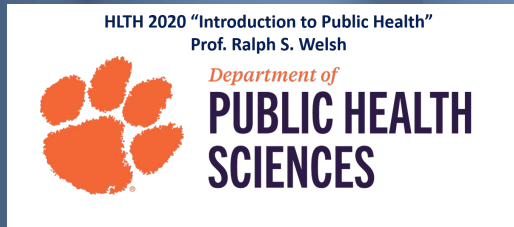# Clemson Thinks² Faculty Teaching Institute
Summer 2024

"Promoting Critical Thinking Through Digital Media Projects: Student Generated Video and Webpage Projects"

HLTH 2020 "Introduction to Public Health"
Prof. Ralph S. Welsh
Department of
PUBLIC HEALTH SCIENCES

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CLEMSON
prepare to engage

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CLEMSON CREATIVE INQUIRY

CLEMSON® UNDERGRADUATE RESEARCH

HLTH 2020 "Intro to Public Health CT^2"
Course / Goals / Outcomes

- **Intro to Public Health** (Freshman & PH Certificate Students)

  - Knowledge, Perspective & Skills of Public Health Science

  - Components & Functioning of HC System

  - Critical Thinking (CT^2) Course

- **Critical Thinking**

  - Do you teach it? Can you define it? Can you evaluate it?

  - "Critical Thinking: What It Is & Why It Counts" (Facione '18)

    - 6 Core Critical Thinking Skills (Delphi Report)

    - Intuitive & Reflective Thinking Strategies/Heuristics

- **Communication, Implicit Bias, & Ethical Decision Making!**
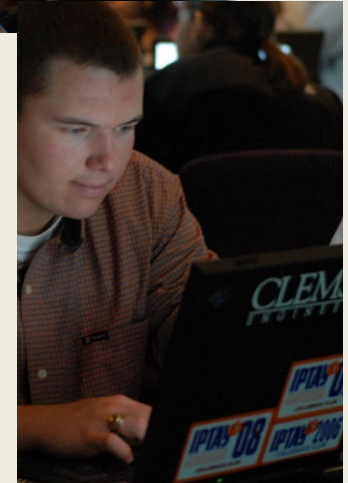
- **Engaged Learning, Constructivism, Metacognition…**

Format of Course

- **3 Modules** of Material
  (Textbook, Lectures, Application)

- **Exams** on Facts/Content
  (50, 100, 100)

- **Mini-Assignments** on Skills
  (100)

- **Final Project** Knowledge/Skills
  (100 Group/Individual)

- Opportunities to **Showcase** Personal/Professional **Skills**?

- *~ Community Outreach!?!*

HLTH 2020: Intro to Public Health

Course Topics

- **PH Care "System"**

- **Controversies**

- **6 Core Sciences of PH**

- **Scientific Method in Communities**

- **Critique Scientific Research Publications**

- **Application of K, P, S in Real World**

- **Health Communication (Digital and Written)**

- **Critical Thinking**

- **Ethics and Implicit Bias**

- **~ Group Dynamic Skills**

- **~ Study/Learning Skills**

HLTH 2020: Intro to Public Health

Content Delivery & Assessment

- **Exams:** Open book and note

- **What is Public Health? Adjective/Short Statement List**

- **Discussion Board Posts:** Intros, Controversies, Solve the Outbreak, CT Application (examples, benefits, transferability), Thinking Strategies

- **Video/Webpage Projects: (text & images = artistic):** Course portfolio, What is PH, Personal Statement, Career Goals and PH, Ethics, Implicit Bias, CT Reflection, References!

- **Final Webpage Project:** PH Threat, PH System, PH Recommendations, Community Target Audience, Justification outline, Team Evaluation

- **Final Webpage Project:** Exam Material / Critique (content & art)

- **Pre/Post Evaluations & CAT Test**

Critical Thinking: What It Is & Why It Counts
Peter A. Facione

► **Can you define/describe the following thinking styles:**
  ► "Ignorance"
  ► "Stupidity"
  ► "Informed Decision Making"
  ► "Critical Thinking"

► **What are some examples of benefits of critical thinking?**
  ► Individual/Personal Benefits?
  ► Academic Benefits?
  ► Societal Benefits?

"Critical Thinking: What It Is & Why It Counts"
(Facione '18)

6 Core Critical Thinking Skills – Delphi Report

1. **Interpretation**:
   To _comprehend & understand the meaning_ of information, etc...

2. **Evaluation**:
   To assess the _credibility_ of information, etc...

3. **Analysis**:
   To identify _the intended & actual relationships_ between information, etc...

4. **Inference**:
   To identify the _elements of conjecture_ based on limited information, etc...

5. **Explanation**:
   To be able to _present clear reasoning_ for action/thoughts...

6. **Self-Regulation**:
   To be able to _monitor & alter ones cognition_ related to action/thoughts...

