5) is among the most difficult to teach and for students to understand. 	<ul style="list-style-type: none"> Part G: The students who did earn a point in part G could explain that suburban government(s) needed to coordinate not only with each other, but also with urban core government(s), despite their differences, in competition for federal and state transportation funding (SPS-6.A.5). Some students highlighted the disparities in wealth between local governments (Skill 5.B).

Based on your experience at the AP[®] Reading with student responses, what advice would you offer teachers to help them improve the student performance on the exam?

- **Teach and stress vocabulary from the Curriculum Framework**
 - In part A many students did not know the definition of territoriality. Although the task verb “define” was used only once in this FRQ (in part A), vocabulary was important throughout. Key terms such as **sovereignty**, **unitary states**, and **federal states** were also important for student success. Students were expected to know these terms and apply them within the geographic context.
- **Make connections across units**
 - As the academic year progresses, teachers should integrate concepts from previous units into quizzes, exams, and other forms of assessments to have students practice connecting across units. Students should expect FRQs to include topics from more than one unit.
 - In this FRQ students engaged with a topic that is mostly political in nature, but also connected to Unit 6 (Cities and Land Use).
 - Teachers should reassure students that a shift from one unit topic to another unit is perfectly normal and instruct them to answer the prompt that is posed to them.
- **Teach all the EKs in all units**

As results from part G indicate, Essential Knowledge (EK) SPS-6.A.5 appears to be among the most complex and therefore difficult to teach to high school students. Many students do not grasp the challenges in coordination among local government levels and agencies in addressing issues they

share. Additionally, all these governments, agencies, and other entities often compete for funding, land, economic development, and other issues.

- Use your local area to teach students how governance works. For example, reach out to a local mayor or city planner. Ask them how they might work with the county or state. Ask them how many suburban municipalities share a water source. These kinds of questions can help you understand how to teach this EK and help your students understand the complex relationships that local governments have.

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

- The Course and Exam Description provides a section on “Developing the Course Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course skills into classroom instruction.
- Sign into AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
 - 4.1: Daily Video 1 discusses how independent states are the primary building blocks of the world political map.
 - 4.2: Daily Video 1 discusses how sovereignty, nation–states, and self-determination shape contemporary political geography.
 - 4.2: Daily Video 2 discusses how colonialism, imperialism, independence movements, and devolution along national lines have influenced contemporary political boundaries.
 - 4.3: Daily Video 1 discusses how political power is expressed geographically as control over people, land, and resources, as illustrated by neocolonialism, shatterbelts, and choke points.
 - 4.5: Daily Video 1 discusses that while boundaries are defined, delimited, demarcated, and administered to establish limits of sovereignty, they are often contested.
 - 4.6: Daily Video 1 discusses how voting districts, redistricting, and gerrymandering affect election results at various scales.
 - 4.7: Daily Video 1 discusses how forms of governance include unitary states and federal states.
 - 4.8: Daily Video 2 discusses how terrorism, economic and social problems, and irredentism can lead to devolution.
 - 4.9: Daily Video 1 discusses how advances in communication technology have facilitated devolution, supranationalism, and democratization.
 - Unit 4 Progress Check: MCQ
- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board, but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>

Question 2

Task: Free-Response Question

Topic: Human Development Index and Sustainable Development Goals

Max Score: 7

Mean Score: 3.45

What were the responses to this question expected to demonstrate?

This one-stimulus question is centered on the Human Development Index (HDI) and the United Nations' Sustainable Development Goals as they relate to levels of development. The stimulus was a table, "Development Indicators for Selected Countries, 2020," with data that included economic, population, health, and environment indicators for Afghanistan, Brazil, and Finland.

In answering this question, students were expected to demonstrate knowledge from two different units of the course: Unit 7 (Industrial and Economic Development) and Unit 2 (Population and Migration). Students were expected to demonstrate use of several course skills from Skill Categories 1 (Concepts and Processes), 2 (Spatial Relationships), 3 (Data Analysis), and 5 (Scale Analysis).

