AP® PSYCHOLOGY
2009 SCORING COMMENTARY

Question 2

Overview

This question required analysis and application. Students were asked to relate some concepts (cognitive, brain-based behavior, learning, and industrial/organizational) to a set of complex motor behaviors (driving) and to apply other concepts (brain-based behavior, testing, and memory) to a written test in the same domain.

Sample: 2AA
Score: 6

The essay earned point 1 because the student describes a "mental layout of his surroundings" as influencing driving ability. Point 2 was earned when the student links the function of the cerebellum to coordination of movement and braking. The essay earned point 3 when the student describes how James could learn to "look both ways before pulling into a street after watching his mom do the same thing when she drives." In other words, the essay both specifically describes observational learning and the application to driving. The student does not attempt to address an element of design so did not earn point 4. Point 5 was earned when the student correctly identifies the reticular formation as critical to arousal and links level of arousal (focus) to taking the driving test. The essay earned point 6 when the student states that a good test score could accurately predict good driving skills. The essay earned point 7 when the student says, "if James didn't have a strong semantic memory, he would have trouble remembering what certain things on the test meant; he might not remember why you have to stop at [a] red light."

Sample: 2BB
Score: 4

The essay did not earn point 1 because there is no reference to a spatial map. Point 2 was earned because the student identifies the cerebellum as "responsible for . . . cordination [*sic*]" and then clearly applies coordination to the driving scenario. Point 3 was earned because the student discusses a specific driver changing lanes and says, "James does not know how to switch lanes," but he "notices exactly what he has to do and he learns how to do [it] just by watching" the other driver. The essay did not receive credit for point 4 because there is no reference to an element of design. The essay did not earn point 5 because the student does not attempt to discuss reticular formation. Point 6 was earned when the student describes performance on a written test accurately predicting James's knowledge of "the rules of the road." Point 7 was earned because the student states that "remembering facts" will help James to perform well on the written exam.

Sample: 2CC
Score: 2

Although the student describes knowledge of how to get to a destination, there is no specific reference to spatial information, so point 1 was not earned. Point 2 was earned when the student describes coordination, a function of the cerebellum, as necessary for driving. The essay earned point 3 because a specific reference to the instructor as a model for observational learning is linked to James's driving. Point 4 was not earned because the essay does not discuss a design element or explain how the element influences driving. The essay did not earn point 5 because there is no reference to a process that is a function of the reticular formation. Point 6 was not earned because the essay does not connect scores on the written test with future driving performance. The essay did not earn point 7 because there is no specific reference to knowledge.

two.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

de he has learned in the course, because about driving a test must be both valid & reliable to be a good predictor of the skill the test is on. Also his semantic memory would be important if he will be able to recall information the teacher taught him about things such as parallel parking.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

TWO

A Cognitive map would help James in his driving course. because it would show that he Knows where he is driving too, and he will be able to focus on the driving because he knows how to get to his destination. Also in his ~~cerebellom~~ test he will be using hand eye cordination skills which are monitored by the Cerebellom when one is driving. ~~He~~ James will use observational learning factics acquired in his class by watching how his instructor drives the car. James will imitate the instructors movements through observational learning. The human factors may play arole in that James may do something Wrong because it is instinctual sucnas if he hydroplanes he will slam on the brakes wrather than let off the gas which is what you are supposed to do because slamming the brakes is instinctual.

Reticolar formation would help James out in the written test because he would be able to recall his information he learned in the course doe to his Reticular formation. Predictive Validity of the test plays a role that if the test James is taking is valid to the skills and Knowle

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2

Human factors are characteristics that make us who we are. James' human factors make him a good driver and they are what make him pass the ~~driving~~ road exam. He knows how to push the gas and turn the wheel because of human factors.

Predictive validity is when you know that what you are going to take evaluates how well you perform on a certain task. Validity means it is accurate. The ~~driving~~ written test that James is taking will accurately evaluate how well he knows the rules of the road. It will also measure if he is ready to be a driver.

The Semantic memory is responsible for ~~the~~ remembering facts. James has probably studied for the drivers exam and he is able to answer the first question because ~~it is~~ the answer is a fact that he has learned. All of the correct answers were correct because of the Semantic memory.

Reticular formation is

2

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A cognitive map is plotting out what you are going to do next with your actions. During the road test James is accelerating and suddenly the light turns red. He maps out what he has to do and he knows he has to put his foot on the break and slowly press it to slow down and then come to a complete stop.

The cerebellum is responsible for balance and cordination. As James drives he needs to cordinate his turns and he must know how to move the steering wheel. As he is about to make a left turn he knows he must slowly rotate the steering wheel because of his cerebellum.

Observational learning is watching as others do things and as a result you have also learned how to do them. During the driving test James does not know how to switch lanes, but he sees that the car in front of him do it. He notices exactly what he has to do and he learns how to do just by watching. When the instructor tells him to switch lanes, he knows how to do it perfectly.

