CollegeBoard AP

AP® Psychology
2011 Scoring Guidelines

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AP® PSYCHOLOGY
2011 SCORING GUIDELINES

Question 1

A researcher designs a study to investigate the effect of feedback on perception of incomplete visual figures. Each participant stares at the center of a screen while the researcher briefly projects incomplete geometric figures one at a time at random positions on the screen. The participant's task is to identify each incomplete figure. One group of participants receives feedback on the accuracy of their responses. A second group does not. The researcher compares the mean number of figures correctly identified by the two groups.

A. Identify the independent and dependent variables in the study.

B. Identify the role of each of the following psychological terms in the context of the research.
   - Foveal vision
   - Feature detectors
   - Gestalt principle of closure

C. Describe how each of the following terms relates to the conclusions that can be drawn based on the research.
   - Random assignment
   - Statistical significance

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 sufficiently accurate for the reader to be convinced of the word intended.
2. Within a point, students will not be penalized for misinformation unless it directly contradicts or obscures correct information that would otherwise have scored the point.
3. Students can only score points 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. Mentioning "figures," "results," or "participants" is enough to establish that students are applying the concept to the example. However, it is also possible to infer context from the order of the essay, if it is consistent with the order of the question.

Point 1: Independent variable
There is one and only one independent variable in the study. Students must state that feedback, or participants' being told whether their responses are accurate, is the independent variable.

Score
   - References to a level of the independent variable (e.g., "no feedback").

Do not score
   - References to only the people in the experimental and/or control group (e.g., "The independent variable is people in the group who received feedback").
   - The listing of more than one variable (even if one is "feedback").
   - "Effect of feedback."

Point 2: Dependent variable
The student must refer to either:
 A. Number (or mean number) of figures identified, **OR**
 B. Accuracy of the participants' responses, **OR**
 C. Perception of visual figures.

Do not score
- "Effect of the feedback," unless accompanied by A, B, or C above.
- Answers with any other variables in addition to A, B, or C above.

Point 3: Foveal vision
Students must refer to a part of the eye or the central visual field as allowing participants to see figures:
 A. Clearly/distinctively/in fine detail/with acuity, **OR**
 B. More accurately.

Note: Students may confuse the fovea with other eye structures and still receive the point.

Point 4: Feature detectors
Students must refer to the role of feature detectors in helping participants identify the geometric figures by recognizing their elements/parts.

Note: Students must use a synonym for "feature" or offer a specific example (e.g., line, edge, curve, angle), if the word "feature" is used.

Do not score
- Mere references to the detection of missing elements of the figures or specific references to closure.

Point 5: Gestalt principle of closure
Students must refer to the idea that participants tend to:
 A. "Fill in" features of the incomplete figures, **OR**
 B. Perceive an incomplete figure as complete.

Note: Students may use a picture to support an answer.

Point 6: Random assignment
Students must refer to the idea that random assignment:
 A. Allows cause-and-effect conclusions to be drawn, **OR**
 B. Reduces the possibility that participant/subject characteristics (e.g., gender, skill level, prior knowledge) may bias the results.

Do not score
- References to random selection or sampling.
- An argument stating merely that random assignment reduces bias or increases validity/accuracy.

Point 7: Statistical significance
Students must communicate the idea that statistical significance is a way of determining that the results are not likely to have occurred by chance (are not random).

Score
- "Statistical significance means that the researcher can reject the null hypothesis."
- "Statistical significance means that there is a high probability that the independent variable caused changes in the dependent variable."

Question 2

Savannah is a junior in high school and is preparing for an exam in her beginning Japanese course. The exam will consist of both written and spoken portions. Although it is her first course in Japanese, Savannah is confident that she will do very well on the exam.

A. Describe how each of the following relates to Savannah's successful learning and performance.
- Broca's area
- Use of phonemes
- Modeling
- Chunking

B. Describe how each of the following may hinder Savannah as she prepares for and takes the exam.
- Encoding failure
- Age and language acquisition

C. After the exam, Savannah tells her family and friends that she believes that she spoke fluently and did extremely well on the exam. Describe how each of the following concepts may have influenced her opinion.
- Self-efficacy
- Confirmation bias

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 sufficiently accurate for the reader to be convinced of the word intended.
2. Within a point, students will not be penalized for misinformation unless it directly contradicts or obscures correct information that would otherwise have scored the 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. Terms such as "She," "Her," "Savannah," or "the test" are all sufficient to establish context. However, it is also possible to infer context from the order of the essay, if it is consistent with the order of the question.
4. Definitions without application are not sufficient to score points. A definition may contribute to the answer, but students must also provide a specific application related to some aspect of the question, independent of the definition — for example, score: "Encoding failure happens when information is not put into memory. If information is not encoded, it cannot be recalled for the test" (correct definition supports specific application).
5. Because definitions alone do not earn credit, if students provide an incorrect definition but a correct application, score the point based on the application.
6. Every point requires students to relate their answers to the provided scenario.
7. In part A students may address either Savannah's successful learning of Japanese **OR** her performance for each point. In part B students may address either how she prepares for **OR** takes the exam for each point.
8. The examples provided in the following scoring guidelines for each point are not to be considered exhaustive.

