



Chief Reader Report on Student Responses: 2024 AP[®] Human Geography Set 2

Free-Response Questions

• Number of Students Scored	262,253		
• Number of Readers	1,208		
• Score Distribution	Exam Score	N	%At
	5	46,891	17.9
	4	53,776	20.5
	3	46,552	17.8
	2	37,556	14.3
	1	77,478	29.5
• Global Mean	2.83		

The following comments on the 2024 free-response questions for AP[®] Human Geography were written by the Chief Reader, Dr. 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: Historical Impacts of Diffusion on Cultural Patterns and Processes

Max Score: 7

Mean Score: 4.08

What were the responses to this question expected to demonstrate?

This zero-stimulus question focused on the cultural geography concept of diffusion, with an emphasis on how cultural ideas, practices, and innovations change or disappear over time. Students were expected to draw from two main units for this question including Unit 3 (Cultural Patterns and Processes) and Unit 5 (Agricultural and Rural Land-Use Patterns and Processes). The main skills for this question are found in Skill Category 1 (Concepts and Processes) and Skill Category 2 (Spatial Relationships). An additional skill for this question is found in Skill Category 5 (Scale Analysis).

In part A students were asked to describe one type of diffusion by which culture traits spread.

In part B students were asked to articulate the impact of cultural diffusion on languages by describing the process of creolization of language.

In part C students were asked to make connections between cultural diffusion and globalization by describing how the globalization of foods has influenced cultural patterns of food consumption.

Following from the discussion of food in part C, students in part D were asked to explain one way that agricultural land use practices may have negative environmental effects.

In part E students were asked to explain how a new style of music may be created as a result of cultural diffusion from different regions.

In part F students were asked to explain how toponyms may result from the diffusion of religion across the cultural landscape.

In part G students were asked to explain the degree to which the use of indigenous languages has been influenced by colonialism.

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?

Most students earned 1 point for part A by correctly describing one type of diffusion by which cultural traits spread, such as expansion or relocation diffusion. Students who did not correctly answer this question did not accurately describe a type of diffusion. This question is based on information from IMP-3.A.1 in Topic 3.4 (Types of Diffusion) and PSO-3.A.2 in Topic 3.1 (Introduction to Culture), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Many students earned 1 point for part B by correctly describing the process of the creolization of language as the mixing of languages to create a new form of communication. Students who did not correctly answer this question often mentioned the mixing of languages but did not describe how this mixing evolved into a new language or form of communication. This question is based on information from SPS-3.A.1 in Topic 3.5 (Historical Causes of Diffusion) and information from IMP-3.B.1 in Topic 3.7 (Diffusion of Religion and

Language), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Many students earned 1 point for part C by correctly describing how the globalization of foods has influenced cultural patterns of food consumption through the global spread of various plants or animals. Students who did not correctly answer this question often mentioned local food preferences or patterns without describing how globalization influenced those preferences or patterns. This question is based information from SPS-5.B.1 in Topic 5.3 (Agricultural Origins and Diffusions), information from SPS-3.A.3 in Topic 3.6 (Contemporary Causes of Diffusion), and information from PSO-5.E.1 in Topic 5.9 (The Global System of Agriculture), with students demonstrating Skill 1.D (Concepts and Processes) to answer the question correctly.

Many students earned 1 point for part D by correctly explaining one way that agricultural land use practices may have negative environmental effects, such as increased pollution through chemical inputs or mechanized farming. Students who did not correctly answer this question often identified an environmental effect but did not explain how that negative environmental effect occurred because of an agricultural practice. This question is based on information from IMP-5.A.1 and IMP-5.A.2 in Topic 5.10 (Consequences of Agricultural Practices), with students demonstrating Skill 2.B (Spatial Relationships) to answer the question correctly.