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at red light. Clearly this would yield poor test results.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

2

a) A cognitive map could influence his driving ability by giving him confidence since he would have a mental layout of his surroundings. His cerebellum would allow him to process sensory input (such as recognizing a stop sign) and coordinate movement output and balance (such as applying the right amount of pressure to the brake). Observational learning could lead him to look both ways before pulling into a street after watching his mom do the same thing when she drives. Human factors, such as feeling guilty for speeding, could lead him to drive slow + cautiously.

b) His reticular formation could affect his results by keeping him in a proper state of arousal, allowing him to focus and think hard, while taking the test. Predictive validity relates to the test results because it is essentially a measure of the extent to which it accurately predicts what it's supposed to do, which is what James' driving skills will be like. If it doesn't have predictive validity, the test [redacted] results don't give us a good idea about whether or not James will be a good driver. Semantic memory could affect the results because if James didn't have a strong semantic memory, he would have trouble remembering what certain things on the test meant; he might not remember why you have to stop

leading to a good test score

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Question 2 (continued)

For points 5–7, applications must refer to the results of the WRITTEN TEST.

Point 5: Reticular formation
Students must include the following elements in their answers:
Reference to at least one process such as attentiveness, arousal, sleep, autonomic nervous system **AND** how it is related to the results of the written test.

Examples:
"The reticular formation makes James more/less alert, and he performs better/worse on the exam."
"James's reticular formation makes him fall asleep, which adversely affects his performance on the exam."

Do not score:

- Descriptions of brain processes not related to those listed above

Point 6: Predictive validity
Students must include the following in their answers:
Reference to how the scores on the written test predict or are predicted by either driving performance, performance on the road test, or the driver's education course grade. Any type of predictive relationship (high score predicts high performance, high score predicts low performance, etc.) will score.

Examples:
"A high score on the written test predicts that James will be a good driver."
"A low score on the road test predicts that James will score high on the written test."
"James earns an A in his driver's ed class, which predicts that he will score high on the written test."

Do not score:

- Responses that discuss other types of validity
  Examples:
  "The test has high predictive validity if it measures what it is supposed to measure."
  "If James studies what he expects will be on the test, and he passes the test, the test has predictive validity."
  "The test has predictive validity if it measures whether James knows what he needs to know about driving."

Point 7: Semantic memory
Students must include the following elements in their answers:
Reference to knowledge (e.g., facts, concepts, definitions, or language rules) **AND** how it is related to the results of the test.

Examples:
"James had good knowledge of the course material and was able to score well on the written test."
"James did not have a good grasp of the course content and did not perform well on the written test."

Do not score:

- Descriptions of semantic encoding (processes that help James remember) without a description of semantic memory
- Descriptions of episodic memory without a description of semantic memory
- The words "information" or "meaning" without a more specific reference to knowledge (see above)

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Question 2 (continued)

Point 2: Cerebellum
Students must include the following elements in their answers:
Reference to the cerebellum's role in at least one of the following: balance, coordination, motor movements, physical responses and actions, procedural memory, or reflexes **AND** how it influences the ability to drive a car.

Examples:
"James will be able to coordinate his hand and foot movement to maneuver the car."
"James will depend on his balance to drive the car."
"James uses procedural memory to operate the vehicle."

Do not score:

- Descriptions of brain processes not related to those listed above

Point 3: Observational learning
Students must include the following elements in their answers:
Reference to watching/observing another doing something associated with driving **AND** how that observed behavior influences the ability to drive a car.

Examples:
"James observes someone driving and learns to drive."
"After watching his parents drive, James picked up driving habits."
"While watching videos during the driver's education course, James will model the driving behavior seen in the video."
"After witnessing his brother getting scolded for driving too fast, James drives no faster than the speed limit."

Do not score:

- Statements that do not specifically link the observational component to the ability to drive a car or that do not link the observation to something associated with driving
  Examples:
  "By watching others drive, a student can learn through observational learning."
  "James observes someone and learns to drive."

Point 4: Human factors
Students must include the following elements in their answers:
Reference to some kind of design element **AND** how it influences the ability to drive a car.

Examples:
"Because the road signs are different colors, James can distinguish between them while driving."
"James's car has many controls that are too far out of his reach; it is poorly designed; or its technology is too complicated, so that it compromises his driving abilities."
"James drives better when operating an automatic transmission."

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Question 2

James is in a driver's education course preparing to take his driving test. The course includes both book work and driving on the road to prepare students for a written test and a road test.

(a) Describe how each of the following might influence his ability to drive a car during the road test. Definitions without application do not score.

- Cognitive map
- Cerebellum
- Observational learning
- Human factors

(b) Describe how each of the following are related to the results of the written test. Definitions without application do not score.

- Reticular formation
- Predictive validity
- Semantic memory

General Considerations

1. Answers must be presented in sentences, and sentences must be cogent enough for students' meaning to be apparent. Spelling and grammatical mistakes do not reduce students' scores, but spelling must be close enough so that the reader is convinced of the word intended.
2. Within a point, students will not be penalized for misinformation unless it *directly contradicts* correct information that would otherwise have scored a point.
3. Students can score points only if information is presented in *context*. This means that they must clearly convey which part of the question is being answered before a point can be earned.

For points 1–4, applications must refer to the ability to DRIVE A CAR.

Point 1: Cognitive map

Students must include the following elements in their answers:
Reference to some sort of mental representation of spatial information (e.g., layout of environment) **AND** how it influences the ability to drive a car.

Examples:
"The picture of the road in his head makes it easier for James to anticipate any turns or obstacles in his path."
"James uses a mental representation of his environment that helps him to drive."
"James pictures the neighborhood in his mind and is able to find a new route to his destination."
"James's memory of the layout of the dashboard of his car may help him to drive more efficiently."

Do not score:

- Step-by-step plan
- Mental image (by itself)
- An answer that could refer to a paper map or GPS (global positioning system)