Critical Thinking: What It Is & Why It Counts
Peter A. Facione

▶ **"Intuitive" Thinking Strategies (System 1)**

1. **Availability**:
   - ▶ **Thoughts/Decisions quickly ~based on _vivid story or memory_**

2. **Affect**:
   - ▶ **Thoughts/Decisions quickly ~based on _positive or negative gut reaction_**

3. **Association**:
   - ▶ **Thoughts/Decisions quickly ~based on _word/idea reminding of something else_**

4. **Simulation**:
   - ▶ **Thoughts/Decisions quickly ~based on _imagination of scenario unfolding_**

5. **Similarity**:
   - ▶ **Thoughts/Decisions quickly ~based on _relating to scenario of someone else_**

Critical Thinking: What It Is & Why It Counts
Peter A. Facione

▶ **"Reflective" Thinking Strategies** (System 2)

1. **Satisficing:**
   ▶ **Thoughts/Decisions ~based on *considering the alternatives until good enough***

2. **Risk/Loss Aversion:**
   ▶ **Thoughts/Decisions ~based on *minimizing risk (vs. optimizing gains)***

3. **Anchoring & Adjustment:**
   ▶ **Thoughts/Decisions ~based on *general decision & only consider small changes***

4. **Illusion of Control:**
   ▶ **Thoughts/Decisions ~based on *personal belief one can control an ideal outcome***

5. **Dominance Structuring:**
   ▶ **After satisficing, *promote the positives & minimize the negatives***

What do students think about video projects?

Student-Generated Video Projects: Experiences and Perceptions Among Students Enrolled in Classroom and Online Introduction to Public Health Courses (2016-2021)

Welsh, R.S., Fraley, V., Johnson, M.F., Parker, E.J., Bryan, E.J., Goude, E.C., & Worsham, C.J.

Poster presentation at the 4th Annual Clemson University Student Research Forum, Clemson, SC.

(click to view digital poster)

Abstract

=====================

Student-generated video projects (S-GVP) are growing in popularity due to advances in video production technology and research supporting their potential for enhancing student engagement and a variety of student learning outcomes (SLO). Potential SLO include enhanced content acquisition and skill development in the areas of digital communication, group dynamics, creativity, critical thinking and community outreach, all of which may result from enhanced authentic, social, constructivist and problem-based learning opportunities. A limited understanding of students' preparedness for S-GVP may inhibit effective assignment design and implementation. In this study, video production experiences and perceptions towards S-GVP were assessed among students enrolled in classroom and online Introduction to Public Health courses. Preliminary results indicate positive perceptions towards S-GVP (confidence, benefits, and preference for S-GVP), although barriers (technology, time, and group dynamics) are still reported. These descriptive findings along with additional comparative analyses should inform future efforts to design effective S-GVP.
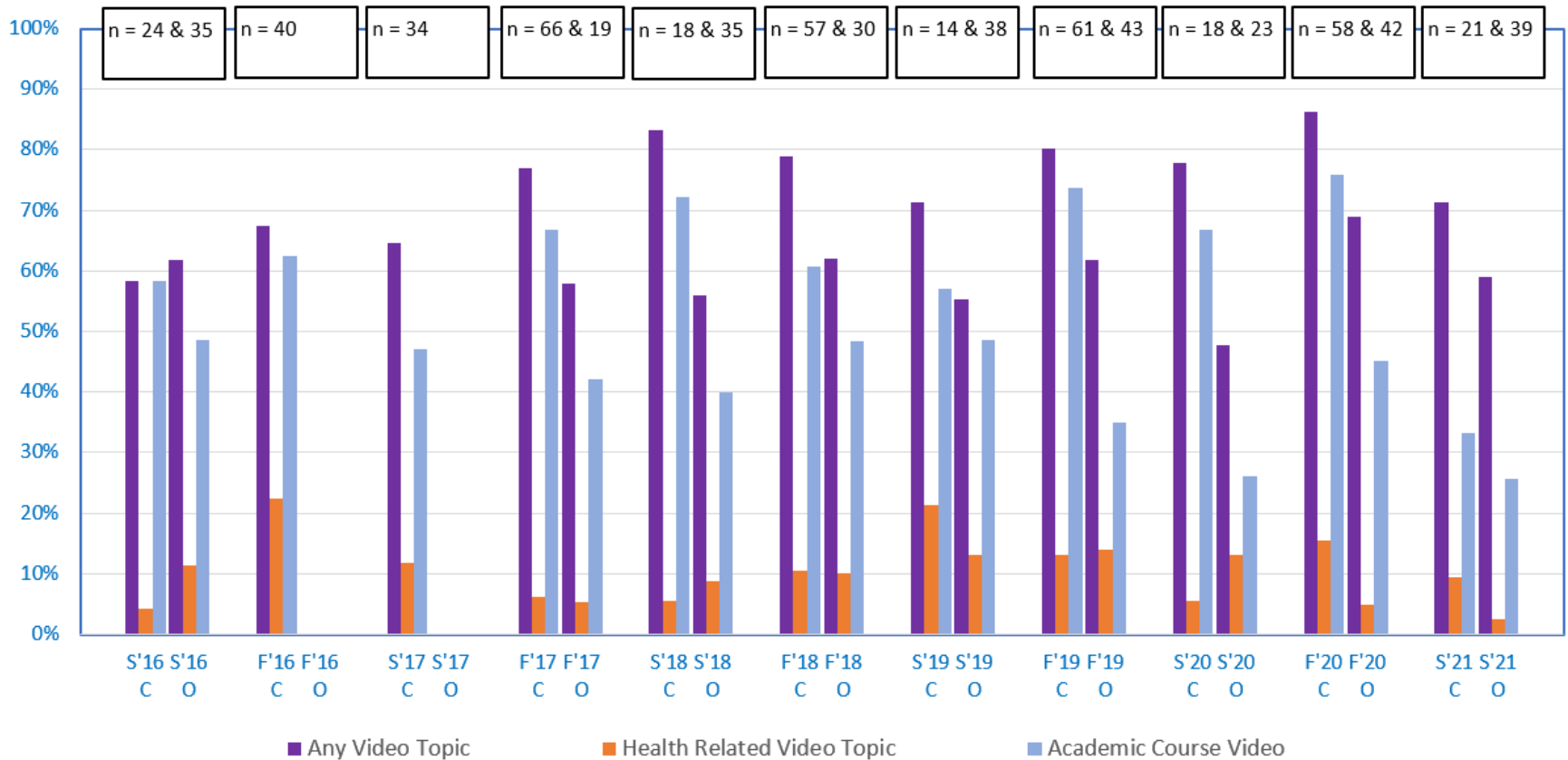
Figure 4: Students' self-reported video production experiences prior to the start of the semester (any type of video, a health related video or a video that was assigned within an academic course). Note: n's refer to classroom and online sections per semester.

