

Classroom Usage Guidelines for ClassAction

This short question-based primer will provide a general description and intended usage of each element of the ClassAction materials, as well as some ideas as to how an instructor can have interactive and productive day in class using ClassAction.

What types of dynamic questions does ClassAction have and how do I use them?

ClassAction has four different types of dynamic questions:

Warm-up Questions are simple questions designed to get students in the mood to fully participate in activities. We envision instructors having one of these projected on the screen as students enter the classroom to act as an “ice breaker,” so the students can begin thinking and talking with their neighbors about the answer. Once class starts, the instructor can immediately field answers from various sections of the classroom, dispel any incorrect answers based upon misconceptions, discuss the correct answer, and use the question as a lead-in for the day’s topic.

General Questions are straightforward applications of course principles with voting options. These questions are designed to basically test 1 – 2 astronomical concepts, and while not necessarily easy, the concepts being tested are in the same context in which they are generally covered in a lecture and/or textbook. We envision instructors using the think-share-pair method with these questions. These are most often adaptable.

Challenge Questions are questions where the students are required to transfer knowledge to a new situation. These questions are not only designed to test 2 – 4 astronomical concepts, but students must synthesize these concepts in a context that they would not have been generally covered in a lecture and/or textbook. We envision instructors also using the think-pair-share method with these questions, but probably budgeting more time for these questions. These are also most often adaptable.

Discussion Questions are questions that do not have simple answers conducive to the think-pair-method. They are also questions that are probably too difficult for students to work on individually. Instead, we envision instructors using the group method for these questions.

What other types of media are packaged within a ClassAction module?

There are four other types of media within ClassAction:

Animations are FLASH applets that include everything from simple user controlled diagrams to full interactive simulations. We envision instructors using these as a way to provide a hint for a given question, to help explain / reinforce an answer, or to address common misconceptions.

Images and Tables are high quality images and information tables from Pearson Prentice Hall, Inc. We envision instructors using these as a lead-in to a particular question, a way to provide a hint for a given question, or to help explain / reinforce an answer.

Outlines are generally one-page primers about a specific astronomical topic. We envision instructors printing and handing these out the meeting before the actual discussion students can prepare for the topic / concept, or handing these out at the beginning of class as a general information reference.

What is the Think-Share-Pair Method?

In the think-share-pair method, the students first individually think for several moments about the question presented and then provide to the instructor what they believe to be the correct answer via “voting.” Typically, voting can be handled using lettered and numbered flashcards that the instructor hands out at the beginning of the course; or if possible using some type of electronic personal response system. Depending upon the responses, the instructor can either conclude that the students generally understand the question and the underlying concept(s) and move on, or the instructor can have the students discuss the question further with their neighbors in order to possibly achieve a consensus response. Another vote is performed and again, depending upon the responses, the instructor can either conclude that the students generally understand the question and the underlying concept(s) and move on with the lecture, or may have to continue discussing the topic / concept and perhaps present another, similar dynamic concept question.

What is the Group Method?

With the group method, students work together in groups to formulate an answer. After a pre-determined amount of time, the each group writes a short paragraph expressing their answer and hands the paragraphs in to the instructor. At that point, either the instructor reads each answer paragraph, or has a representative from each group recite their answer back to the class.

How can I make sure my students are participating properly when they are interacting with their peers?

When an interaction is prompted by the instructor, the instructor should take it upon themselves to eavesdrop on the students’ conversations. This not only allows the instructor to monitor who is participating and who is not, but is another useful mechanism for gathering feedback in regards to the understanding of the students.

Also, if a particularly insightful comment or discussion is overheard, the instructor should be sure to share this with the class. This is a wonderful positive reinforcement for students who are participating.

Won’t all this interaction take up too much time?

This may be a problem when first using ClassAction and the interactive engagement approach, but generally as an instructor and the students become more familiar with everything, time is less wastefully spent.

Also, initially most instructors feel that they are not covering nearly enough material within the classroom as compared to their traditional lectures. This is simply because the

instructor is indeed lecturing less and allowing the students to learn the basic trivia themselves. A close analysis of a traditional lecture should reveal many re-iterations and facts already presented in a straightforward fashion in the textbook. Instructors should make the students responsible for such information and use the classroom for interaction, guiding, and synthesizing basic and difficult concepts / topics.

What if my students are unresponsive and won't participate?

This is a difficult question to answer, but ultimately no matter what, the instructor should not fall back on the traditional lecture approach. As soon as this happens, the students will know that all they have to do is be quiet and the instructor will just do all the talking. It would probably be better to just assign more reading from the textbook, end class, re-visit the interactive sequence designed with ClassAction, and give the students a reading quiz first thing next class period. Eventually the students will figure out that the instructor is serious and they will have to participate.

All this talking seems awfully chaotic – is that OK?

Most definitely yes. Numerous students talking amongst themselves can often be basically chaotic, but as long as they are conversing about the question / topic at hand it's OK. This is again where the instructor should walk around the classroom and eavesdrop. The instructor should also prompt a student or a group who is off-task or off-course.

In general, students (of course) welcome this “chaos” because it gives them a chance to stop simply listening to the instructor, which can instantly invigorate a passive student. Also, students also enjoy the friendly competition among themselves to see who knows the right answer.

How can I assess whether using this interactive engagement with ClassAction is working?

Instructors are encouraged to use previous exams given during a more traditional lecture-style class and if the statistics are available to compare the results. Of course be wary of small sample statistics and we encourage instructors to give ClassAction and interactive engagement a “fair shake.”

Also, instructors are encouraged to simply ask the students about the approach, what they think are its strengths and weaknesses, and where improvements might be made. Giving students some ownership into how a course is taught goes a long way towards participation and positive production.