Most students earned 1 point for part E by correctly explaining how a new style of music may be created as a result of cultural diffusion from different regions. Students who did not correctly answer this question did not explain how the mixing of musical styles led to new styles of music. This question is based on information from SPS-3.B.1 in Topic 3.8 (Effects of Diffusion) and information from SPS-3.A.3 and SPS-3.A.4 in Topic 3.6 (Contemporary Causes of Diffusion), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Part F proved challenging for many students. Students who earned 1 point for part F correctly explained how toponyms may result from the diffusion of religion across the cultural landscape. Students who did not correctly answer this question did not understand that a toponym is a place name. This question is based on information from IMP-3.B.2 in Topic 3.7 (Diffusion of Religion and Language) and information from PSO-3.D.1 in Topic 3.3 (Cultural Patterns), with students demonstrating Skill 2.B (Spatial Patterns) to answer the question correctly.

Part G also proved challenging for many students. Students who earned 1 point for part G correctly explained the degree to which the use of indigenous languages has been influenced by colonialism. Students who did not correctly answer this question did not connect changes in the use of indigenous languages back to colonialism. This question is based on information from SPS-3.A.1 and SPS-3.A.2 in Topic 3.5 (Historical Causes of Diffusion) and information from IMP-3.B.1 and IMP-3.B.2 in Topic 3.7 (Diffusion of Religion and Language), with students demonstrating Skill 5.D (Scale Analysis) to answer the question correctly.

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"> In part A students identified a type of diffusion but did not accurately describe the type of diffusion. 	<ul style="list-style-type: none"> In part A students who earned 1 point described one type of diffusion by which culture traits spread.
<ul style="list-style-type: none"> In part B students mentioned the mixing of languages but did not describe how this mixing evolved into a new language or new form of communication. 	<ul style="list-style-type: none"> In part B students who earned 1 point described the process of creolization of language, for example, when two or more languages converge or mix to create a new language.
<ul style="list-style-type: none"> In part C students mentioned local food preferences or patterns without describing how globalization influenced those preferences or patterns. 	<ul style="list-style-type: none"> In part C students who earned 1 point described how the globalization of foods has influenced cultural patterns of food consumption through the spread of ingredients, cuisines, foods, and/or food cultures to people around the world.
<ul style="list-style-type: none"> In part D students identified a negative environmental effect of land use practices but did not explain how that environmental effect occurred. 	<ul style="list-style-type: none"> In part D students who earned 1 point explained one way that agricultural land use practices may have negative environmental effects, such as increased pollution through chemical inputs, resource use, and/or mechanization.
<ul style="list-style-type: none"> In part E students did not explain how the mixing of musical styles led to new styles of music. 	<ul style="list-style-type: none"> In part E students who earned 1 point explained how a new style of music may be created as a result of cultural diffusion from different regions, for example, when two or more musical styles come into contact and combine their elements to create a new musical style.
<ul style="list-style-type: none"> In part F students did not understand that a toponym is a place name and could not explain how toponyms may result from the diffusion of religion. 	<ul style="list-style-type: none"> In part F students who earned 1 point explained how toponyms (place names) may have resulted from the diffusion of religion across the cultural landscape through the naming of places after important religious figures, sacred sites, places of worship, events, and/or symbols.

<ul style="list-style-type: none"> In part G students did not link changes in the use of indigenous languages back to colonialism. 	<ul style="list-style-type: none"> In part G students who earned 1 point correctly explained the degree to which the use of indigenous languages has been influenced by colonialism. For example, colonizers restricted indigenous language use to a moderate or high degree by imposing languages to govern and/or communicate with the colonized.
---------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