Table 4A: Categorical types of videos produced by students prior to the start of the semester (percent providing a categorical example)

Types of Videos	Spring 2016		Fall 2017		Fall 2018		Fall 2019		Fall 2020		Spring 2021	
	n = 24	n = 35	n = 66	n =19	n = 57	n = 30	n = 61	n = 43	n = 58	n = 42	n = 21	n = 39
	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online
Academic	45.8%	54.3%	60.6%	36.8%	63.2%	53.3%	75.4%	44.2%	81.0%	69.0%	57.1%	35.7%
Personal Promotion	0.0%	5.7%	3.0%	0.0%	5.3%	3.3%	1.6%	7.0%	1.7%	0.0%	9.5%	2.4%
Outreach	8.3%	0.0%	10.6%	5.3%	7.0%	0.0%	6.6%	4.7%	0.0%	0.0%	0.0%	4.8%
Personal/Recreational	12.5%	5.7%	3.0%	21.1%	15.8%	10.0%	8.2%	18.6%	22.4%	7.1%	33.3%	26.2%
Other	4.2%	2.9%	1.5%	0.0%	0.0%	3.3%	3.3%	2.3%	0.0%	0.0%	4.8%	2.4%

Table 4B: Sample quotes of types of video produced by students prior to the start of the semester (quotes highlight categorical examples)