In parts A and B students were directed to use the table. In part A students were asked to identify one indicator from the table that is used to calculate Human Development Index (HDI) scores. In part B students were asked to use a different indicator than the one they identified in part A to explain why Brazil's HDI score is higher than that of Afghanistan. Students needed to read and understand data from the table to earn the point.

In part C students were tasked to describe one specific way that sustainability goals can respond to economic challenges.

In part D students were asked to explain one reason why increasing women's access to education is likely to affect a country's total fertility rate.

In part E students were asked to explain one way in which a country's development of ecotourism might affect economic growth.

In part F students were instructed to use the data from the table to explain how access to clean-burning fuels for people's homes relates to the life expectancy of a country's population. As with parts A and B, students needed to read and understand data from the table and connect that to Unit 2 (Population and Migration).

In part G students were asked to explain how one of the countries in the table would be classified according to Rostow's stages of economic growth.

How well did the responses address the course content related to this question? How well did the responses integrate the skills required on this question?

Overall, this was the highest scoring FRQ of the three FRQs in Set 2. Many students demonstrated an effective understanding of the Human Development Index and could connect that to goals around sustainability. Qualified students scored primarily in parts A, B, and D. Highly qualified students scored also in parts C, E, and F. However, part G was the least accessible to students.

In part A students were asked to identify one indicator from the table that is used to calculate Human Development Index (HDI) scores. HDI is a concept found in SPS-7.C.3 in Topic 7.3 (Measures of Development). Many students who earned a point in part A understood and correctly identified the HDI (SPS-7.C.3) indicators (e.g., life expectancy, GNI, mean years of schooling) from the table (Skill 3.A).

In part B students were asked to use a different indicator than the one they identified in part A to explain why Brazil's HDI score is higher than that of Afghanistan. This part built on student knowledge of the concept of HDI (SPS-7.C.3). Many students who earned a point in part B correctly identified an additional HDI indicator that demonstrated a higher HDI score for Brazil than Afghanistan. In both part A and part B, students who did not earn a point generally did not understand the two terms and instead incorrectly referred to the total fertility rate as part of HDI.

In part C students were asked to describe one specific way that sustainability goals can respond to economic challenges. The United Nations Sustainable Development Goals connect to IMP-7.A.1 and IMP-7.A.3 found in Topic 7.8 (Sustainable Development). Many students earned a point in part C for correctly describing that increased access to jobs reduces poverty or that a healthier environment creates a healthier workforce, which in turn increases GDP. While many students did answer the part correctly, many did not. One common error was that students discussed sustainability but neglected to connect this to how it responds to economic challenges.

In part D students were asked to explain one reason why increasing women's access to education is likely to affect a country's total fertility rate. Students performed very well in part D, as a majority of students were able to earn a point by explaining that if women are educated, they will go to school for longer, delay childbearing, and have fewer children (Skill 2.C).

In part E students were asked to explain one way that a country's development of ecotourism might affect economic growth. Many students earned a point in part E for explaining that new jobs would be created from ecotourism (IMP-7.A.2), which would positively affect the economy (Skill 2.C). Additionally, students recognized that tourists spend money during their visits and add to the economy at various scales. However, a few students seemed to misread the prompt in part E; they explained that ecotourism would make the country more environmentally sustainable, but their response did not connect this back to economic growth.

In part F students were instructed to use the data from the table to explain how access to clean-burning fuels for people's homes relates to the life expectancy of a country's population. Most students earned a point in part F by reading the table correctly and providing statistics (Skills 3.A and 5.D) or indicating a specific country from the table in their response to explain how clean-burning fuels for people's homes affected life expectancy (SPS-2.C.1). Students who did not earn a point in part F provided only general statements about access to clean-burning fuels leading to less deaths from air pollution and neglected to include any data from the table or to reference a specific country from the table in their answer.

