STUDENT RESPONSE BEST PRACTICES

The benefits of using TurningPoint are tremendous. Once you are comfortable using the technology, a little extra effort is required to create an effective presentation and accomplish the goal of your lecture. There are four steps to consider when creating TurningPoint questions.

1. Establish objectives for your lecture.
2. Determine the context for interactive slides.
3. Create the questions and presentation.
4. Integrate questions into your lecture.

Establish Lecture Objectives

When creating TurningPoint questions, you should have specific objectives in mind for what you would like to accomplish. Establishing a goal will help you create effective questions, as well as provide you with data that will help enhance your class. Once you have outlined your objectives, you can create effective questions and adapt your lecture to accomplish that objective.

COMMON OBJECTIVES TO CONSIDER

- Modify lectures on-the-fly based on class responses
- Improve lecture style based on analyzing data collected in class
- Recognize students’ misconceptions or preconceptions
- Encourage attendance, participation and discussion
- Extract and discuss diverse points of view in controversial subjects
- Review, offer feedback and identify areas of difficulty in the curriculum
- Evaluate mastery of content: remembering facts, terms, concepts, definitions and principle
- Judge students’ ability to apply concepts or principles
- Observe students’ ability of analysis and breaking down of the material
- Encourage students to synthesize material, producing something new or original from component parts

Determine Context for Interactive Slides

Generally, there are 4 contexts in which to use your questions. These relate back to your lecture objectives and what you want to accomplish by using TurningPoint. Categorizing your possible questions will allow you to place them in the most effective context of your lecture. Below are common categories used to classify the types of questions to be asked in class.

PRE-ASSESSMENT
By using TurningPoint as a pre-assessment tool, you will be able to assess your students’ prior knowledge, as well as any misconceptions they might have. These types of questions should be used at the beginning of a new unit or at the beginning of a lecture.

MID-TOPIC ASSESSMENT
By using TurningPoint as a mid-topic assessment tool, you will be able to assess your students’ current understanding of the principles, how they might apply concepts and how their current thinking might be changing. These questions should be used occasionally throughout a unit or lecture. They will also enable you to alter the direction of the course by allowing you to judge the students’ comprehension.

POST-ASSESSMENT
By using TurningPoint as a post-assessment tool, you will be able to judge the students’ ability to synthesize concepts in order to solve problems, to see how their understanding might have changed and to observe their overall comprehension of the subject. These questions may be used for review at the end of a unit or lecture, or for assessment at the end of the term.
Create Questions and Presentation

While creating your questions and putting them into your presentation, remember the objectives and contexts that you decided upon in steps 1 and 2. Anyone who has used student response for a long time has their own suggestions on how to create the most effective questions. Below is a compilation of suggestions found in books, articles and interviews with instructors of all different fields of study.

**DO NOT MAKE QUESTIONS OVERLY COMPLEX**
Keep questions short to optimize comprehensibility in a slide. Most studies suggest offering no more than five answer options. Also, avoid requiring lots of complex calculations that may encourage students to guess rather than think through the question.6

**SIMPLIFY SENTENCES AND QUESTIONS**
A question should be easy to read and understand in a short period of time. Questions that have too many unnecessary words only confuse the students and produce unreliable results. Most educators agree that clicker questions should never display more than 25 to 30 words.6

**KEEP THE SLIDE EASY TO SEE AND UNCLUTTERED**
It's easy to get excited about all the different objects, backgrounds and graphics you can place into a slide or presentation. However, a good rule of thumb is, “The simpler, the better.” You should try to keep the slide as clean and easy to read as possible. Using too many of these objects and graphics can create confusion, distraction, and even difficulty reading the slide. Use only the objects that are necessary for students to understand the question and for you to feel comfortable with the results.1

**GIVE THE STUDENTS EXTRA OPTIONS**
Consider adding a “Not Sure” option to True/False, multiple choice or even discussion generating questions. This will add interest and increase the percentage of students who respond to the question, as well as give you an idea of how many students may not truly understand the topic.1

**USE IMAGES TO ENHANCE QUESTIONS**
Consider adding relevant diagrams or pictures. Images can add an important dimension to a question, and give the class another point of reference in selecting a response. TurningPoint has a capability that will even allow you to use images as possible answers.

**SURVEY FOR OPINIONS AND FEELINGS**
Offer questions that do not necessarily have right or wrong answers. Likert questions, for example, can provide an important outlet for a class to express opinions about controversial topics. Students also like to see how their opinions compare to the rest of the class. These questions generate great class discussions.

**INTERSPERSE QUESTIONS THROUGHOUT YOUR PRESENTATION**
Students enjoy the opportunity to provide input, and can provide you with valuable feedback as to how they are absorbing material. Therefore, if you place questions strategically throughout your lecture, instead of lumped together at the end, you can not only keep the class engaged, but also gather the information necessary to see where a class might start going astray.1

**TRY USING A “WARM-UP” QUESTION**
Insert a question at the beginning of class, to “warm-up” the students. This allows them to get situated, and to quickly focus on class material, during the time that they might usually sit idle or socialize.

