Question Driven Instruction with Classroom Response Technology

WILLIAM GERACE, IAN BEATTY — Essentially, a classroom response system is technology that: 1) allows an instructor to present a question or problem to the class; 2) allows students to enter their answers into some kind of device; and 3) instantly aggregates and summarizes students’ answers for the instructor, usually as a histogram. Most response systems provide additional functionality. Some additional names for this class of system (or for subsets of the class) are classroom communication system (CCS), audience response system (ARS), voting machine system, audience feedback system, and—most ambitiously—CATAALYST system (for “Classroom Aggregation Technology for Activating and Assessing Learning and Your Students’ Thinking”). UMPERG has been teaching with and researching classroom response systems since 1993. We find that the technology has the potential to transform the way we teach science in large lecture settings. CRSs can serve as catalysts for creating a more interactive, student-centered classroom in the lecture hall, thereby allowing students to become more actively involved in constructing and using knowledge. CRSs not only make it easier to engage students in learning activities during lecture but also enhance the communication among students, and between the students and the instructor. This enhanced communication assists the students and the instructor in assessing understanding during class time, and affords the instructor the opportunity to devise instructional interventions that target students’ needs as they arise.

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