

# Investigating the Use of Mobile Devices for Video Review to Improve Oral Presentations

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## Abstract

Engineering students are not only asked to develop solutions to complex problems that exist in society, but they are also asked to communicate those solutions and ideas to multiple audiences. Increasingly, engineers must supplement technical mastery with business and communication skills along with an understanding of the ethical and societal impact of engineering solutions [2]. For engineers to be effective global contributors in the workforce, engineers need to master a myriad of interdisciplinary competencies, such as teamwork, critical thinking and evaluation, decision-making and oral and written communication.

Oral communication, in particular, is prevalent in an engineering environment. Students need to practice and master the delivery of complex explanations and solutions effectively. However, students are often unpracticed and unprepared to deliver information due a lack of rehearsals.

The purpose of this study is to examine how the **video review of individual oral presentations impacts student learning.**

## Methods & Questions

This research was conducted in a team-taught, **senior-level course** in Naval Architecture Ship Design **with 37 students** over two semesters.

The students taking this course were provided with instructions to complete **a pre-test** about their expectations related to video taping themselves, provide **a 1-2 minute video** of themselves presenting 2-5 slides.

They met with the technical communication instructor individually to review their video and to reflect on their presentation **mechanics and style**, including **gestures** and **voice projection**. The students were also asked to discuss the delivery of the content of their presentation.

Students were provided with guidance by the technical communication instructor and then asked to complete **a post-test. Unstructured interviews** were then conducted with a subset of 7 students about their experience.

**Do students in an NAME senior design class value the review of oral presentation feedback using mobile devices?**

**How does the video review on mobile devices improve oral presentation delivery?**

## Results

**Student comments and reflections indicate that students did not look forward to making a video presentation.**

I look forward to making a video recording of my presentation.



**Students found that they identified the need to improve their hand gestures, voice projection and movement to be useful.**

The review of my video recording helped me to learn about my hand gestures during presentations.



The review of my video recording helped me to learn about my voice projection during presentations.



**Students reported that they would like to use the experience to improve future presentations.**

I plan to use my experience with the video assignment to improve my future presentations.



\* (1=Strongly disagree & 5=Strongly agree)

## Student Feedback

“The assignment **was useful** because I do not frequently get to see myself present. **It was useful to see my hand position** so that I can make myself look more comfortable in the future.” (interviewee 2, male)

“I learned **that I should project my voice** more, **speak a little more slowly**, and **speak more clearly.**” (interviewee 5, female)

“**I was staring too much at the screen.** It would be better to remember 3-4 key points on the slides so as to have more eye contact with the audience.” (interviewee 4, male)

“**I observed my hand movements.**” (survey responder #14)

“**I need to practice more.**” (survey responder #34)

## Implications for Teaching

Students and faculty may be able to use elements of this study to use short, individual video feedback to review student presentations and to provide detailed guidance about delivery and content in an efficient manner.

Faculty may be able to evaluate a larger number of student presentation if effective feedback can be provided in a shorter period of time.

Students will be able to receive more personalized feedback about their specific delivery techniques.

Students may be able to videotape themselves, critique themselves and work toward improvements.

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[2] J.Lang Cruse, F. McVey, and J.McMasters, Industry expectations of new engineers: A survey to assist curriculum design', Journal of Engineering Education, no 1999, pp.43-51, 2015.

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