

Integrate interactive video in your STEM course

Reading long text is monotonous, particularly in science-based courses that tend to have iterative application and reference to previously learned concepts. Interactive video is a unique tool that makes use of visual and auditory elements to enhance learning.

Introductory science classes, such as general chemistry courses, are usually large and tend to have student with vastly differing proficiency and interest in the subject matter. While the goal may be to impart the student with certain specific knowledge/skills, it is not always possible to extend on application examples below the classroom's given time/logistical constraints. As such, students may feel constrained by the subject matter, and not fully grasp the scope of application of certain concepts. Therefore while chemical equilibria may be an abstract concept when introduced theoretically, a biologist would be interested in how those principles apply in maintaining blood oxygen concentration. Similarly, a geologist would be intrigued by application of the same concepts to weathering of limestone while a chemical oceanographer might be intrigued in using the knowledge to better understand ocean acidification. Interactive video allows for creation of highly engaging material that can be used to generate interest and give students more tangible access to coursework material.

A few quick ideas that would help you get the most of interactive video as a pedagogical tool are highlighted below.

1. Know the lay of the land. Before developing new interactive video, set the learning objectives that you seek to attain through use of the tool. Interactive video tools such as PlayPosit have inherent value by inserting quiz and discussion elements in pre-existing or newly recorded videos. It is prudent to review existing learning material for content and presentation formats.

2. Focus area should promote further inquiry. Choice of subject matter for videos should always be intriguing and provoke further ideas for inquiry and discussion. Interactive video provides an opportunity to merge both instructional and exploratory elements of the course. Current issues in science or in news headlines may promote student engagement with interactive videos while helping reinforce and apply elements encountered within the class/lab set up. Interactive video can be used to guide student-led inquiry

projects, labs and papers to ensure required breadth and depth is attained

3. Provide opportunities for student remediation, review and reinforcement. Interactive video allows for the ability to add different type of questions or reflective pauses to enhance student engagement. Autograded question types are helpful as all grading is asynchronous, and students can have multiple attempts at the questions presented. For the autograded questions (fill in the blank/multiple choice/check all), feedback elements can be given to the student depending on answers given/chosen. When adding quiz elements to an instructional video, use notes within responses to highlight key areas, provide queries for further inquiry, direct students to resources if in need of further explanation. It can also be used to point out common misconceptions, break down complex concepts or help distinguish between confusingly similar items.

4. Make, review, edit. It is important to have a good grasp of how much content can seamlessly and effectively be contained in one video. Videos longer than ten minutes tend to have less student engagement. This may require a few iterations to reach a level where you are comfortable with the format, content and delivery of your video. In a similar vein, once metrics and student response is obtained, certain elements can be fine tuned to enhance presentation and effectiveness

UAF eLearning is currently piloting the PlayPosit video interactivity tool in eLearning-supported courses. For more information, kindly look at this [Teaching Tip](#).



RESOURCE

Shahrokni, Seyed Abdollah. (2018). Playposit: Using interactive videos in language education. *Teaching English with Technology*. 18. 105-115.