The Question of Dissemination: Using Video to Draw Broader Audiences to NSF Research

June 2, 2016

Presentation to the DRK-12 PI Meeting,
Washington DC.

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THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON DC

Purpose

- We will discuss the goals, challenges and strategies of dissemination of video products, through the case of one project's experience and from the perspective of NSF communications team.

Agenda and Presenters

- NSF dissemination goals and challenges — Michael Sullivan, NSF
- Overview of the OSPrI project — Sharon Lynch, GWU
- OSPrI Videos
- Goals and challenges OSPrI videos — Ann House, SRI
- Thoughts on videos and dissemination — Joni Falk, TERC
- Audience questions and discussion

Context and motivations

NSF Mission:

- NSF's goals – discovery, learning, research infrastructure and stewardship – are achieved through support for science and engineering education, from pre-K through graduate school and beyond.
- The research we fund is thoroughly integrated with education to help ensure that there will always be plenty of skilled people available to work in new and emerging STEM fields, and plenty of capable teachers to educate the next generation.

Context and motivations

Successfully communicating *outcomes*, not *outputs*

- An annual budget of $7.5 billion
- Funding source for approximately 24 percent of all federally supported basic research conducted by America's colleges and universities.
- We fulfill our mission chiefly by issuing limited-term grants -- currently about 12,000 new awards per year
- NSF-funded researchers have won some 217 Nobel Prizes

The Question of Dissemination:

"On one hand, the field has matured to the point where highly credible education research seems to come out on a weekly—sometimes daily—basis. Federal investment and infrastructure has contributed to a notable increase in the supply of rigorous studies that are widely available to educators and policymakers. But now, some have suggested that the billions of dollars invested in education research by federal agencies, including the Institute of Education Sciences (IES) and the National Science Foundation (NSF), have failed to make an impact." (Neild, 2016, p. 1)

Context and motivations

Ask and answer the "so what" question

- What are the results of your research?
- What do they mean?
- What is the *impact* of your findings?
- What is the Return On Investment (ROI) to the taxpayer?

The Education and Human Resources (EHR) Directorate frames our world of work in three areas:

- Enhancing learning and the learning environment
- Broadening participation in STEM fields
- Developing the workforce of tomorrow

Context and motivations

- Review decision criteria
  - Purpose
  - Audience
  - Tone and content
  - Distribution
- How do we influence others?
  - For a general audience, simplifying – without patronizing – is best.
  - Deliver concepts in plain, basic language and avoiding jargon or scientific terminology using relatively short, declarative sentences.
  - Provide the public a science-based perspective, ensuring that understandability is paramount

OSPrI Overview

- Opportunity Structures for Preparation and Inspiration (OSPrI) through Inclusive STEM High Schools (ISHSs)
- 5-year study on 8 “exemplar” (high-performing) ISHSs with diverse student populations and 8 “Day in the Life” student-level case studies
- Explored the curricular, instructional, and organizational conditions that promote achievement
- Illuminated how ISHSs provide STEM education that differs from traditional comprehensive schools and classrooms

OSPrI Overview

- ISHSs have captured the interest of policy audiences at local, state and federal levels
- OSPrI contributed to the November 2015 White House Summit on Next Generation high schools, concurrent with an NSF Forum on STEM education
- Learned that it was hard to create policy briefs that capture the attention of policy makers and funders
- Created videos designed to pique interest in the research

Traditional Dissemination Products of OSPrI Study

- 8 School level case studies of ISHSs, each 75-100 pages long
- 8 Student level Day-in-the-life narratives of students in comprehensive high schools and ISHSs (12-20 pages long)
- Executive Summary of Logic Model (8 pages long)
- Short articles in *Scientific American, Kappan and Education Leadership* (report on research)
- Research articles in journals and numerous papers from research conferences
- Webinars, presentations at meetings, etc.

