PSY M02 GLO/PLO/CLO Assessment History

Spring 2017 (May 2017): Meeting with PSY M02 instructors to discuss GLO for PSY M02/PSY M02H

- **GLO**: Demonstrate an understanding of the way that the sciences describe the universe and the nature of scientific inquiry (scientific paradigms and methods).
- **PLO:**
    o Demonstrate an understanding of perspectives, theories, and core concepts in Psychology.
    o Use scientific principles to evaluate the validity of scientific studies and claims
- **Course Learning Outcomes:**
    o Students who complete PSY M02/PSY M02H will demonstrate an understanding of the way that the sciences in particular neuroscience describe the universe and the nature of scientific inquiry (scientific paradigms and methods)
    o Students who complete PSY M02/PSY M02H will be able to demonstrate an understanding of perspectives, theories, and core concepts in Psychology.

        ▪ **Target: 70%**
        ▪ **Measurement:** Students enrolled in PSY M02/PSY M02H will answer a number of multiple choice questions regarding techniques/paradigms to study the nervous system
        ▪ **Implementation:** Instructors teaching PSY M02/PSY M02H in Fall 2017 will create common multiple choice exam questions. **Data will be collected in Fall 2017 and results will be tabulated and interpreted by Spring 2018.**

Fall 2017 (PSY M02) (Collected Data)

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▪ **Target: 70%**
▪ **Measurement:** Students enrolled in PSY M02/PSY M02H will answer a number of multiple choice questions regarding a technique/paradigm to study the nervous system

Two imaging techniques questions: (Structure versus function)

1) A researcher wants to know which brain region(s) is/are active when a person is listening to music. What would be the imaging technique of choice for this type of research?
A) MRI (magnetic resonance imaging)
B) angiogram
C) fMRI (functional magnetic resonance imaging)
D) CAT (computerized axial tomography)

2) A researcher hypothesizes that persons with Alzheimer's disease have smaller hippocampi (plural for hippocampus) than those without Alzheimer's disease. Which imaging technique would the researcher use to test the hypothesis?
A) fMRI (functional magnetic resonance imaging)
B) TMS (Transcranial Magnetic Stimulation)
C) PET (Positron emission tomography)
D) MRI (magnetic resonance imaging)

Paradigms: Experimental versus correlational

3) Which of the following procedures would be part of a *correlation* study?
A) Severing the connections between the two sides of the brain and then observing behavioral changes
B) Observing the pattern of brain activity in rats that have been trained in a maze versus those that have not
C) Giving a drug to some animals but not to others, and then measuring mating behaviors
D) Measuring the extent of brain abnormalities in people who have developed schizophrenia versus those that have not

4) In a hypothetical study, persons with schizophrenia received either antipsychotic medication or cognitive-behavioral therapy. The researchers recorded how many hallucinations the patients had before and after treatment. What are the independent (IV) and dependent (DV) variables?

A) IV: type of treatment; DV: number of hallucinations
B) IV: number of hallucinations; DV: type of treatment
C) IV: diagnosis of schizophrenia; DV: number of hallucinations
D) IV: number of hallucinations; DV: diagnosis of schizophrenia

Results:

By the end of fall 2017, assessment results were returned for 6 out of 6 sections, including the two honors sections, for a return rate of 100%.

Question Number	Average (non-weighted) Percentage Correct	Lowest Percentage Correct Across Sections
1) Structure vs Function (Music)	97% **Target Met**	94% **Target Met**
2) Structure vs Function (Alzheimer's)	85% **Target Met**	76% **Target Met**
3) Experimental vs Correlational (Correlational Study)	72% **Target Met**	49% **Target Not Met**
4) Experimental vs Correlational (IV/DV)	89% **Target Met**	80% **Target Met**

For Structure vs Function Questions: On average, targets were met for both questions.

For Experimental vs Correlational Questions: On average, targets were met for both questions.

Future Directions:

- o Experimental vs Correlational Question 3 - dichotomous variable (schizophrenia vs no schizophrenia) was correct answer but in class continuous variables are generally given as examples.
  - ▪ PSY M02 instructors will emphasize in lecture that correlational variables can be dichotomous as well as continuous. They feel this is important because many correlational findings in psychology (e.g., depression vs no depression) are dichotomous and they would like their students to be able to identify them as so they can be aware of the limitations of these correlational findings (i.e., can't draw causal conclusions from correlational research).
  - ▪ **Fall 2018: PSY M02 instructors will assess Question 3 again.** Which of the following procedures would be part of a *correlation* study?
    A) Severing the connections between the two sides of the brain and then observing behavioral changes
    B) Observing the pattern of brain activity in rats that have been trained in a maze versus those that have not
    C) Giving a drug to some animals but not to others, and then measuring mating behaviors
    D) Measuring the extent of brain abnormalities in people who have developed schizophrenia versus those that have not

Fall 2018 (PSY M02M02H) (Collected Data)

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        ▪ **Target: 70%**
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        Which of the following procedures would be part of a *correlation* study?
        ▪ A) Severing the connections between the two sides of the brain and then observing behavioral changes
        ▪ B) Observing the pattern of brain activity in rats that have been trained in a maze versus those that have not
        ▪ C) Giving a drug to some animals but not to others, and then measuring   mating behaviors
        ▪ D) Measuring the extent of brain abnormalities in people who have developed schizophrenia versus those that have not
- **Results**
    By the end of fall 2018, assessment results were returned for 6 out of 6 sections, including the two honors sections, for a return rate of 100%.

    o Averaging over all 6 sections, the target was met in that the average score was 70.5%
    o However, individual sections did not meet the target goal of 70%
- **Future Directions**
    PSY M02 instructors and SLO Department Lead will meet in Fall 2019 to discuss results and devise plan to ensure that all sections reach the 70% target. Class will be assessed again in Spring 2020.

Fall 2019 (Meeting to discuss Spring 2020 assessment)

PSY M02 instructors decided that identifying correlational relationships with dichotomous variables is too high of a level for students in the course considering that Introduction to Behavioral Research Methods (PSY M06) is not a prerequisite. The instructors have decided to assess the same concept but to rewrite the correct answer choice so it includes two continuous variables. PSY M02 instructor will email the SLO lead faculty member the revised question by the end of the Fall 2019 semester. Data will be collected in Spring 2020.

Revised Question to be assessed Spring 2020

Which of the following procedures would be part of a *correlation* study?
- A) Severing the connections between the two sides of the brain and then observing behavioral changes
- B) Observing the pattern of brain activity in rats that have been trained in a maze versus those that have not
- C) Giving a drug to some animals but not to others, and then measuring mating behaviors
- **D) Measuring the amount of pain individuals experience on a daily basis and measuring the size of their cingulate cortex

Spring 2020

Sent Behavioral Neuroscience instructors email regarding the spring 2020 assessment for this course:

Below is the question the two of you decided to assess:

Which of the following procedures would be part of a *correlation* study?
- A) Severing the connections between the two sides of the brain and then observing behavioral changes
- B) Observing the pattern of brain activity in rats that have been trained in a maze versus those that have not
- C) Giving a drug to some animals but not to others, and then measuring mating behaviors
- **D) Measuring the amount of pain individuals experience on a daily basis and measuring the size of their cingulate cortex

Please assess the question in each Introduction to Behavioral Neuroscience class you teach.

By the end of this semester (spring 2020), for each Behavioral Neuroscience class, please provide me with the CRN and the percentage of students in that class that correctly answered the question.