| Types of Videos	Sample Quotes
Academic	In high school, I had to create a video explaining one of the battles in World War II for my history class. I also had to produce a cultural video in my English class in high school.
	I made several French videos in high school for my French class. I also made several for my English class with poetry.
Personal Promotion	I have created numerous family oriented videos for each of my families vacations these include video and picture and music as well as merging sound from the videos there are so many other video softwares available premier pro is not the best.
	I made a video for a scholarship about my future goals as a physician and how I want to relate it to international and global health
Community Outreach	I once had to make a video for an old job I worked at, Texas Roadhouse, to promote certain aspects of the place.
	Helped to create various promotional videos for my sorority, however, did them on iMovie.
Personal Recreational	I have only made one kind of video in the past and it was a very basic video. I made several "highlight" videos from my high school football days on my phone using movie maker.
	summer trip i movies with my family
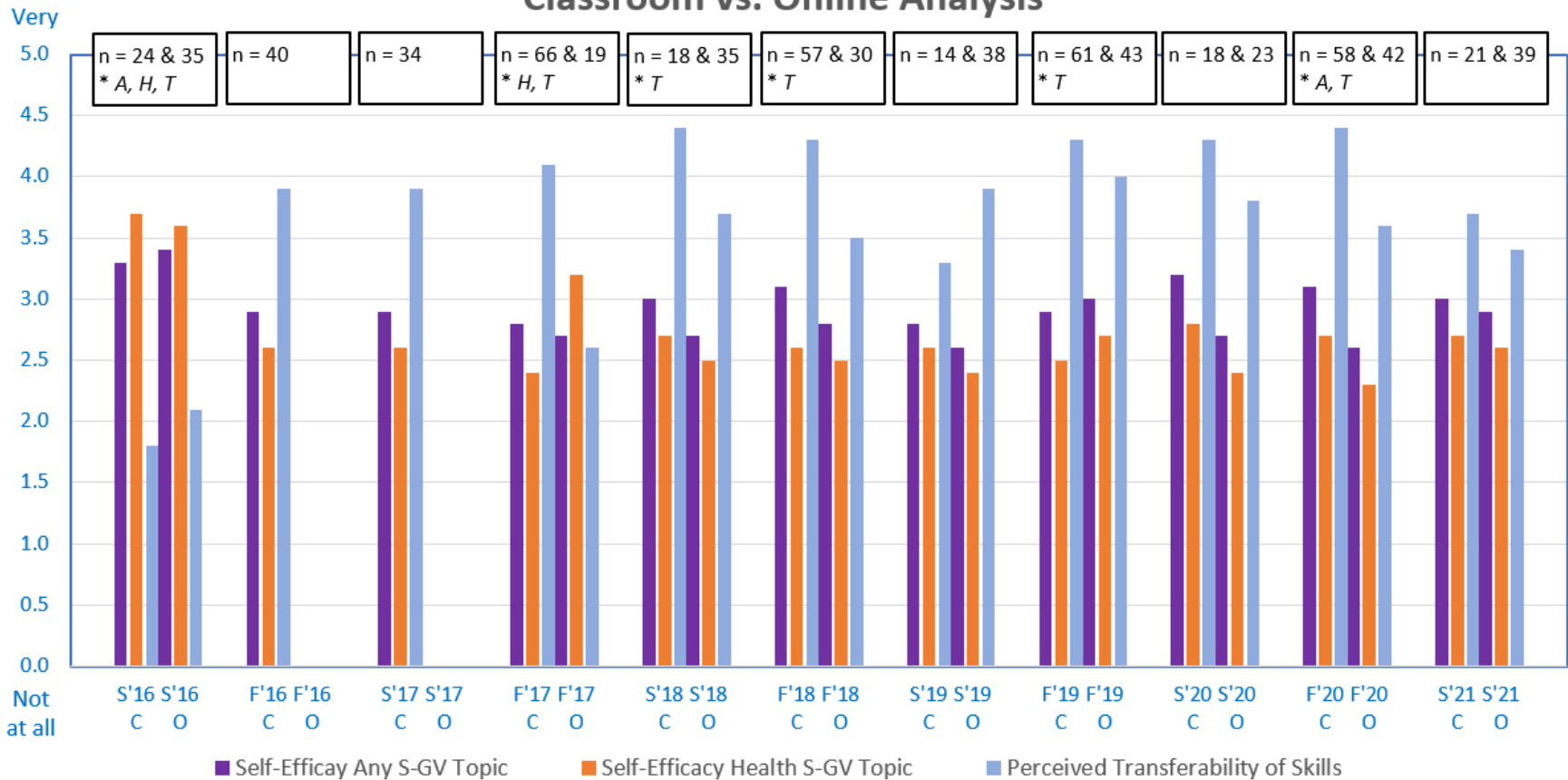
Figure 5A: Perceptions towards student-generated video projects (classroom and online courses). Note: n's refer to classroom and online sections per semester.