- Teachers should ensure their students have a well-developed knowledge of key concepts as outlined in the Course and Exam Description. In this question, key terms included: creolization, culture traits, toponym, and colonialism.
- Teach students to move beyond definitions of key vocabulary and be able to apply the concepts as geographical processes, as tasked in part B and part F.
- Teach students to differentiate types of diffusion. Students should also understand the power dynamics, power structure, and/or power relationships between colonizers and the colonized.
- Teach students the expectations for task verbs. For example, when given an “explain” question, students need to make “cause and effect” connections by explaining how or why a certain relationship or process occurs.
- Train students how to respond to the “explain the degree to which” task verb phrase:
 - Teach students to state the degree and use the words high, moderate, or low. Other acceptable indicators of the degree include minimal, a little, moderate, somewhat, a great deal, high, widely, substantial, etc.
 - Teach students it is best to begin the response by stating the degrees above. For example, “Green Revolution agricultural practices were effective to a high degree in reducing hunger in less developed countries due to the use of high yield seeds...”

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 Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to 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 free-response question include:
 - 3.1: Daily Video 1 examines how culture comprises the shared practices, technologies, attitudes, and behaviors transmitted by a society.
 - 3.1: Daily Video 2 discusses how cultural traits include things such as food preferences, architecture, and land use.
 - 3.3: Daily Video 1 discusses how regional patterns of language, religion, and ethnicity contribute to a sense of place, enhance placemaking, and shape the global cultural landscape.
 - 3.4: Daily Video 1 discusses the different types of diffusion, including relocation, contagious, hierarchical, and stimulus diffusion.
 - 3.4: Daily Video 2 discusses the differences between the types of diffusion using examples and will explain barriers that may decrease diffusion of culture.
 - 3.5: Daily Video 1 discusses how interactions between and among cultural traits and larger global forces (including colonialism and trade) can lead to new forms of cultural expression.
 - 3.5: Daily Video 1 discusses how interactions between and among cultural traits and larger global forces (including colonialism and trade) can lead to new forms of cultural expression.
 - 3.6: Daily Video 1 discusses how cultural ideas change and diffuse through many processes, including globalization and urbanization.
 - 3.6: Daily Video 2 discusses how improving communication technology and the time-space convergence contribute to changing cultural practices.
 - 3.7: Daily Video 1 discusses how languages, religions, and ethnic cultures emerge from cultural hearths.
 - 3.7: Daily Video 2 discusses how the diffusion of language families and religious patterns and distributions can be visually represented on maps, in charts, and in toponyms.
 - 3.7: Daily Video 3 examines how religions have distinct origins and how practices and belief systems impact the way widespread religions diffuse.
 - 3.8: Daily Video 1 discusses the effects of diffusion, including acculturation, assimilation, syncretism, and multiculturalism, which result in changes to the cultural landscape.
 - 5.3: Daily Video 1 discusses how early hearths of domestication of plants and animals arose in the Fertile Crescent and several other regions of the world, including the Indus River Valley, Southeast Asia, and Central America.
 - 5.9: Daily Video 1 discusses how food and other agricultural products are part of a global supply chain.
 - 5.10: Daily Video 1 focuses on how agricultural practices have environmental consequences including pollution, desertification, and soil salinization.
 - 5.10: Daily Video 2 focuses on how agricultural practices such as terraces, irrigation systems, deforestation, draining wetlands, and shifting agriculture can alter the landscape.
- 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: Infrastructure in the Washington, D.C., metropolitan area

Max Score: 7

Mean Score: 3.03

What were the responses to this question expected to demonstrate?

This one-stimulus question focused on how the attitudes and values of a population, as well as the balance of power within that population, are reflected in the built landscape, as revealed in decisions on how and where to expand commuter rail lines within a metropolitan region. 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 Patterns and Processes). The main skills for this question are found in Skill Category 2 (Spatial Relationships) and Skill Category 4 (Source Analysis). Additional skills for this question are found in Skill Category 1 (Concept and Processes) and Skill Category 5 (Scale Analysis).

The stimulus for this question was a map of Washington, D.C., and surrounding jurisdictions showing the boundaries of political jurisdictions as well as current and future Metrorail lines.

In part A students were asked to identify one type of boundary shown on the map.

In part B students were asked to describe one site characteristic of Washington, D.C., shown on the map.

