Exploring the Effectiveness of Visual Literacy and Communication Skills Instruction

Heather Seminelli | Assistant Director for Communications and Assessment | heather.seminelli@westpoint.edu

Above: Corps of Cadets parade in front of Jefferson Hall (home of USMA Library)

Background

The United States Military Academy (USMA) is a four-year undergraduate liberal arts college with a strong core curriculum requiring all students to take math, science, and engineering courses. All graduates are commissioned into the United States Army as 2nd Lieutenants and serve a minimum of 5 years on active duty.

The Association of College and Research Libraries defines visual literacy as "a set of abilities that enables an individual to effectively find, interpret, use, and create images and visual media."

There are assumptions that students growing up as digital natives will have an inherent aptitude for visual literacy. However, exposure does not equal competency.

To help students improve their presentations, the library's liaison to the Department of Mathematical Sciences worked with the course director for MA104: Single Variable Calculus to develop a lesson on visual literacy and communications skills. This is a freshman level course with approximately 900 students enrolled each spring.

This study investigates the effectiveness of this instruction.

Does instruction in visual literacy and communication skills change cadet presentations?

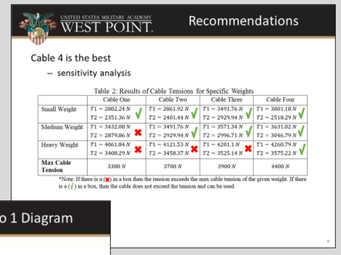
Instruction

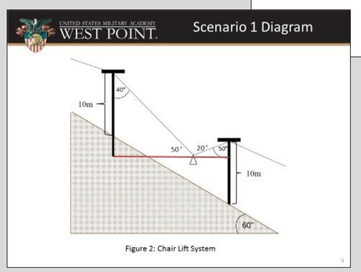
The visual literacy and communication skills class was developed to include presentation preparation tips, critical thinking, preattentive visual properties, choosing appropriate visuals, fair use, copyright, and attribution.

After the introduction, as a class, we went through examples of actual student presentations (multiple class years, courses, and with identifying information removed) that represented the spectrum of student work. Using the information they just learned, students discussed how they would improve each slide.

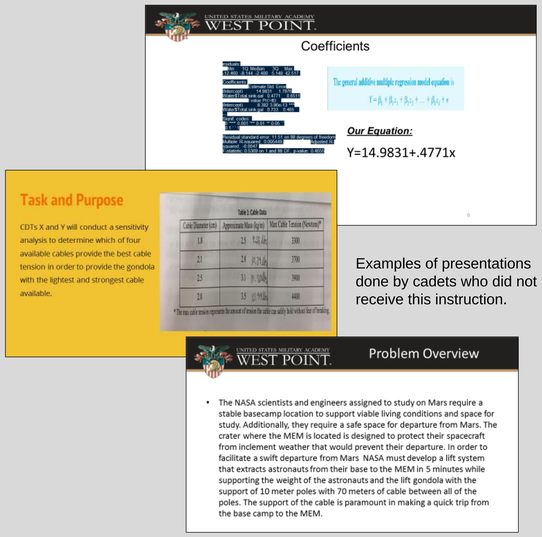
This class was taught by the library liaison to all MA104 instructors, and to 3 sections of students.

Some instructors used the lesson with their students, and others did not.





Examples of presentations done by cadets who received this instruction



Examples of presentations done by cadets who did not receive this instruction.

Methodology

A sample of 116 students from 8 sections of MA104 were identified as being part of group 1 (did not receive instruction), group 2 (received instruction from their instructor), or group 3 (received instruction from the library liaison). All presentations were graded using rubrics, including those below.

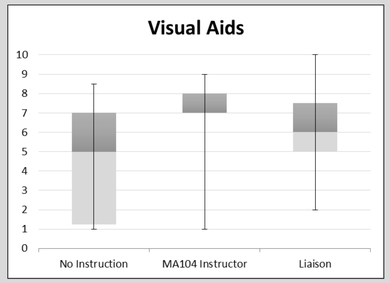
Criteria – Use of Visual Aids	9-10	7-8	5-6	3-4	0-2
Diagram of Scenarios	High quality diagrams used for both scenarios	Low quality diagrams used for both scenarios	Diagram used for one scenario	Poor quality or not useful	Missing
Additional visuals	Visuals enhance presentation	Visuals add some value to presentation	Visuals do not detract from presentation	Visuals detract	None used

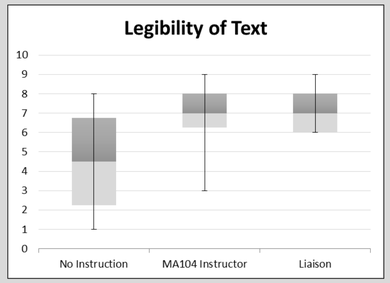
Criteria - Legibility	9-10	7-8	5-6	3-4	0-2
Easy to read, no conflicting backgrounds	No difficulty reading	Occasionally difficult to read	Some difficulty reading	Difficult to read	Unreadable
Amount of information presented on slide, large enough font	Appropriate amount of text	Sometimes wordy or needs a little more detail	Often has too much text	Difficult to read due to amount of text	Full paragraphs in presentation

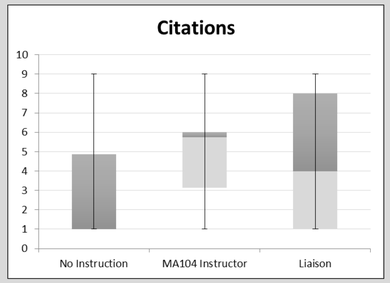
Examples of rubrics used to analyze student presentations

Results

Students who received instruction in visual literacy and communication skills **performed at a statistically significantly higher level** in citations, use of visual aids, and legibility of text.







There was not a statistically significant difference in performance between students who learned these skills from their instructor or a library liaison.

This result suggests that this program can be scaled successfully so that more students can benefit from learning about visual literacy to improve their communications skills.

Facebook: @USMALibrary

Instagram: @USMALibrary