*A   p<0.05 – Self-efficacy for making "Any Video" (Class vs Online)
*H   p<0.05 – Self-efficacy for making "Health Video" (Class vs Online)
*T   p<0.05 – Perceived "Transferability of Skills" (Class vs Online)
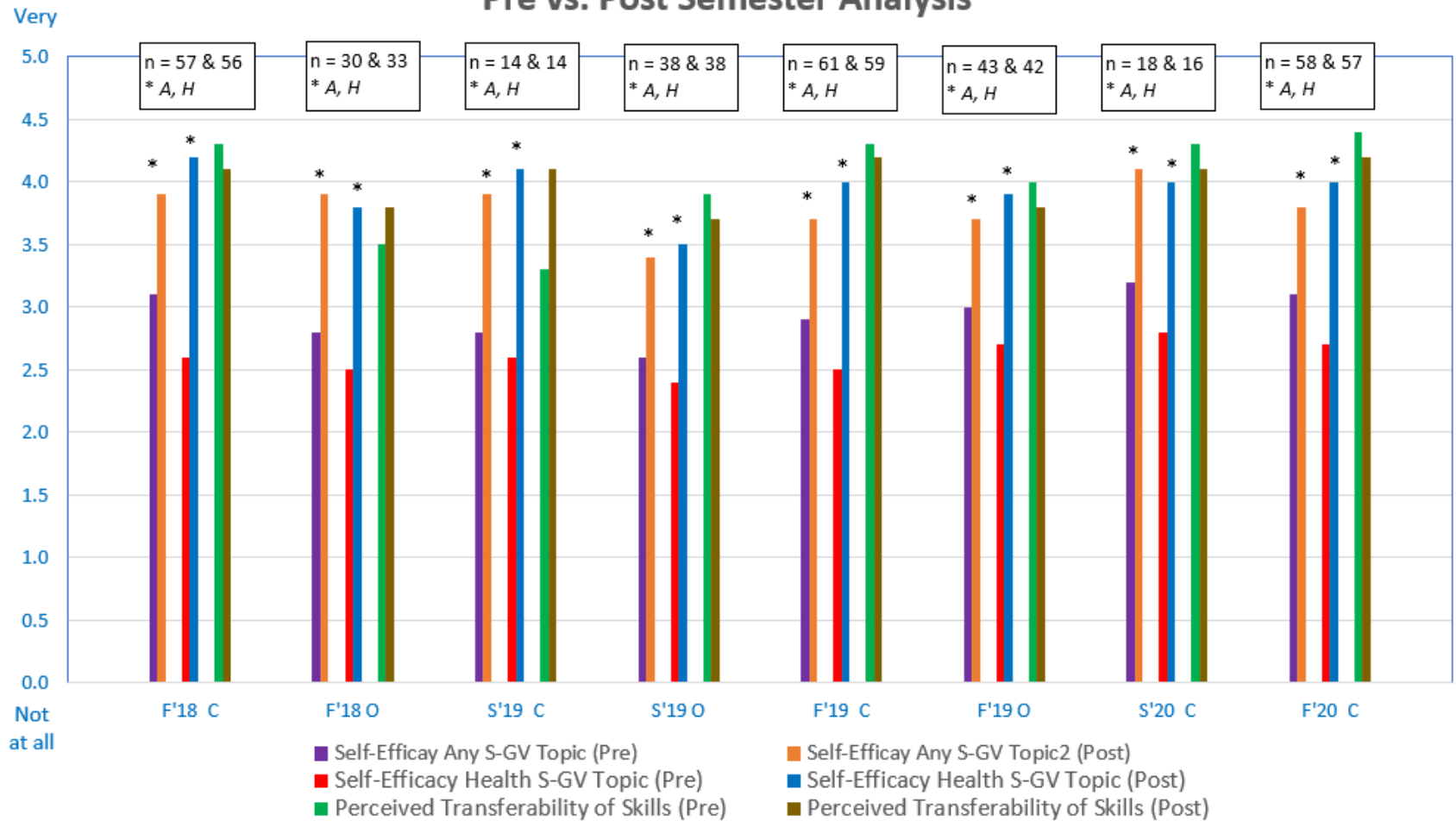
Figure 5B: Perceptions towards student-generated video projects (pre vs. post data). Note: n's refer to pre and post surveys per semester.

*A   p<0.05 – Self-efficacy for making "Any Video" (Pre vs Post)

*H   p<0.05 – Self-efficacy for making "Health Video" (Pre vs. Post)

Table 5A: Categorical types of benefits of producing student-generated video projects (percent providing a categorical example)

Benefits	Spring 2016		Fall 2017		Fall 2018		Fall 2019		Fall 2020		Spring 2021	
	n = 24	n = 35	n = 66	n =19	n = 57	n = 30	n = 61	n = 43	n = 58	n = 42	n = 21	n = 39
	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online2
Engaging Content Acquistion	16.7%	34.3%	15.2%	15.8%	22.8%	13.3%	21.3%	18.6%	24.1%	23.8%	23.8%	11.9%
Creative Digital Communication	75.0%	82.9%	86.4%	73.7%	86.0%	83.3%	78.7%	81.4%	91.4%	81.0%	76.2%	59.5%
Future Career/Classes	25.0%	28.6%	40.9%	26.3%	14.0%	26.7%	29.5%	16.3%	27.6%	21.4%	14.3%	7.1%
Group Process	25.0%	17.1%	10.6%	0.0%	12.3%	3.3%	13.1%	9.3%	8.6%	9.5%	0.0%	2.4%
Community Outreach	25.0%	8.6%	9.1%	0.0%	7.0%	6.7%	19.7%	14.0%	12.1%	11.9%	4.8%	0.0%
Other	4.2%	2.9%	4.5%	10.5%	12.3%	13.3%	8.2%	11.6%	3.4%	0.0%	14.3%	2.4%

Table 5B: Sample quotes of types of benefits of producing student-generated video projects (quotes highlight categorical examples)