In part G students were asked to explain how one of the countries in the table would be classified according to Rostow's stages of economic growth. Part G connects to SPS-7.E.1 in Topic 7.5 (Theories of Development). Part G proved to be one of the most challenging parts of the FRQ as many students did not demonstrate an understanding of the Rostow model. Some students who did not earn a point in part G incorrectly identified a different model (e.g., demographic transition, Wallerstein). Other students who did not earn a point provided demographic statistics from the table but did not explain economic indicators or the stage of development from Rostow.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> Part A: Students who did not earn a point in part A did not correctly identify an HDI indicator. Instead, they usually selected total fertility rate (TFR) or air pollution mortality rate. Neither of these are HDI indicators. 	<ul style="list-style-type: none"> Part A: Many students who earned a point in part A understood and correctly identified the HDI (SPS-7.C.3) indicators (e.g., life expectancy, GNI, mean years of schooling) from the table (Skill 3.A).
<ul style="list-style-type: none"> Part B: In part B student errors were identical to the ones in part A. 	<ul style="list-style-type: none"> Part B: Many students who earned a point in part B correctly identified an additional HDI indicator that demonstrated a higher HDI score for Brazil than Afghanistan.
<ul style="list-style-type: none"> Part C: A common error by students in part C was providing no information beyond repeating the prompt. Many students simply provided information on sustainability, and in particular, urban sustainability. 	<ul style="list-style-type: none"> Part C: Many students who earned a point in part C correctly described that increased access to jobs reduces poverty or that a healthier environment creates a healthier workforce, which in turn increases GDP (Skill 1.D). Additionally, some students demonstrated understanding that additional education, especially for women, increases the quality of the workforce, which in turn increases GDP.
<ul style="list-style-type: none"> Part D: There were no significant misconceptions or knowledge gaps in Part D. 	<ul style="list-style-type: none"> Part D: Most students were able to earn a point in part D by explaining that if women are educated, they will go to school longer, delay childbearing, and have fewer children (Skill 2.C). Further, most students also related this back to the TFR as they were directed in the prompt.
<ul style="list-style-type: none"> Part E: A few students seemed to misread the prompt in part E in that they stated ecotourism would make the country more environmentally sustainable but did not connect it back to economic growth. 	<ul style="list-style-type: none"> Part E: Many students who earned a point in part E explained that new jobs would be created from ecotourism (IMP-7.A.2), which would positively affect the economy (Skill 2.C). Additionally, students recognized that tourists spend money during their visits and that adds to the economy at various scales.
<ul style="list-style-type: none"> Part F: The students who did not earn a point in part F provided general statements about access to clean-burning fuels leading to less deaths from air pollution, without providing statistics from the table or naming a country. 	<ul style="list-style-type: none"> Part F: Most students who earned a point in part F read the table correctly and provided statistics (Skills 3.A and 5.D) or referenced a country to explain how clean-burning fuels for people's homes affected life expectancy (SPS-2.C.1).

<ul style="list-style-type: none"> Part G: Some students misidentified geographic models (e.g., demographic transition, Wallerstein) in part G. Other students provided demographic statistics from the table but did not explain economic indicators or the stage of development from Rostow. 	<ul style="list-style-type: none"> Part G: Many students who earned a point in part G correctly provided numerical information from the table or a correct stage of the Rostow model (Skill 3.E). Other students correctly provided an explanation of an economic indicator, such as GNI, or the percentage of the workforce in agriculture (primary jobs).
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Based on your experience at the AP[®] Reading with student responses, what advice would you offer teachers to help them improve the student performance on the exam?

- Teach students to include data from the stimulus when directed.**
 - When there is a stimulus in the FRQ, students should expect some parts of the question to directly connect to the stimulus.
 - Some students did not use or apply the data from the stimulus in their response, even when directed to do so.
 - The parts that expect students to include information from the stimulus will clearly direct the students to use the stimulus (for example, part A “Using the data categories in the table, identify ...”; part F “Using the data from the table, explain”; and part G “Explain how ONE of the countries in the table ...”).
- Teach students to read and interpret tables, charts, and other data in an FRQ.**
- Teach students to read each FRQ prompt carefully, especially when there is stimulus material.**
- Teach students to avoid responses that only repeat the prompt.**

Some students provided responses that merely restated the prompt but added no other information.