In part C, given that Washington, D.C., is the seat of the national government in the federal government system of the United States, students were asked to explain how political power is spatially distributed within a federal system of governance.

In part D, given the suburban sprawl that has impacted the Washington, D.C., area, students were asked to explain one way suburban sprawl is likely to negatively affect environmental sustainability in metropolitan areas.

In part E students were asked to describe one way transportation-oriented development, such as expanding a Metrorail line, may promote urban sustainability.

In part F students were asked to explain how regional transportation networks led to the development of edge cities.

In part G students were asked to explain how the geographic fragmentation of local governments could present a challenge to the Washington, D.C., metropolitan area's ability to construct a new Metrorail line.

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?

Most students earned 1 point for part A by correctly identifying a type of boundary shown on the map. The most common responses correctly identified one type of boundary shown on the Washington, D.C., area map as political or geometric. In part A students who did not earn a point often mixed-up types of regions with types of boundaries. This question is based on information, including boundary types, from IMP-4.A.1 in Topic 4.4 (Defining Political Boundaries), with students demonstrating Skill 4.A (Source Analysis) to answer the question correctly.

Many students earned 1 point for part B by correctly describing one site characteristic of Washington, D.C., shown on the map as being located along the Potomac River or Anacostia River. In part B some students who did not earn a point incorrectly described a situation characteristic of Washington, D.C., rather than describing a site characteristic (a physical attribute inherent to the location). This question is based on information, including site characteristics and their influence on the origin, function, and growth of cities, from PSO-6.A.1 in Topic 6.1 (The Origin and Influences of Urbanization), with students demonstrating Skill 4.C (Source Analysis) to answer the question correctly.

Many students earned 1 point on part C, which asked students to explain how political power is spatially distributed in a federal system of government. Many students who earned 1 point correctly explained that in a federal government system, power is spatially distributed among the federal (central or national) government and local or subnational units. Students who did not earn a point on this question often failed to mention the central government (or a synonym for this) in addition to lower scales of governments in their explanation of the spatial distribution of political power within a federal system of governance. This question is based on information from IMP-4.C.1 and IMP-4.D.1 in Topic 4.7 (Forms of Governance), with students demonstrating Skill 2.B (Spatial Relationships) to answer the question correctly.

Many students earned 1 point in part D, which asked students to describe one way suburban sprawl is likely to negatively affect environmental sustainability in metropolitan areas. Many students who earned 1 point correctly described that suburban sprawl leads to increased traffic, which increases levels of pollution and negatively affects environmental sustainability in metropolitan areas. Students who did not earn a point in part D mentioned how sprawl leads to increased traffic without explaining that this traffic leads to increased pollution. This question is based on information from SPS-6.B.1 in Topic 6.11 (Challenges of Urban Sustainability) and information from PSO-6.A.4 in Topic 6.2 (Cities Across the World), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Part E asked students to describe one way transportation-oriented development, such as expanding a Metrorail line, may promote urban sustainability. Many students who earned 1 point correctly described that transportation-oriented development might reduce the number of cars, which would then lead to reductions in pollution. Some students who did not earn a point in Part E mentioned that transportation-oriented development might reduce the number of cars without describing how this would then lead to reductions in pollution. This question is based on information from IMP-6.C.1 and IMP-6.D.1 in Topic 6.8 (Urban Sustainability), and information from SPS-6.B.2 in Topic 6.11 (Challenges of Urban Sustainability), with students demonstrating Skill 1.D (Concepts and Processes) to answer the question correctly.

The most difficult part of this FRQ was part F, which asked students to explain how regional transportation networks led to the development of edge cities. Correct responses emphasized that edge cities develop around transit hubs and corridors on the outskirts of large cities with their own concentrations of businesses, commercial land, and employment. Incorrect responses often conflated the concept of edge cities with generic suburbanization, with students incorrectly responding that edge cities are mainly residential areas with people commuting into the city center for employment. This question is based on information, including the concept of edge cities, from PSO-6.A.4 in Topic 6.2 (Cities Across the World), with students demonstrating Skill 5.B (Scale Analysis) to answer the question correctly.