OSPrI Videos

- Created by a professional production team specializing in socially-minded documentary films and video content
- Research team & production team returned to one of the case study sites
- Created three short videos to describe this one school as an example of the eight schools in our study
  - Overview
  - 2 student stories

OSPrI Videos

- School Overview (7 min)

- Saya's story (3 min)

- Swathi's story (4 min)

OSPrI Video: Challenges

- Finding videographer
- Fitting videography into NSF budget
- School and student selection process
- Various permissions (school, student, parent, locations, research institution)
- Establishing long-term home after end of grant

How to Create a Dissemination Plan?

- Shown at professional meetings (AERA, NARST, etc.)
- Shared in NSF ‘STEM for All’ showcase
- Will be sent to organizations promoting & supporting STEM-focused schools, including:

STEM Groups & Organizations

- 100Kin10
- Carnegie Institution for Science
- Change The Equation
- New Tech Network
- New Schools Project
- STEM Coalition
- STEM Connect
- STEM School Principals
- STEM School Researchers
- STEMx
- Washington STEM

Policy Makers & Government

- Chief State School Officers
- Einstein Fellows
- National Aeronautics and Space Administration
- National Governor's Association
- National Science Foundation
- President's Council of Advisors on Science and Technology
- State Education Departments
- State Science and Math Coordinators
- State Supervisors Association
- White House OSTP

Other Groups & Organizations

- American Association for the Advancement of Science
- LinkedIn
- Twitter
- Century Foundation
- Brookings
- Fordham
- The Knowledge Alliance
- Alliance for Excellent Education
- Association for Supervision and Curriculum Development
- University and College Communication Offices
- National School Board Association
- National Science Teachers Association
- National Association for Research in Science Teaching
- Kappan

Cautions from NSF: Effective Video Production

- The short, research-focused videos that we produce often see up to half of their viewers drop off within 45 seconds. At 3 minutes, we lose a significant portion of our viewers
- With less time to convey information in videos we have to be more efficient
- Video often requires significant resources, so planning them in ways that make them multi-purpose results in the most benefit.
- Finding distribution partners can significantly boost your video's reach.


2016 VIDEO SHOWCASE
HOME
VIDEOS
PRES
FILTER:
SHOWING ALL 156 PRESENTATIONS
RECOGNIZED
BY KEYWORD
Mathematics
Science
Engineering
Computer Science
Cyberlearning
Integrating STEM and CS
BY AGE/GRADE LEVEL
BY RESOURCE CENTER
BY INSTITUTION/ORG
BY STATE
NAME/TEXT SEARCH
ESCAPE through Art and Science
Assessing Collaborative Problem-Solving
Learning Trajectories for Everyday Computing (LTEC)
Andy Isaacs
Solar 1 CleanTech
Sarah Pidgeon
Connecting Idea Threads for Sustained Discourse
Jianwei Zhang
Middle School Pathways in Computer Science
Fred Martin
2016 Video Showcase: STEM for ALL
May 17th – 23rd 2016
DR K-12 Meeting
Joni Falk, TERC

FRAMEWORK

The Video Showcase rests on a theoretical framework that draws from the literature on communities of practice and distributed cognition.

It rests on the premise that rich collegial discourse, dissemination and feedback do not just happen in electronic environments, but are facilitated, structured and designed with goals and impact in mind.

GOALS

Presentation:
A) Create a new way for projects to share and showcase their work with others through accessible short videos.

Collegial Learning:
B) To design an environment that brings together multiple communities of practice, with features intended to encourage and facilitates rich collegial discourse

Broad Dissemination:
C) To enable a way for NSF (as well as individual projects) to share innovations in STEM education with a very broad public audience.

Feedback from Multiple Communities
D) To enable projects to get feedback and hear multiple perspectives pertaining to their work from researchers and practitioners, students and parents, scientists and industry

STEM FOR ALL 2016 SHOWCASE

May 17th – May 23rd

PARTICPATION

- 156 videos
- 402 presenters and co-presenters
- 40 facilitators
- 7 resource centers

DISSEMINATION

To Date:

- Over 26,000 unique people from 153 countries
- Over 25,000 video views

During the seven day event:

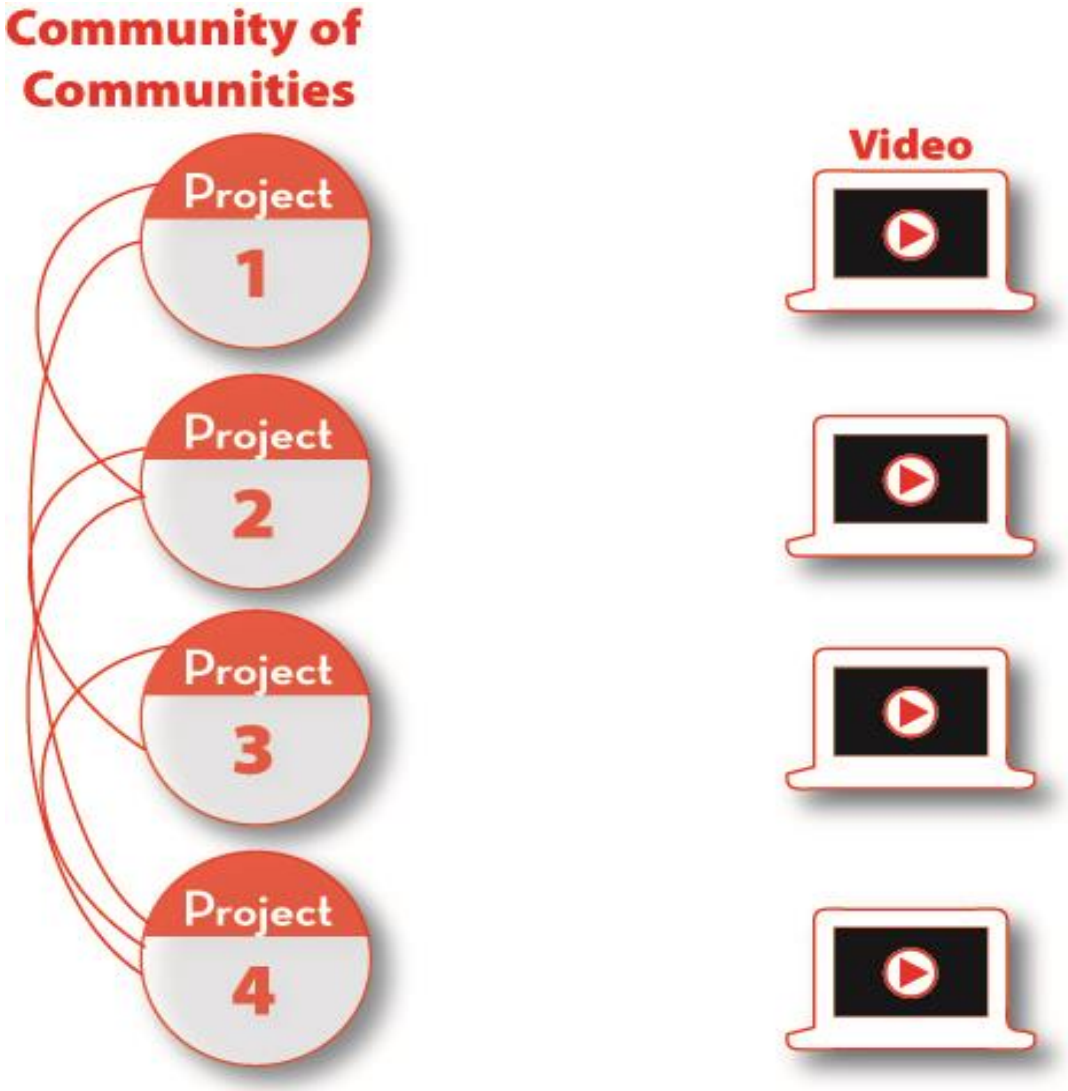
- 2,771 discussion posts
- 13,920 public choice votes cast through Facebook, Twitter, and Email Ballot
- 838 Presenter Choice Votes