- Teaching students to turn the prompt question into a statement is a good approach. However, students must then address the question by providing appropriate information.
- Generally, students do not provide sufficient information in their response to the “explain” task verb.
 - For the “explain” task verb, a good approach is to use linking words such as **because**, **whereas**, and **therefore**. These linking words naturally prompt students to continue and finish the question recitation with sound geographic information.

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

- The Course and Exam Description provides a section on “Developing the Course Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course skills into classroom instruction.
- Sign into AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
 - 7.3: Daily Video 1 focuses on the social and economic measures of development, including the HDI.
 - 7.8: Daily Video 3 explains how the United Nations’ Sustainable Development Goals help measure progress in development.

- 2.4: Daily Video 2 discusses the social, cultural, political, and economic factors that influence fertility, mortality, and migration rates.
- 7.8: Daily Video 2 explains how ecotourism helps protect the environment in question while also providing jobs for the local population.
- 2.4: Daily Video 2 discusses the social, cultural, political, and economic factors that influence fertility, mortality, and migration rates.
- 7.5: Daily Video 1 explores the different theories of development, including the theories of Rostow and Wallerstein.
- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board, but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>

Question 3

Task: Free-Response Question

Topic: Pastoral Nomadism in the Sahel Region of Africa

Max Score: 7

Mean Score: 2.17

What were the responses to this question expected to demonstrate?

In this two-stimulus question, students were expected to interpret a map of pastoral nomad migration routes in the Sahel region of Africa and a table that describes potential sources of tension related to pastoral nomadism. The map showed the Sahel region, and it included information on nomadic migration routes, protected natural areas, and Sahel grasslands. The map also identified countries of the Sahel region. The table included qualitative information on potential sources of tension that may occur between nomadic herders and crop farmers, conservation organizations, and government officials.

This question challenged students to demonstrate their abilities across several aspects of the course, drawing primarily from Unit 5 (Agriculture and Rural Land-Use) and Unit 3 (Cultural Patterns and Processes). Responses required students to demonstrate use of skills from Skill Category 2 (Spatial Relationships) and Skill Category 4 (Source Analysis).

Part A tasked students to describe one reason for the migration patterns shown on the map of pastoral nomadism in the Sahel region.

Part B asked students to describe one cause of desertification in the Sahel region.

Part C asked students to explain how pastoral nomadism may affect the cultural landscape of the Sahel region.

Part D tasked students to explain one way mixed-crop farming could be affected by climatic conditions.

Part E directed students to use the map and table to explain why expanding protected natural areas may affect the migration routes of nomadic herders.

Part F directed students to use the information in the table to explain why farmers' increased use of irrigation may increase conflicts with nomadic herders.

Part G asked students to explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders.

How well did the responses address the course content related to this question? How well did the responses integrate the skills required on this question?

Overall, students were able to effectively demonstrate their knowledge on many parts of this FRQ. Qualified students scored points primarily in parts B, E, and F. Highly qualified students also scored in parts A, D, and G. Parts C and G were the most challenging for a majority of students. In part C many students did not appear to understand the concept of the cultural landscape, confusing it with the physical environment. The point in part G was least accessible as students struggled to “explain the degree to which,” one of the more advanced skills (Skill 2.E).

Part A asked students to describe one reason for the migration patterns shown on the map of pastoral nomadism in the Sahel Region of Africa. Many students were able to describe the seasonal characteristics of these migration patterns on the map stimulus (Skill 3.B), including those students who described transhumance (IMP-2.D.2).

Part B asked students to describe one cause of desertification in the Sahel region, which also links to IMP-5.A.1. Many students earned a point in part B for correctly describing that livestock overgrazing damages the soil, and/or roots, which in turn causes desertification. The most common error in part B was that students identified overgrazing without providing the required description (e.g., damaging the soil or removing the grass cover).

