



# Using Video to Effectively Communicate STEM to Diverse Stakeholders

Isaiah Scott, Will Hill

Department of Civil and Environmental Engineering at the FAMU-FSU College of Engineering



## Introduction

Our world is dependent on science and technology for survival. In a world so heavily reliant upon these things, explaining scientific findings to those outside academia can be quite challenging and oftentimes unproductive. A modern-day example of this phenomenon is evident in scientists attempting to communicate their research about covid-19 to the general population, something that often time turned into miscommunication, distrust, and a lack of clarity among the general population.

To solve this pressing issue, we attempt to answer the research question: “What is the most effective way to communicate STEM to diverse stakeholders?” Our research deals with communicating the mission and work of RIDER to targeted stakeholders such as businesses, students, politicians, and the local and global community as a whole. Specifically, we explore how oral presentation, video, and social media ventures like YouTube promote the communication of STEM to our targeted stakeholders.

## Methods

### What is RIDER?

→ The Resilient Infrastructure and Disaster Response (RIDER) Center is a part of the FAMU-FSU College of Engineering that specializes in research minimizing the effects of natural and man-made disasters.

### Methodology:

- Surveyed academic literature that deals with the topics of effective video communication of STEM through videography, selecting target markets, using YouTube in teaching, visual media writing, and effective presentations. Techniques and valuable information is noted.
- Wrote down effective techniques for STEM communication using information from academic research.
- Implemented techniques into video scripts that seek to share the mission and work of RIDER through video, as practical validation.
- Made videos that both use communication techniques from research and share the message of RIDER to targeted stakeholders.
- Analyzed metrics from videos to see if targeted stakeholders are reached and effectively communicated to.

## Results

### Key Findings from Academic Research:

- Because scientists mostly present to those within the scientific community, they can tend to become lazy in articulation skills, since their audience already has a grasp on their subject of study (“Communicating STEM”, 2015).
- Articulation, precision, and conciseness are key attributes needed to effectively communicate to those outside academia (“Communicating STEM”, 2015).
- Without effective target marketing, a business will never reach their desired audience and their operations will not be successful long term (Crompton, JL, 1983).
- Social media is one of the most effective ways to get the name of a business heard in the public square (Duffy, P, 2008).
- Successful communicative videos begin with detailed scriptwriting that focuses on getting the information across (Friedmann, A, 2012).
- Connection with your targeted audience is the key to an unforgettable presentation. You must use terminology that your audience will understand (Reimold, 2003).
  - This connection consists of a single-minded focus on the audience, persuasive visuals, attitudes that maintain connection, and helpful technology.

### Impacts of Research on Video Creation:

- Using these key findings, we are in the process of creating videos that focus on fulfilling these attributes, in order to connect with stakeholders.

## Conclusion

- As we set out in the beginning, our objective was to find the most effective way to communicate STEM to diverse stakeholders.
- Our research is still in progress, but current results have shown that intentional and precise presentation techniques through the methods stated above are successful in communicating STEM to those outside academia.
- To successfully communicate STEM, it is evident one must learn from and apply the techniques found in this study. An absence of communication is an absence of shared knowledge.

## Discussion & Future Impact

- Because of this research, we can have a greater idea of how to effectively communicate key scientific findings to the general public. This can impact the success of our scientists and government in the communication of scientific findings.
- In this research specifically, stakeholders will be better informed and well equipped to support the mission of RIDER which will in turn spur investment into vulnerable communities, making our local and global communities better equipped for disaster.



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