Many students earned 1 point on part G, which asked students to explain how the geographic fragmentation of local governments could present a challenge to the Washington, D.C., metropolitan area's ability to construct a new Metrorail line. Students earned 1 point by correctly explaining that geographic

fragmentation of local governments could present a challenge to the ability to construct a new Metrorail line because it would involve multiple governments having to cooperate and agree to fund, plan, or zone for a new line. Students who did not earn a point in this part incorrectly interpreted geographic fragmentation as physical/natural features (e.g., rivers) that get in the way of constructing Metrorail lines rather than multiple government jurisdictions. This question is based on information from SPS-6.A.5 in Topic 6.10 (Challenges of Urban Changes) and information from IMP-4.D.1 in Topic 4.7 (Forms of Governance), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

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"> In part A students confused region types with boundary types. 	<ul style="list-style-type: none"> In part A many students who earned 1 point identified at least one type of boundary shown on the map.
<ul style="list-style-type: none"> In part B students confused the concept of site with the concept of situation. 	<ul style="list-style-type: none"> In part B many students who earned 1 point correctly described a site characteristic of Washington, D.C., as located along the Potomac River or Anacostia River.
<ul style="list-style-type: none"> In part C students who did not earn a point did not explain that while in a federal government system power is shared or dispersed to local or subnational units, the federal (central or national) government still retains some power. 	<ul style="list-style-type: none"> In part C many students who earned 1 point correctly explained that in a federal government system, power is spatially distributed among the federal (central or national) government and local or subnational units.
<ul style="list-style-type: none"> In part D students mentioned that suburban sprawl leads to increased traffic without taking the next step of explaining how this would negatively affect environmental sustainability in metropolitan areas. 	<ul style="list-style-type: none"> In part D many students who earned 1 point correctly described that suburban sprawl leads to increased traffic, which would increase levels of pollution and negatively affect environmental sustainability in metropolitan areas.
<ul style="list-style-type: none"> In part E students mentioned that transportation-oriented development may reduce the number cars, without describing how this then leads to reductions in pollution. 	<ul style="list-style-type: none"> In part E many students who earned 1 point correctly described that transportation-oriented development might reduce the number of cars, which would then lead to reductions in pollution.
<ul style="list-style-type: none"> In part F in explaining how regional transportation networks led to edge cities, many students conflated generic suburbanization with the edge city concept. 	<ul style="list-style-type: none"> In part F students earned 1 point by correctly emphasizing that edge cities develop around transit hubs and corridors on the outskirts of a large city with their own concentrations of businesses, commercial land, and employment.

- In part G students incorrectly interpreted geographic fragmentation of local governments as fragmentation along natural/physical features (e.g., rivers) rather than multiple local jurisdictions.

- In part G students earned 1 point by correctly explaining that geographic fragmentation of local governments could present a challenge to the ability to construct a new Metrorail line because it would involve multiple governments having to cooperate and agree to fund, plan, or zone for a new line.

