



# i>CLICKER CASE STUDY: EUGENE T. MOORE SCHOOL OF EDUCATION, CLEMSON UNIVERSITY

Education Professor gains insights into ineffective teaching methods and enlightens students to misconceptions

## Challenge:

Developing an understanding and decoding process for students for complex concepts is difficult in large class formats. There is also little opportunity for faculty to build awareness around student misconceptions.

## Solution:

i>clicker's diverse suite of teaching tools allowed a university education professor the ability to transition students through a multi-step learning process both directly and amongst peers.

## Benefits:

i>clicker's diverse suite of teaching tools allowed a university education professor the ability to transition students through a multi-step learning process both directly and amongst peers.

Methodology of interactive learning helps move student understanding from simple comprehension to the higher thinking levels of application and even analysis.

## Motivation For Using i>clickers

- Fully engage students in the lecture-discussion.
- Help students practice the application of ideas to specific scenarios.
- Monitor student understanding.

## Technology Implementation & Usage

**Obtaining/Registering i>clickers:** A double set of i>clickers (50) were sourced to use in my classes for anonymous distribution to students (registration is not required).

**Classroom Application:** i>clickers worked well with other technology in the classroom; the overlaying display worked fine with the projected note outlines and the PowerPoint presentations being used to guide lecture-discussion. Questions and answer choices were typically written on the whiteboard next to the projections.

**i>clicker Grading Policy:** i>clickers were not used to grade or to formatively assess students on an individual basis; instead, students received their own formative feedback, and the group data was used for teaching method assessments.

**Daily Use/Questions Asked:** i>clickers were used no more than once a week, typically asking 5–10 questions. Specific items are typically prepared beforehand to use in class but are often revised "on the fly" when the need arises (based on an observed lack of understanding).

In a typical scenario, class begins with a review of the previous class and then new material is addressed or applications of previous material. When applications of development to actual child behaviors is required, i>clickers are used with some examples.

“Discussions are livelier, and we can typically identify good reasons for each answer. This helps students to better learn the defining line between 2 adjoining concepts, better articulate their reasoning, and better understand some of the difficulties of assessment and test item construction.

Bill Fisk, Professor and Chair of Teacher Education, Eugene T. Moore School of Education, Clemson

### Question Examples:

After a discussion of children's humor and its demonstration of children's thinking abilities, the following questions were posed:

*Choose the appropriate examples of specific children's jokes from 3 developmental age choices:*

- A. ages 3-5 (nonsense humor)
- B. ages 6-8 (reality/logical humor)
- C. ages 8-10 (language ambiguity/double meaning humor)

Students entered their answers and the answers were displayed immediately with the response graph, which led to a group discussion about the students' reasoning for their chosen answers.

NOTE: I always encourage students who are consistently missing these items to see me after class to further discuss the concept in question.

With a basic understanding of the 3 types of humor, students were asked for a "borderline" example:

*There were 10 cats sitting on a fence and 1 jumped off. How many are left?*

The correct answer is 'none'. (They are copycats!) Students are typically split between B and C [is this just a case of logic (copycats follow each other so all jump off) or does "copycat" have 2 meanings (a cat and someone who copies another?)].

When the results are displayed (typically 50/50), students are given 2 minutes to find someone in the class with a different answer and convince that person to change it. The i>clicker question is re-stated, answers are re-entered, and the results are re-displayed. Often the results change drastically; sometimes they do not. Ultimately, the explanations students are enlightening because errors and/or omissions can be identified including those made by students and by professor!

## Course Overview

**Course Title/Subject:** Child Growth and Development.

**Typical Enrollment/Student Information:** ~30-40 students per class each semester with approximately 95% education majors — early childhood, elementary and special education.

**Course Structure:** A 3-credit course meeting early mornings twice a week in a lecture hall that seats 4 students. The predominant format used is lecture-discussion, with a few classes involving group work. There is a 10-hour out-of-class field observation/service-learning component to the class for which students are placed in a local elementary school to observe a class and tutor an individual child throughout the semester.

**Course/Student Challenges:** The greatest challenges in this course for both students and faculty are keeping students engaged early in the morning and connecting lecture and textbook material with field experiences in real classroom situations.

**Course Grading Policy:** The course includes 5 objective tests (40% of grade), 5 field-based essay-type assignments (36%, may be redone, but students must pass each 1 to pass the course), 1 self-reflection on adolescent development (4%), and an objective semi-cumulative final on developmental characteristics (20%).

## Results

- ▶ **Engaged Students.** Students (and faculty alike) have continually and anecdotally report they appreciate the use of i>clickers in an 8:00 AM course because (even ungraded) it engages them. Students participate more frequently and are quicker to enter into discussions and answer justifications (with fewer sleep-fighting behaviors, such as head nodding and eye closing). Additionally, in both formal and informal evaluations, students report they genuinely enjoy using i>clickers.
- ▶ **Fostered Greater Understanding of Complex Concepts.** i>clickers help students to better learn the defining line between 2 adjoining concepts, better articulate their reasoning, and better understand some of the difficulties of assessment and test-item construction.
- ▶ **Guided Application of Concepts.** Because application examples are required, the i>clicker methodology help to move student understanding from simply the knowledge and comprehension levels to the application and analysis levels.
- ▶ **Identified Misundersandings.** Misunderstandings from presentations and mistaken ideas developed by students can be identified, which would not have otherwise been known about; richer discussions and beneficial interactions also result – students clearly learn more.

“ Using i>clickers weekly is effective because it makes class variable and more interesting, and they sufficiently increases active participation. I also simply enjoy using them!

Bill Fisk, Professor and Chair of Teacher Education, Eugene T. Moore School of Education, Clemson University, Clemson

## Conclusion

With i>clickers, students get more “correct” elaboration of course concepts. This methodology helps move student understanding from simple comprehension to the higher thinking levels of application and even analysis. As a result, students are learning more and as a professor, teaching objectives are being met and exceeded.