Exercise to practice Critical Thinking about Study Type and Purpose

For each of the scenarios 1-5 given below, discuss in groups and try to reach agreement on answers to each of the following 4 items (bear in mind that these descriptions are intended to promote discussion; they may not be completely clear and unambiguous – try to state the grounds for your conclusions whenever you reach them, or indeed when you fail to agree):

a. What type of study (descriptive, relational, causal) was this and why?
b. What was the independent variable?
c. What was the dependent variable?
d. State a null and alternative hypothesis for the study.

1. A researcher was interested in the role of caffeine in sports performance. In cooperation with her university baseball team, she randomly assigned players to one of three conditions: i. no caffeine placebo; ii. Low dose; iii. High dose. She then used performance on a batting machine as a test.

2. A professor was interested in student opinions about an upcoming election. He created a survey that asked about the favorability of various candidates and positions on issues. The survey also included some personal items so he could look at whether those characteristics were related to opinions.

3. A graduate student was interested in whether use of instant messaging by students was related to academic performance, attention span, and perceptions of social support. She interviewed classmates about their use of instant messaging, their grades, and their sense of support from friends. She also had them perform a brief task to estimate attention span.

4. A graduate student in music therapy wondered whether music therapy might be effective in reducing work stress. She identified a company that was willing to participate and then set up a voluntary session that was billed as a relaxation exercise. The participants completed a measure of work-related stress and mood before and after the music session.

5. A researcher was interested in the quality of life of women with a certain disorder. She located an online support group and, with the permission of the group organizers, conducted an online discussion about the issues the women faced and how these problems have affected their quality of life.