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

- Teachers should ensure their students have a well-developed knowledge of key concepts as outlined in the Course and Exam Description. In this question, key terms included: boundary types, site characteristic, federal systems of government, environmental sustainability, and edge cities.
- Teach students what is expected with task verbs. Many “explain questions” ask the student to explain a process or a causal chain, for example, “explain ONE way suburban sprawl is likely to negatively affect environmental sustainability...” Students need to explain all steps in such a causal chain to earn a point (e.g., sprawl leads to increased vehicular use, which leads to increased levels of air pollution).
- Practice cross-unit connections in quizzes, exams, and other assignments. As the academic year progresses, teachers should integrate concepts from previous units into quizzes, exams, and other forms of assessments to have students practice making connections across units. Students should expect FRQs to include topics from more than one unit.
 - For example, have students make frequent connections across course units throughout the course (e.g., how the geographic fragmentation of local governments, from Unit 4, could present a challenge to the Washington, D.C. metropolitan area’s ability to construct a new Metrorail line, from Unit 6).
- AP Human Geography asks students to learn different concepts and ideas that can become abstract in the mind of the student. Working with concrete examples may help to solidify understanding of certain terms. For example, Bloomington, Minnesota, is an edge city in the Minneapolis-Saint Paul metropolitan area as a number of office parks have clustered around the intersection of a ring road and an interstate highway. This may be contrasted with Wayzata, Minnesota, which is more of a residential suburb. That said, while learning about concepts in specific geographies can help students grasp the nuance of a term, they also need to be able to apply the term to a place with which they are less familiar.

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 Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to 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:
 - 4.4: Daily Video 1 discusses the different types of political boundaries used by geographers.
 - 4.7: Daily Video 1 discusses how forms of governance include unitary states and federal states.
 - 6.1: Daily Video 1 discusses how the presence and growth of cities vary across geographical locations because of physical geography and resources.
 - 6.2: Daily Video 1 focuses on how megacities and metacities are distinct spatial outcomes of urbanization, increasingly located in countries of the periphery and semiperiphery.
 - 6.2: Daily Video 2 discusses how the process of suburbanization has created new land-use forms—including edge cities, exurbs, and boomburbs—and new challenges.
 - 6.8: Daily Video 1 focuses on the positives of sustainable design initiatives, including mixed land use, walkability, transportation-oriented development, and smart-growth policies.
 - 6.8: Daily Video 2 focuses on the criticisms of urban design initiatives, including increased housing costs, possible de facto segregation, and potential loss of historical character.
 - 6.11: Daily Video 1 focuses on the challenges and responses to urban sustainability.
 - 6.10: Daily Video 1 examines economic and social challenges in cities related to housing and housing discrimination, such as redlining, blockbusting, and affordability.
 - 6.10: Daily Video 2 examines how urban renewal and gentrification can have both positive and negative consequences in communities.
 - 6.10: Daily Video 3 focuses on squatter settlements and how conflicts over land tenure within large cities have increased.
- 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: Stage 5 in the Demographic Transition Model (DTM)

Max Score: 7

Mean Score: 4.12

What were the responses to this question expected to demonstrate?

In this two-stimulus question, students were expected to examine the causes and impacts of a country as it enters stage 5 of the demographic transition model (DTM). The two stimuli were 1) a graphical representation of the demographic transition model and 2) a table displaying demographic data on birth rates, death rates, and percent of population over age 65 for seven selected countries (Croatia, Estonia, Germany, Greece, Japan, Portugal, Romania). For all seven countries, as of 2019, the birth rates were lower than the death rates, meaning that these countries had negative rates of natural increase (RNI).

Students were expected to draw from two main units for this question, Unit 2 (Population and Migration Patterns and Processes) and Unit 7 (Industrial and Economic Development Patterns and Processes). The main skills for this question were found in Skill Category 2 (Spatial Relationships) and Skill Category 3 (Data Analysis). Additional skills for this question were found in Skill Category 1 (Concepts and Processes) and Skill Category 5 (Scale Analysis).

In part A students were asked to select one country listed in the table and identify its stage in the demographic transition model.

In part B, prompted by a correct interpretation of the graph and table indicating all countries in the table have a negative RNI, students were asked to define the concept of a pronatalist policy.

In part C students were asked to explain one factor that affects birth rates as countries move from stage 3 to stage 4 in the demographic transition model.

In part D students were asked to describe one likely economic effect when countries have negative population growth.

In part E students were asked to describe a policy that a government might develop in response to demographic change based on the data shown in the table.

In part F students were asked to explain why the life expectancy in urban areas may be higher than the life expectancy in the entire country.