Benefits	Sample Quotes
Engaging Content Acquistion	I think it allows us to think about the concepts in a creative way and apply them to real world situations, so we will be able to learn from it.
	In order to make a video that is well received and conveys proper knowledge we must be able to know the material we are teaching very well, and we know all aspects of the material we are teaching.
Creative Digital Communication	This video project will help me to expand my skills in terms of ways to communicate and offer ideas. My experience with video production before these projects was extremely minimal, so having completed these I will be able to utilize this skill as an asset for other classes or in the workplace.
	I believe having done a video assignment multiple times will help my ability to create more creative and higher quality video projects that I may have in the future.
Future Career/Classes	I believe becoming familiar with Adobe Premiere Pro will be very beneficial not only in future classes but also in future jobs. As technology continues to advance more and more, jobs are looking to hire people who are as technologically advanced as possible. Becoming familiar with Premiere Pro may also help students become more familiar with the setup of other Adobe software.
	I will learn how to make videos more efficiently to share my information that can help me later on in projects in both college and in the workforce.
Group Process	I will benefit from learning how to work better in a group setting rather than always working individually.
	Allowed me to extend my communication skills working with a group and helped my creativity skills on making a video to effectively show the importance on a health topic
Community Outreach	This project will allow me to explore unique ways to educate the public on a topic. People are much more likely to pay attention to a video made by students than they would a research article written by a scientist. Just practicing these basic technology skills has already enhanced my professional skills, and I know I will use this again in the future.
	I have learned how to creatively explain what public health is to individuals that have no idea what it is.

Table 6A: Categorical types of barriers to producing student-generated video projects (percent providing a categorical example)

Barriers	Spring 2016		Fall 2017		Fall 2018		Fall 2019		Fall 2020		Spring 2021	
	n = 24	n = 35	n = 66	n = 19	n = 57	n = 30	n = 61	n = 43	n = 58	n = 42	n = 21	n = 39
	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online	Class	Online
Technological	91.7%	88.6%	75.8%	73.7%	77.2%	80.0%	75.4%	62.8%	50.0%	61.9%	47.6%	50.0%
Time	20.8%	20.0%	7.6%	5.3%	17.5%	20.0%	19.7%	16.3%	8.6%	11.9%	9.5%	11.9%
Group Process	16.7%	25.7%	16.7%	15.8%	21.1%	26.7%	16.4%	18.6%	43.1%	21.4%	33.3%	4.8%
Creativity	8.3%	0.0%	13.6%	5.3%	8.8%	10.0%	8.2%	9.3%	5.2%	7.1%	0.0%	2.4%
Other	20.8%	20.0%	4.5%	0.0%	14.0%	3.3%	14.8%	20.9%	17.2%	7.1%	47.6%	35.7%

Table 6B: Sample quotes of types of barriers of producing student-generated video projects (quotes highlight categorical examples)

Barriers	Sample Quotes
Technological	I'm really bad with technology and I find it very overwhelming. That is more of a personal barrier that I have to get over, but nonetheless, it is a significant barrier for me.
	It might be difficult learning how to use video production materials that I don't have experience with
Time	Time management with the heavy course I have to be able to graduate in December
	Barriers I believe I will face is finding the time to complete this project. With a video project, it has to be started in advance and a little completed each day to allow for the finished product. Furthermore, if it it a group project it is always hard to find time and no conflicts in schedules
Group Process	It will be hard to communicate and meet up with other students. Since this is an online class and we don't actually speak to classmates, I feel as if trying to set up a meeting time good for everybody will be frustrating going back and forth through email or text. It will take a lot of time to write out an outline and then a script, which is basically like a paper explaining everything, and then relaying it to video.
	Difficulty finding meeting time appropriate for everyone in the group. Agreeing on an topic of discussion
Creativity	It may be more difficult to find a creative way to portray a message. Some people are really good when it comes to video technology and being creative; however, I am not always the most creative, so I think that is often a barrier.
	Some people are really good when it comes to video technology and being creative; however, I am not always the most creative, so I think that is often a barrier.

Table 7A: Categorical types of resources or suggestions for producing quality student-generated video projects (percent providing a categorical example)

Resources / Suggestions	Fall 2019		Fall 2020	
	n = 61	n = 43	n = 58	n = 42
Resources / Suggestions	**Class**	**Online**	**Class**	**Online**
Rubrics/Guidelines	9.8%	7.0%	17.2%	9.5%
Help Sessions/Tutorials on Video Production	44.3%	32.6%	25.9%	42.9%
Examples of Previous Video Projects	21.3%	32.6%	22.4%	33.3%
Access to Editing Software & AV Tools	31.1%	20.9%	34.5%	14.3%
Group Video Project	9.8%	7.0%	5.2%	2.4%
Other	6.6%	9.3%	22.4%	7.1%

Table 7B: Sample quotes of types of resources or suggestions for producing quality student-generated video projects (quotes highlight categorical examples)

