Immediate In-Class Feedback and Personal Response System

Immediate In-Class Feedback
- Occurs in class as teaching/learning happens
- Provides instructor an indication of student understanding
- Provides instructor the opportunity to adjust the lecture on-the-spot if necessary
- Provides student with an indication of his/her understanding to help with study later
- Can be used in conjunction with peer instruction, a collaborative learning technique made popular by Eric Mazur of Harvard
  http://mazurwww.harvard.edu/education/pi.html

In-class Feedback is one component of Active Learning

Characteristics of Active Learning
Students are
- Involved in more than listening
- Involved in higher-order thinking
- Engaged in activities
- Less emphasis is placed on transmitting information and more emphasis on developing studentsí skills

PRS (Personal Response System) www.educue.com
- Anonymous
- Simultaneous
- Provides continual feedback to both students & teacher
- Assists with student motivation & alertness

Key is the Question used (Mazur terms them ìConcepTestsî)
- Conceptual
- Multiple Choice
- Brief (1 minute)
- Designed to surface misconceptions

Other Methods of Obtaining Immediate In-Class Feedback
- Raised Hands
- Finger Signals
- Flashcards

Advantages/Disadvantages of Other Methods
Other methods can be:
- Less expensive
- Easy to implement

However, other methods are:
- More difficult to obtain accurate results
- Viewable by instructor only
- Difficult to archive and/or share data
- Not anonymous

PRS Testimonials from Students

Taken from MIT Aero/Astro student evaluation forms, 1999 & 2000

The PRS system is great! It causes me to think about what the lecturer is trying to teach right then and there (and keeps me awake). I hate it when professors randomly call on people, and make them feel stupid when they don't know an answer. This is a way to get people involved without making them feel on-the-spot or embarrassed.

I believe it is very helpful. Even though I get a lot of those questions wrong, I find that it is a good way to evaluate myself. Very rarely in lecture, do the lecturers take the time to allow the students to absorb the information and really think about it. It gives us a chance to see if we truly understand what the lecturer is trying to teach us. Personally, as a side note, it helps me keep awake since I'm doing something active, whether it be thinking about the problem, breaking up the monotony of the lecture, or talking to the person next to me about the problem

The PRS system has been very helpful. It allows me to think through what I just learned and apply it. It makes lecture feel like I have something to do with my learning, instead of feeling like someone stuck a funnel in my ear and was pouring information in my brain.

My first impression was that this was going to be really annoying and painful, but it has turned out to be very helpful. It is an excellent way for me to get immediate feedback about my knowledge of a concept just presented in class, and if I don't understand it I know exactly what to look over so that I can ultimately understand the material. I would definitely be very disappointed if we were to stop using it in lecture.

It helped me a lot by providing direct feedback to both me and professors. It performed its mission; by letting professors know what we understood and what we needed clarification on, and by letting me know what I need to work on. It also helps by giving us feedback immediately when our understanding is wrong, to carve the proper methods into our brains while we are thinking about them. I feel that it is used very well by the professors, it doesn't take up too much lecture time and yet is used enough to fulfill its goal.

The PRS system is excellent. It's the dream of active learning almost achieved. It contributes to increase my attention in the lecture by 100%. Suggestion: Prof. Hall and Prof. Waitz sometimes used tricky and questions that misleaded most of the lecture to the wrong answer, but in the end were VERY helpful because made everybody think more. I encourage this practice.

I find it useful, but not "anonymous enough".

The PRS system is decent....I'm sort of indifferent...

It is really good to think about examples, but sometimes the questions just get quickly thrown up and we don't really go over the answer completely, or at least I don't understand the answer completely, but yes, it is really useful

I think the PRS system is an effective measure for taking attendance in class. As far as achieving the learning objectives, I think those are a bit obscure. But the concept tests are helpful, especially when the lecturer takes the time to explain the common misconceptions about the questions.