In part G students were prompted to use the data shown in the table to explain how, over time, low birth rates may impact the country's percent of population over age 65.

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?

Most students earned 1 point for part A by correctly selecting one country listed in the table and identifying its stage in the demographic transition model as stage 4 or stage 5. Students who did not answer the question correctly often misidentified the stage at which countries on the table were located, often listing them as being in stage 1 or stage 2 of the demographic transition model. This question is based on

information from IMP-2.B.1 in Topic 2.5 (The Demographic Transition Model), with students demonstrating Skill 3.A (Data Analysis) to answer the question correctly.

Most students earned 1 point for part B by correctly defining the concept of a pronatalist policy as one designed to increase the birth rate and/or the fertility rate. Students who did not correctly answer the question often confused pronatalist and antinatalist policies. This question is based on information from SPS 2.A.1 in Topic 2.7 (Population Policies), with students demonstrating Skill 1.D (Concepts and Processes) to answer the question correctly.

Most students earned 1 point for part C by correctly explaining one factor that affects birth rates as countries move from stage 3 to stage 4 in the demographic transition model such as increased access to health care, contraceptives, and/or other family planning information. Students who did not correctly answer this question did not explain why one factor may cause birth rates to decline. This question is based on information from SPS-7.D.1 in Topic 7.4 (Women and Economic Development), information from SPS-2.B.1 in Topic 2.8 (Women and Demographic Change), and information from IMP-2.B.1 in Topic 2.5 (The Demographic Transition Model), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Many students earned 1 point in part D by correctly describing one likely economic effect when countries have negative population growth as a reduction in the available workforce or government spending more money on programs to support the elderly/retired population. Students who did not correctly answer this question described social or demographic effects rather than economic effects. This question is based on information from SPS-7.C.1 in Topic 7.3 (Measures of Development) and information from IMP-2.A.3 (Population Dynamics) in Topic 2.4 (Population Dynamics), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Most students earned 1 point in part E by correctly describing, based on the data shown in the table, a policy that a government might develop in response to demographic change. Most students correctly described a pronatalist policy, which would most likely be advocated for by the government of a country listed on the table, given that all countries are experiencing negative population growth. Students who did not correctly answer this question often described an antinatalist policy. This question is based on information from SPS-2.A.1 in Topic 2.7 (Population Policies) and information from SPS-2.C.2 in Topic 2.9 (Aging Populations), with students demonstrating Skill 3.E (Data Analysis) to answer the question correctly.

Many students earned 1 point in part F. Students who earned 1 point correctly explained that one reason why life expectancies in urban areas may be higher than life expectancies in an entire county may be due to increased access to food, health care, sanitation, and/or social services in urban areas. Students who did not correctly answer this question mentioned the differences in very vague terms, which did not fully explain why life expectancies in urban areas may be higher than life expectancies in an entire county. This question is based on information from SPS-2.C.1 and SPS-2.C.2 in Topic 2.9 (Aging Populations) and information from PSO-2.E.1 in Topic 2.3 (Population Composition), with students demonstrating Skill 5.C (Scale Analysis) to answer the question correctly.

Part G proved challenging for students. Some students earned 1 point in part G by correctly explaining how, using the data in the table, over time, low birth rates may impact the country’s percent of population over age 65. Students who did not correctly answer this question either discussed the economic effects of low birth rates or simply restated the prompt rather than explaining how low birth rates would likely lead to a higher percentage of a population being over the age of 65. This question is based on information from IMP-2.A.1 in Topic 2.4 (Population Dynamics), with students using Skill 3.E (Data Analysis) to answer the question correctly.