Point 1: Broca's area
To earn this point, students must accurately describe how Broca's area relates to Savannah's successful learning or performance. They may describe:
    A. Speech production (e.g., speaking, writing, clear pronunciation, grammatically correct statements, appropriate pacing, generation of motor responses that move the facial muscles that are necessary for speech), **OR**
    B. Speech/language comprehension, **OR**
    C. Mirror neurons.
       Example: "Broca's area is responsible for helping her speak Japanese."

Do not score
- General references to "language" or "learning" alone.
  Example: "Broca's area helps Savannah learn Japanese."

Point 2: Use of phonemes
To earn this point students must accurately describe how the use of phonemes relates to Savannah's successful learning or performance. They may describe:
    A. Production or recall of Japanese sounds (e.g., smallest unit of sound), **OR**
    B. Combining sounds to create Japanese words, **OR**
    C. Recognition of correct and incorrect Japanese sounds.
       Example: "Savannah will have to combine sounds to make different Japanese words."

Do not score
- Descriptions of morphemes (units of meaning).
- The term "phonemes" alone in place of "sounds."

Point 3: Modeling
To earn this point students must accurately describe how modeling relates to Savannah's successful learning or performance. In describing modeling, they may score this point by:
    A. Demonstrating Savannah's imitation/copying/repetition of a model,
       Example: "Savannah imitated how her teacher said Japanese words," **OR**
    B. Explaining that the teacher or other students act as a behavioral model,
       Example: "The teacher demonstrated how to speak Japanese."

Do not score
- The term "modeling" alone in place of "imitating" or "copying."
- The term "modeling" alone in place of "demonstrating" or "showing."

Point 4: Chunking
To earn this point students must accurately describe how chunking relates to Savannah's successful learning or performance. They may describe:
    A. Learning or recall of language by grouping/combining material (e.g., the use of a specific strategy, such as an acronym), **OR**
    B. The resulting increase in the amount of information that can be held in short-term memory.
       Example: "To remember the Japanese words better, Savannah could group all of the words that start with the same sound."

Do not score
- The term "chunking" alone in place of "grouping" or "combining."
- The phrase "breaking information into smaller pieces." This does not score because chunking involves grouping. However, if students discuss breaking down a large amount of information into smaller, more manageable groups, it will score.

Point 5: Encoding failure
To earn this point students must accurately describe how encoding failure may hinder Savannah's exam preparation or test performance. They may explain:
A. The failure to process/put the information into memory, **OR**
B. That information not attended to will not be processed, **OR**
C. That shallow processing leads to more forgetting.
   Example: "Savannah never put the words into memory in the first place."

Do not score
- The term "encoding" alone in place of the phrase "put the information into memory."
- Encoding failure as occurring when information is not "encoded correctly" and leads to "recall of incorrect information."

Point 6: Age and language acquisition
To earn this point students must accurately describe how Savannah's age might hinder her language acquisition while preparing for or taking the exam. They may explain that:
A. Older students are less successful in acquiring a language, **OR**
B. The critical/sensitive period for language acquisition has passed, **OR**
C. Older students are more likely to speak a second language with the accent of their first-learned language.
   Example: "Savannah will have a harder time learning Japanese because she has passed the critical period."

Do not score
- Responses that focus on the memory of vocabulary as negatively influenced by age. The focus must remain on language acquisition.

Point 7: Self-efficacy
To earn this point students must accurately describe how self-efficacy may have influenced Savannah's positive opinion of her test performance. They may describe Savannah's:
A. Personal belief, or expectancy, that she can perform a behavior or task (demonstrates a potential), **OR**
B. Personal belief, or expectancy, about her ability (demonstrates a potential).
   Example: "Savannah believed she could do well on the test."

<u>Do not score</u>
- Perceptions of past behavior alone.
  Example: "Savannah thought she did well on the test."
- *Self-esteem* (perceptions of overall worth) or *self-serving bias* (taking credit for success because of positive internal attributions while ignoring failures that result from external forces).

Point 8: Confirmation bias
To earn this point students must accurately describe how confirmation bias may have influenced Savannah's positive opinion of her test performance. They may explain that Savannah is:
- A. Selectively attending to information that supports her preconceived beliefs, **OR**
- B. Minimizing contradictory evidence, **OR**
- C. Selectively recalling information to support her existing beliefs.
  Example: "Savannah may only remember the questions she did well on."