## **Taxonomy of Clicker Questions**

| Types of Questions                       | Explanation   | Example   |
|--|---|---|
| Recall Questions                         | Requires students to have memorized facts.  | To which position do your hands return after throwing an offensive punch?  A. Guard B. Pyramid C. Resting   |
| Conceptual<br>Understanding<br>Questions | Requires students not only<br>to recall information, but<br>also to understand the<br>concepts associated             | <ul> <li>What is the equation of the line tangent to the function f(x)=x at the point (0,0)?</li> <li>A. The equation of the tangent line at this point is y=0</li> <li>B. There are two tangent lines, with equations y=-x and y=x</li> <li>C. This function has no tangent line at this point.</li> <li>D. This function has infinitely many tangent lines at this point.</li> </ul>  |
| Application<br>Questions                 | Requires students to apply<br>their knowledge and<br>understanding to particular<br>situations and contexts           | Based on the facts of problem 7, in the lawsuit by the student against Mountain Law School, a court will likely find in favor of the:  A. student, if the court finds that the terms of the catalogue are complete  B. student, since catalogues are usually considered ads, and ads are always offers  C. law school, since catalogues can never include all the necessary terms to be deemed definite and complete offers.  D. law school, since the student could not have expected to be taught all the terms included in the catalogue.          |
| Procedural<br>Questions                  | Requires students to apply<br>knowledge of a procedure<br>or technique to a particular<br>problem or situation        | What are the stoichiometric coefficients for the following chemical reaction?  NH <sub>3</sub> + $_$ O <sub>2</sub> $_$ NO+ $_$ H <sub>2</sub> O  A. 2, 5, 2, and 3  B. 3, 6, 3, and 4  C. 4, 5, 4, and 6  D. 5, 5, 5, and 6  |
| One-best-answer<br>Questions             | Requires students not only to analyze a particular situation or set of issues but also to evaluate possible responses | RR is a 22-year-old Mexican American newly diagnosed with type 1 diabetes. He weighs 68 kg. You need to start him on an insulin regimen. He has no insurance, did not complete high school, and speaks limited English. What is the best insulin regimen to start him on?  A. Glargine 15 units at bedtime plus sliding-scale lispro with meals  B. NPH 30 units twice daily  C. Mixed insulin 70/30, 20 units in the morning and 10 units at bedtime  D. Glargine 15 units at bedtime and lispro 5 units with meals  E. Levemir 15 units twice daily |

| Prediction        | Requires students to                | How does the plot of $sin(2t)$ compare to that of $sin(t)$ ? |
|-------------------|-------------------------------------|--|
| Questions         | predict the outcome of an           | A. It oscillates twice as fast                               |
|                   | experiment or situation.            | B. It oscillates half as fast                                |
| Critical Thinking | Requires students to                | I loved Ophelia. Forty thousand brothers                     |
| Questions         | analyze relationships               | Could not with all their quantity of love                    |
|                   | among multiple concepts or          | Make up my sum   |
|                   | make evaluations based on           | Woo't weep? Woo't fight? Woo't fast? Woo't tear              |
|                   | particular criteria                 | thyself?   |
|                   |                                     | Woo't drink up eisel? Eat a crocodile?                       |
|                   |                                     | I'll do't. Dost thou come here to whine?                     |
|                   |                                     | To outface me with leaping in her grave?                     |
|                   |                                     | Be buried quick with her and so will I                       |
|                   |                                     | These lines from Hamlet suggest that:                        |
|                   |                                     | A. Hamlet really loved Ophelia and is so                     |
|                   |                                     | distraught to learn of her death that he                     |
|                   |                                     | proposes to eat a crocodile.                                 |
|                   |                                     | B. Hamlet thinks that Laertes's grief is mere                |
|                   |                                     | posturing and mocks it by exaggeration.                      |
|                   |                                     | C. Hamlet cares little for Ophelia, but is eager to          |
|                   |                                     | enter into a rhetorical chest-thumping                       |
|                   |                                     | competition with her brotheR                                 |
| Peer Assessment   | Requires students to assess         | How would you rate this groups' performance?                 |
| Questions         | each other's presentations,         | A. Excellent   |
|                   | papers, or other work               | B. Good  |
|                   | during class                        | C. Fair  |
|                   |                                     | D. Poor  |
| Student           | Provides useful information         | Which of the following statements most closely               |
| Perspective       | about students to help              | matches what you think?                                      |
| Questions         | instructors tailor learning         | A. Humans evolved from other life forms with                 |
|                   | experiences to the unique           | divine assistance.   |
|                   | makeup of students.                 | B. Humans evolved from other life forms without              |
|                   |                                     | divine assistance.   |
|                   |                                     | C. Humans were created directly by a divine                  |
| C (: 1            | D 11 1 1 1 11                       | being within the past 10,000 years.                          |
| Confidence        | Provides instructors with a         | How confident were you on your last answer?                  |
| Level Questions   | level of information about          | A. Very confident  |
|                   | their student's learning            | B. Somewhat confident  |
|                   | beyond a simple                     | C. Not very confident  |
|                   | assessment of their                 | D. I just guessed  |
| Monitoring        | accuracy. Provides instructors with | How long did it take to complete the take home quiz?         |
| Questions         | an opportunity to monitor           | A. Less than 1 hour  |
| ~                 | various aspects of the              | B. 2-4 hours   |
|                   | student learning experience         | C. 4-6 hour  |
|                   | beyond comprehension and            | D. More than 6 hours   |
|                   | confidence levels.                  |  |
| L                 |                                     | oce: Derek Bruff Teaching with Classroom Response Systems    |

Reference: Derek Bruff, Teaching with Classroom Response Systems