In part C students were asked to make connections to Unit 3 (Cultural Patterns and Processes) to explain how pastoral nomadism may affect the cultural landscape of the Sahel region (PSO-3.B.1). Many responses did not score a point in part C. Some students were able to explain how pastoral nomadic (IMP-5.A.3) practices affected the cultural landscape by explaining that these practices used temporary dwellings, market locations, corrals, or watering sites. Many students who did not earn a point in part C responded that pastoral nomadism was affecting the physical or natural landscape, rather than the cultural landscape or built environment. The concept of the cultural landscape continues to challenge students.

Part D tasked students to explain one way mixed-crop farming could be affected by climatic conditions (PSO-5.A.1 and PSO-5.A.2). Many students earned a point in part D by explaining how specific climate conditions, such as drought, damaging rainy seasons, or severe weather disasters could impact crop yields (Skill 1.B). However, many students did not earn a point in part D and were unable to demonstrate an understanding of what mixed-crop farming is or how it could be affected by changing climate conditions.

Part E directed students to use the map and table to explain why expanding protected natural areas may affect the migration routes of nomadic herders (PSO-5.B.1 and PSO-5.A.3 and Skill 4.C). Most students correctly explained that expanding protected natural areas would lead to nomadic herders altering their migratory patterns with their animals or to the disruption of their migratory patterns by the expansion of conservation areas. Those students who did not earn a point in part E could not correctly explain the effect of expanding protected natural areas.

Part F directed students to use the information in the table to explain why farmers' increased use of irrigation may increase conflicts with nomadic herders (PSO-5.A.3 and IMP-5.A.2 and Skill 4.F). Most students earned a point in part F as they were able to use the chart to explain that there is competition for water and that increased irrigation would lead to tension between the farmers and the nomadic herders. Some students thought that farmers and nomadic herders were the same group of people, or mistakenly stated that the water sources were all in protected areas. Other students mistakenly cited information in the chart that smuggling was a source of tension.

In part G students were asked to make connections to Unit 3 (Cultural Patterns and Process) to explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders. This is found in SPS-3.A.4 in Topic 3.6 (Contemporary Causes of Diffusion) and Skill Category 2.E. Part G proved to be the least accessible part of the question, as "explain the degree to which" remains a challenge for most students. Most student responses did not indicate a degree. In addition, many students provided responses that did not address cultural convergence. Those students who did earn a point in part G correctly explained the high degree to which increased use of communication technologies created cultural convergence among nomadic herders because cell phone use may increase use of a shared language. Conversely, the students who described the low degree to which increased use of communication

technologies created cultural convergence among nomadic herders argued that either these groups rejected modernization in general, connectivity cost them too much, or connectivity was poor.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> Part A: Many students incorrectly wrote about farming rather than herding in part A, or about push/pull factors of migration. Others simply identified patterns instead of describing the process that created the patterns as the prompt indicated. 	<ul style="list-style-type: none"> Part A: Some students in part A were able to describe the seasonal characteristics of these migration patterns on the map stimulus (Skill 3.B), including those who described transhumance (IMP-2.D.2).
<ul style="list-style-type: none"> Part B: The most common error in part B was that students identified overgrazing without providing the required description (e.g., damaging the soil or removing the grass cover). 	<ul style="list-style-type: none"> Part B: Many students earned a point in part B for correctly describing that overgrazing damages soil, and/or roots, which in turn contributes to desertification (IMP-5.A.1). Some students correctly described the added stress that human population growth and farming place on land and/or water resources (Skill 1.A).
<ul style="list-style-type: none"> Part C: In Part C most students responded that pastoral nomadism was affecting the physical or natural landscape rather than the cultural landscape or built environment. A small number understood that the question was about interpreting or reading the cultural landscape but did not explain how nomadism might influence the cultural landscape. 	<ul style="list-style-type: none"> Part C: This prompt produced the fewest number of students who were able to earn a point in Question 3. In part C the few students who were able to explain how pastoral nomadic (IMP-5.A.3) practices affected the cultural landscape referenced temporary dwellings, market locations, corrals, or watering sites. Students also struggled to understand that the question was about cultural, instead of physical, landscapes (Skill 2.B).
<ul style="list-style-type: none"> Part D: In part D few students displayed any understanding of what mixed-crop farming (PSO-5.A.2) is or how it could be affected by changing climate conditions. Therefore, an explanation of how this concept could be affected by climate conditions was beyond most students because they could not identify or define the concept correctly. 	<ul style="list-style-type: none"> Part D: Some students earned a point in Part D by explaining how specific climate conditions, such as drought, damaging rainy seasons, or severe weather disasters could impact crop yields (Skill 1.B).