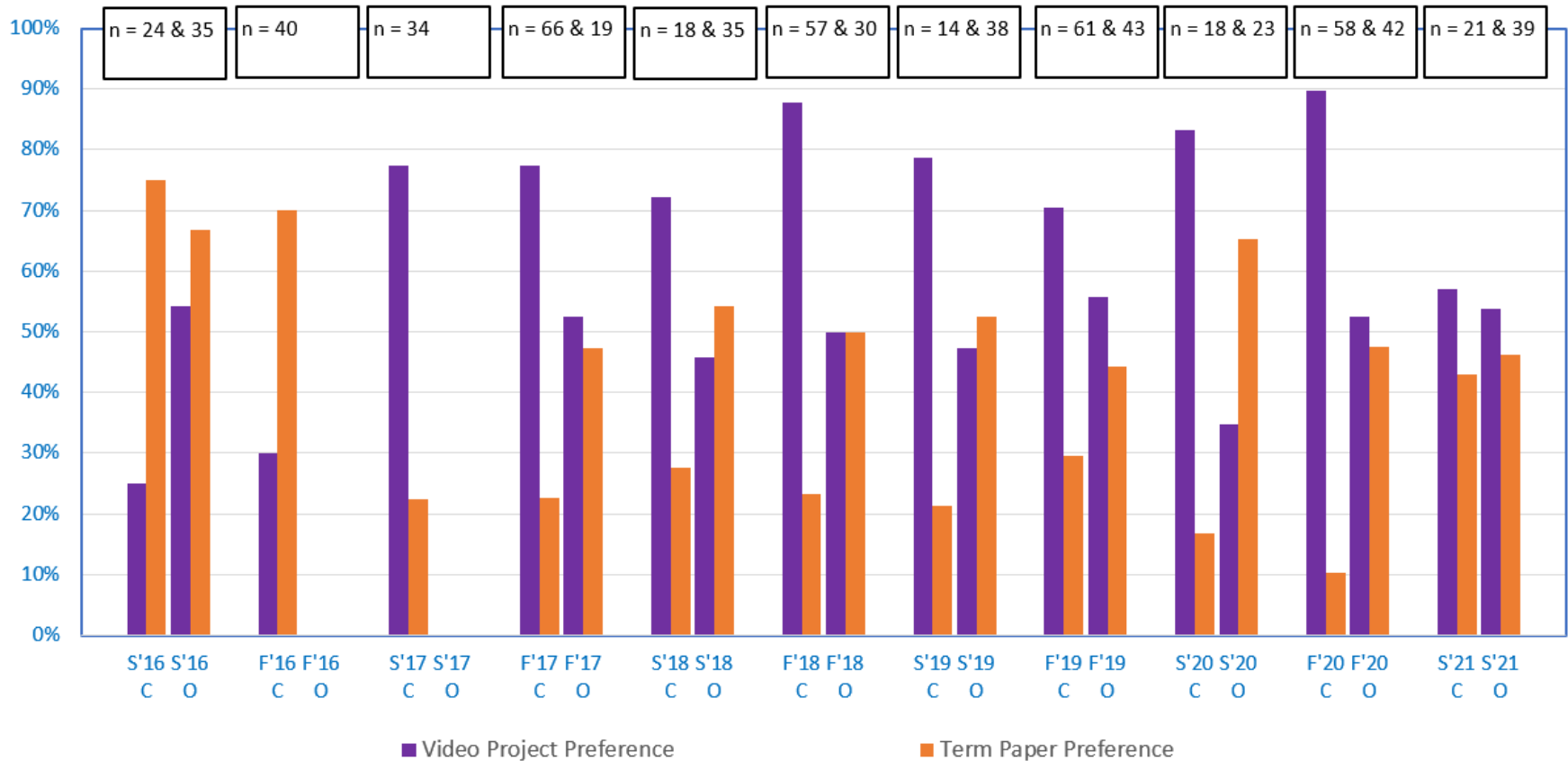| Resources / Suggestions	Sample Quotes
Rubrics/Guidelines	A clear topic and objective. Per say if we have to go out and survey people if they know about any health related topics, I would like to know exactly what I should be asking.
	I think if I had a rubric of the information that should be included in the video, I would be able to get all the information across clearly and time effectively, as well as engaging for the
Help Sessions/Tutorials on Video Production	I would like to see some examples of high quality videos and low quality videos so I know what I should be working towards. I would also like a tutorial video on the software we are
	I think a good resource that would help me w this assignment is tutorials on how to use certain software, looking at health related PSAs to see how they word things, or maybe looking up
Examples of Previous Video Projects	I feel like we had examples of health related video messages and examples on how to present them information it would be extremely helpful.
	It would be helpful to have access to links of actual health videos in order for the video to be more professional.
Access to Editing Software & AV Tools	One resource I would find helpful would be early access to videography tools that I can familiarize myself with in advance to overall improve the visual aesthetic and make it more
	Access to video editing and production sites would be very useful in addition to examples of the project (good and bad ones) to give me a visual of what you are expecting in a final
Group Video Project	A tutorial on how to do it and an option where students can pair up and help each other,
	Doing the project in a group would be a good idea because you can combine everyone's skills and help others that aren't great with technology.