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

<i>Common Misperceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> In part A students misidentified the stage of the demographic transition model in which countries on the table are situated, often listing them as being in stage 1 or stage 2 of the DTM. 	<ul style="list-style-type: none"> In part A students who earned 1 point correctly identified a country in the table as being in stage 4 or 5 of the DTM.
<ul style="list-style-type: none"> In part B students who did not correctly answer the question often confused pronatalist and antinatalist policies. 	<ul style="list-style-type: none"> In part B students who earned 1 point correctly defined a pronatalist policy as one designed to increase the birth rate and/or the fertility rate.
<ul style="list-style-type: none"> In part C students who did not correctly answer this question did not explain a factor for why birth rates decline as countries move from stage 3 to stage 4 in the DTM. 	<ul style="list-style-type: none"> In part C students who earned 1 point correctly explained one factor for why birth rates decline as countries move from stage 3 to stage 4 in the DTM, such as increased access to health care, contraceptives, and/or other family planning information. Some students explained other factors, such as increased access to education and/or employment of women in the paid workforce.
<ul style="list-style-type: none"> In part D students who did not correctly answer this question described a social or demographic effect when countries have negative population growth rather than describing an economic effect. 	<ul style="list-style-type: none"> In part D students who earned 1 point correctly described one likely economic effect when countries have negative population growth, such as a reduction in the available workforce or government spending more money on programs to support the elderly/retired population.
<ul style="list-style-type: none"> In part E students who did not correctly answer this question described an antinatalist policy instead of a pronatalist policy. 	<ul style="list-style-type: none"> In part E students who earned 1 point correctly described a pronatalist policy.

<ul style="list-style-type: none"> In part F students who did not correctly answer this question incompletely explained the differences in vague terms without fully explaining why life expectancies in urban areas may be higher than life expectancies in an entire country. 	<ul style="list-style-type: none"> In part F students who earned 1 point correctly explained that life expectancies in urban areas may be higher than the life expectancies of the entire country due to better access to food, health care, sanitation, and/or social services.
<ul style="list-style-type: none"> In part G students who did not correctly answer this question discussed economic effects or simply restated the prompt rather than explaining how low birth rates would likely lead to a higher percentage of a population being over the age of 65. 	<ul style="list-style-type: none"> In part G students who earned 1 point correctly explained that low birth rates may lead to an increase in the percent of population over age 65 because the overall population ages or there are fewer children.

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

- Teachers need to instruct students to differentiate among the different stages of the demographic transition model (DTM), and to be able to understand the effects and policy implications of each DTM stage.
- Students should carefully read the question and understand what the question is asking for before attempting their response. For example, students were asked to describe a likely economic effect when countries have negative population growth, but some described social or political effects.
- Train students to carefully and legibly write their responses to make sure that readers can read what the student intended in their responses.

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 Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to 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:
 - 2.3: Daily Video 1 examines how the patterns of age structure and sex ratio vary across different regions and may be mapped and analyzed at different scales.
 - 2.4: Daily Video 1 discusses the demographic factors that determine a population’s growth and decline, including fertility, mortality, and migration.
 - 2.4: Daily Video 2 discusses the social, cultural, political, and economic factors that influence fertility, mortality, and migration rates.
 - 2.5: Daily Video 1 discusses how the demographic transition model can be used to explain population change over time.
 - 2.5: Daily Video 2 discusses how the epidemiological transition explains the causes of changing death rates.

- 2.7: Daily Video 1 examines the types of population policies that promote or discourage population growth, such as pronatalist and antinatalist policies.
- 2.8: Daily Video 1 discusses how changing social values and access to education, employment, health care, and contraception have reduced fertility rates.
- 2.8: Daily Video 2 how changing social, economic, and political roles for females have influenced patterns of fertility, mortality, and migration, as illustrated by Ravenstein's laws of migration.
- 2.9: Daily Video 1 discusses how population aging is determined by birth and death rates and life expectancy. We will also look at the consequences of an aging population.
- 7.3: Daily Video 1 focuses on the social and economic measures of development.
- 7.4: Daily Video 1 focuses on the changing roles of women as countries develop economically, highlighting microloans as an opportunity for women to improve their standard of living.
- 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/>