



University of Minnesota Academic Health Center: Teaching in Active Learning Classrooms Fellowship Project



Towards a Flipped Classroom: Implementing Pre-Lecture Videos and Game-Based Verification of Student Preparedness

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*Free, easy-to-use software
helped create more active
learning in the classroom.*



Challenge and Approach

A one-year fellowship project revised a course for active learning. A sophomore medical-surgical nursing course was chosen. It is a 3-hour class that meets once a week in the afternoon with 90 students. Goals:

- Ensure students come to class prepared & engaged.
- Free up class time for more active learning activities to apply knowledge.

For each class, this 3-part intervention was implemented...

Pre-Lecture Videos — VoiceThread.com

Free software that allows a PowerPoint (PPT) to be transformed into a video.

- It's simple: Create PPT, save as PDF, upload, then record audio on each slide.
- Allows you to revise a single slide without having to re-record entire video.
- Learners must press button to advance to next slide creating opportunities to embed multiple choice questions and provide answer by clicking to next slide.

Interactive Quizzes to Begin Class — Kahoot.com

Free software that turns any mobile device or laptop into a response clicker.

- Create quiz at kahoot.com, then students take it via kahoot.it or mobile app.
- Gameplay charges up energy in class and verifies prep through quiz report.
- Tip: Create a paper copy of quiz so students can take notes while taking quiz.

Active Learning Exercises in Every Class Session:

A variety of techniques were tried and evaluated. This poster will focus on:

- In-class simulation of paraplegic patient with autonomic dysreflexia (A.D.)
- Small group work on case studies applying knowledge to clinical situations.
- #1 survey feedback: students wanted **more** active learning exercises.

Evaluation

Students in two consecutive semesters were surveyed. 169 out of 180 students (94%) responded to the survey.

“The prep videos helped me learn more *during* class.”

90% AGREE: 37% strongly, 53% somewhat

- “Helps to give me a base understanding before coming to class.”
- “I really enjoy them! They add depth to the in class learning.”

“Interactive quizzes at start of class helped focus my learning.”

99% AGREE: 79% strongly, 20% somewhat

- “Everyone loves Kahoot!!!” “Fun and engaging!” “A good warm up to get thinking.”
- “Good to see what I retained from homework & what I should go back and focus on”
- “Appreciate that you print the questions.” *Handout of quiz provided before Kahoot starts for note-taking. Many use handout to help with study for exams.*

“As a whole, the active learning activities...

- **made me more ENGAGED in class” 95% AGREE:** 59% strongly, 36% somewhat
- **helped me COMPREHEND concepts.” 95% AGREE:** 59% strongly, 36% somewhat
- **made me RETAIN what I learned.” 91% AGREE:** 53% strongly, 38% somewhat

“The A.D. simulation will help me in the future think through a patient's problem in real time.” 92% AGREE: 65% strongly, 27% somewhat

“I will never forget Autonomic Dysreflexia ever.”

“Guided small group work on 13 ABG cases helped me master the concepts better than a traditional lecture.” 97% AGREE: 86% strongly, 11% somewhat

“The repetition and variety of situations was extremely helpful.”