DISSEMINATION STRATEGY

- Seven Resource Centers (MSPnet, CADRE, CIRCL, CAISE, STELAR, CS10K Community, and ARC) to each of their communities
- Outreach to Organizations engaged in STEM education and policy by TERC, EDC and other resource centers.
- Outreach efforts of NSF, ITEEA, NSTA, and other influential organizations that both lend credibility and breadth of reach.
- Distributed Outreach Campaign engaging this years presenter and facilitators (442) and last year's as well (300)
- Public Choice Voting resulting in 11,950 Facebook shares and likes, 1,416 twitter votes, and 1,657 email ballots.
- Project's leveraging institutional and organizational affiliations to provide Press Releases, Blogs and Tweets, (e.g. Museum of Science, University Of Illinois, UCSC, and many others)

STEM FOR ALL 2016 SHOWCASE

May 17th – May 23rd



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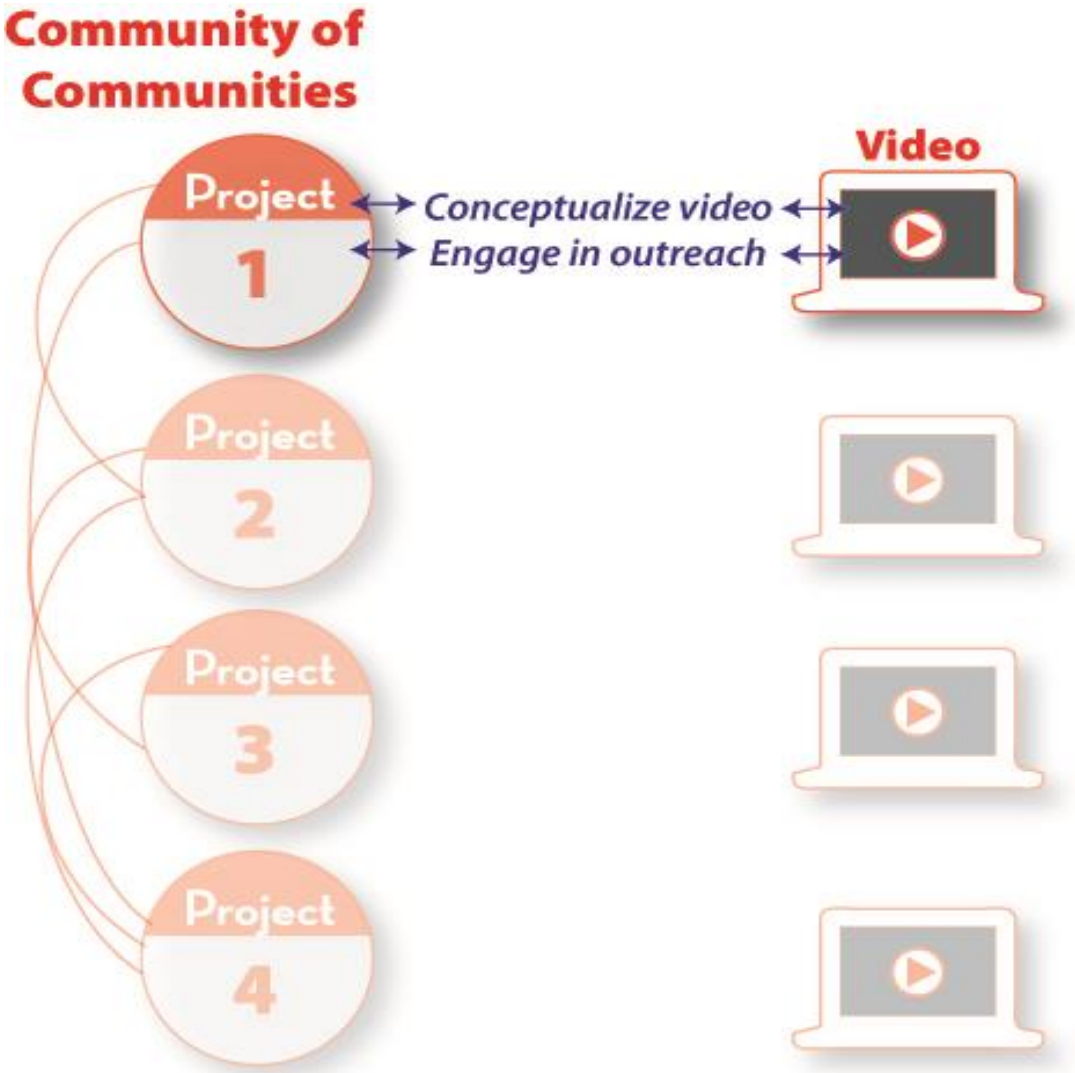