<ul style="list-style-type: none"> Part E: Some students could not correctly explain the effect of expanding protected natural areas in part E. The students also thought that protected areas were set aside for nomadic herders to use, which is not correct. 	<ul style="list-style-type: none"> Part E: Most students correctly explained in part E why expanding protected natural areas would lead to nomadic herders (PSO-5.A.3) altering their migratory patterns with their animals or to the disruption of their migratory patterns by the expansion of conservation areas (Skill 4.C).
<ul style="list-style-type: none"> Part F: Some students thought the farmers and nomadic herders were the same group of people. Other students mistakenly stated that the water sources were all in protected areas. Other students mistakenly cited information in the chart that smuggling was a source of tension. 	<ul style="list-style-type: none"> Part F: Most students who earned a point in part F used the table to explain that there is competition for water and that increased irrigation would lead to tension between the farmers and the nomadic herders (Skill 4.A).
<ul style="list-style-type: none"> Part G: Most students could not quantify a level required by the “explain the degree to which” special skill in part G. Further, many students incorrectly claimed the nomadic herders were using these technologies to share best practices about herding or sharing news of watering locations but did not address cultural convergence. 	<ul style="list-style-type: none"> Part G: The students that correctly explained the high degree to which increased use of communication technologies created cultural convergence among nomadic herders stated that cell phone use led to shared language. The students who described the low degree to which increased use of communication technologies created cultural convergence among nomadic herders argued that these groups rejected modernization in general, connectivity cost them too much, or connectivity was poor (Skill 2.E).

Based on your experience at the AP[®] Reading with student responses, what advice would you offer teachers to help them improve the student performance on the exam?

- Teach vocabulary from the Curriculum Framework.**
 - The task verb “define” is used infrequently in the FRQs. However, students are expected to know vocabulary and be able to apply it within a geographic context. For example, in this FRQ students were expected to know terms such as **desertification**, **cultural landscape**, **mixed-crop farming**, and **cultural convergence**. A student who did not know what these terms meant was likely to struggle to respond effectively to parts B, C, D, and G.
- Teach students to respond to the task verb “explain the degree to which”:**
- Students must understand that the “explain” verb first requires the student to indicate a degree, then to support this assertion with a statement that completes the explanation.
 - Best practices for stating the degree:** Use the words **high**, **moderate**, or **low**. Other acceptable indications of degree may include minimal, a little, moderate, somewhat, a great deal, high, widely, substantial, etc.
 - Teach students it is best to begin the response by stating one of the degrees above.** For example, “Communication technologies can affect cultural convergence among nomadic herders to a high degree because ...”

- **Teach students to complete the explanation:** Students often stop short of providing a sufficient explanation. Teaching students to indicate cause and effect relationships by using words such as because, whereas, therefore, and so on may help students reach the threshold for a sufficient explanation.
 - Supporting students with sentence stems would help them write answers to “explain the degree” questions. For example, “Increased access to communication technologies, such as cell phones, may create cultural convergence among nomadic herders to a _____ **degree**. This is **because** _____.”

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

- The Course and Exam Description provides a section on “Developing the Course Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course skills into classroom instruction.
- Sign into AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
 - 5.10: Daily Video 1 focuses on how agricultural practices have environmental consequences including pollution, desertification, and soil salinization.
 - 3.6: Daily Video 2 discusses how improving communication technology and the time-space convergence contribute to changing cultural practices.
- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board, but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>