**TRY CONNECTING QUESTION TOPICS TOGETHER**
Questions are often effective when logically linked together with the solution to the previous question. This helps to promote continuity and dialogue with the class.1
POSE QUESTIONS WITH NO CLEAR ANSWER
A University of Massachusetts study suggests, “There is less need for rigor when questions are low risk. Questions may include deliberate (or accidental) mistakes, be ill-posed, invalid or ambiguous. For example, a multiple-choice question, for which only one selection is required, may have more than one correct choice, no correct choices or choices that are only partially correct. These “unsound” questions may provoke discussion and support learning far better than a formally valid question.”

CONSIDER DELAYING THE ANSWER CHOICES
Questions may be better delivered in “hidden” mode, in which answer choices are delayed until after the question has been attempted or discussed. For example, if a student can verify the correct choice by working backwards, it is appropriate to hide the possibilities until an answer has been worked out. You can do this by using custom animations on your answers, and setting them to appear after the question.

TRY ASKING QUESTIONS MORE THAN ONCE
Ask a question, show the results but not the correct answer, and ask students to discuss with neighbors or in groups, then re-poll the question with TurningPoint. This will allow the class to reconsider the answer, as well as see how that changed the responses.

LET YOUR AUDIENCE KNOW WHAT IS GOING ON WITHIN THE SLIDE
Try including one or two objects in your slide that will clarify things for your students, or even increase responsiveness. TurningPoint offers several choices, including an “Answer Now” prompt to differentiate between basic lecture slides and interactive polling slides, a “Correct Answer” indicator to visually identify the appropriate answer, and a “Countdown Timer” which will close polling after a set amount of time.

Integrate TurningPoint Questions into Lecture
Just as there are many strategies for creating questions, there are multiple approaches to integrating questions into a lecture. Below are suggestions, but be creative and use methods that work well for you.

TRY USING A QUESTION CYCLE TO DEVELOP A PLAN FOR LECTURE
Ask a question via TurningPoint, then allow students group discussion and answer time. After the students respond, show the chart and use it to generate class discussion, this time asking for reasoning. Based on ideas generated during discussion, you can follow up with general observations, a brief micro-lecture, perhaps another related TurningPoint question or any necessary materials for closing, as well as final responses. Be sure to allow time for discussion when planning your lesson.

USE DEMOGRAPHICS
Assign demographics to track how specific student groups respond. For example, looking at basic results, you can see that 75% of students understood the material. However, by viewing responses grouped by demographics, you may find that 75% were all subject majors and that nonmajors were confused, allowing the opportunity to change the way you may explain the material.

ALLOW THE STUDENTS TO STEER THE LECTURE
Modify your lecture in real-time, based on the students’ responses. Use on-the-fly slides or conditional branching to allow for various answers.

CREATE SLIDES AND QUESTIONS TO ADD TO REGULAR DISCUSSION
Use your slides to emphasize a theme, incident or character that is important to the day’s lecture. Include students in the discussion of the results.

USE FOR REVIEW
Studies show that students benefit most with a combination of review questions and opinion questions. Try asking review questions that cover similar material and ask questions similar to what will be covered on the test. This helps to develop the students’ processing skills, as well as familiarity with material.
ASK A QUESTION TO CREATE THE DISCUSSION FOR THE DAY
Try asking a controversial question (or just a question the students will have varied and strong opinions about), and use the results to create the day’s class discussion.

USE FOR PARTICIPATION OR ATTENDANCE
Assign point values to answers instead of simply setting them as right or wrong and award attendance and/or participation points.

CREATE COMPETITIONS AND TEAMS FOR REVIEW OR DISCUSSION
Add a competitive element by tracking individual teams, groups or students with TurningPoint. You can then view individual or team scores from your session, or even see who answered the fastest by adding a “Fastest Responder” slide to your presentation.

Additional Considerations

PROVIDE CLEAR INSTRUCTION TO THE CLASS
Make sure everyone understands the process and how to use the technology. This may require extra time during the first couple uses. Be sure to allow time for instructions when planning your lesson.

TEST EVERYTHING AHEAD OF TIME
Check out the classroom location in order to identify any potential technical problems. Allow plenty of time to set up and test the system before class. Rehearse the question presentation to ensure that it will run smoothly.

DO NOT OVER USE THE SYSTEM
Ask questions sparingly to highlight the concepts you most want to emphasize. Think carefully about the main points of a lecture and create questions to target them.

ALLOT EXTRA TIME FOR YOUR PRESENTATIONS
Question slides take time to ask, as well as to answer. Allow enough time in your lesson for interactive questions and student discussion (if applicable), especially if the students are working in teams.

Sources