Figure 6: Student preference for type of end-of-semester project (video project or term-paper) prior to the start of the semester.
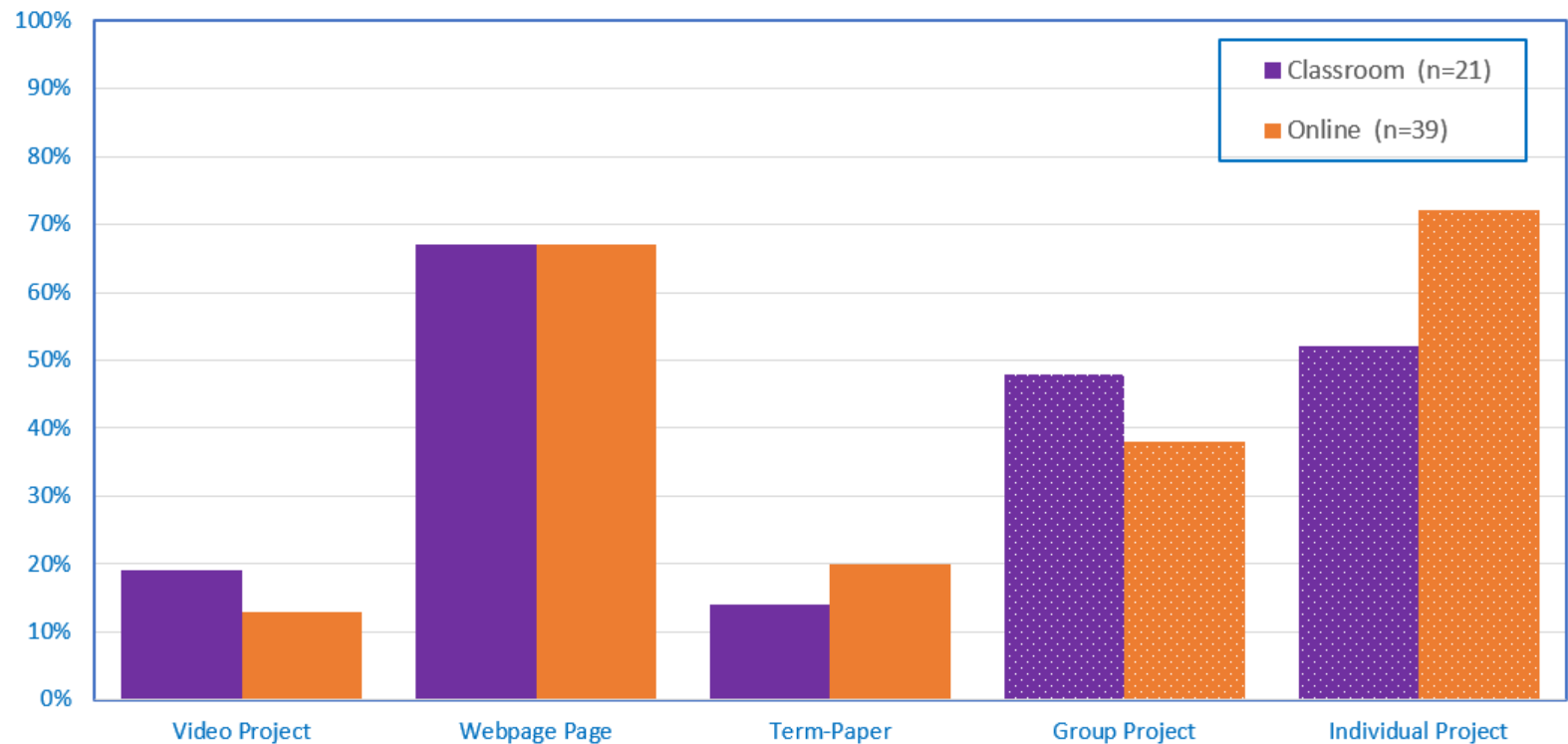Note: n's refer to classroom vs online sections per semester.

Figure 7: Students' final project preferences (Video, Webpage or Term-paper & Group or Individual project)

Critical Thinking: What It Is & Why It Counts
Peter A. Facione
Faculty Perspectives

- **Can you define/describe the following thinking styles:**
  - **"Ignorance"**
  - **"Stupidity"**
  - **"Informed Decision Making"**
  - **"Critical Thinking"**

- **What are some examples of benefits of critical thinking?**
  - **Individual/Personal Benefits?**
  - **Academic Benefits?**
  - **Societal Benefits?**

Faculty Perspectives

- **Has anyone assigned SG Digital Media Projects?**

- **What are some potential Benefits?**

- **What are some potential Barriers?**

- **What are some potential Needed Resources?**

- **What are some potential Opportunities for Critical Thinking?**

1. **Interpretation:**
   To _comprehend & understand the meaning_ of information, etc…
2. **Evaluation:**
   To assess the _credibility_ of information, etc…
3. **Analysis:**
   To identify _the intended & actual relationships_ between information, etc…
4. **Inference:**
   To identify the _elements of conjecture_ based on limited information, etc…
5. **Explanation:**
   To be able to _present clear reasoning_ for action/thoughts…
6. **Self-Regulation:**
   To be able to _monitor & alter ones cognition_ related to action/thoughts…