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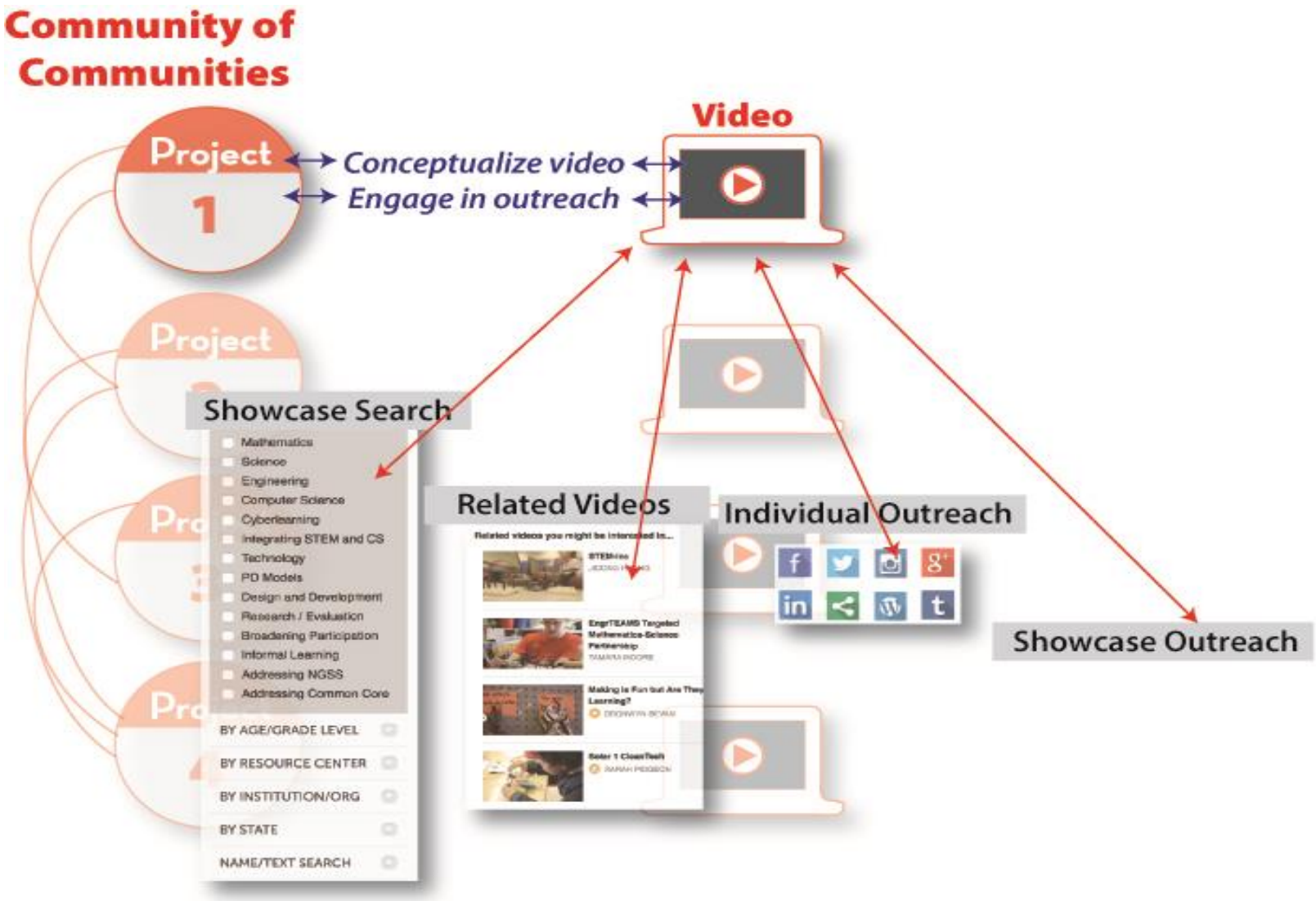

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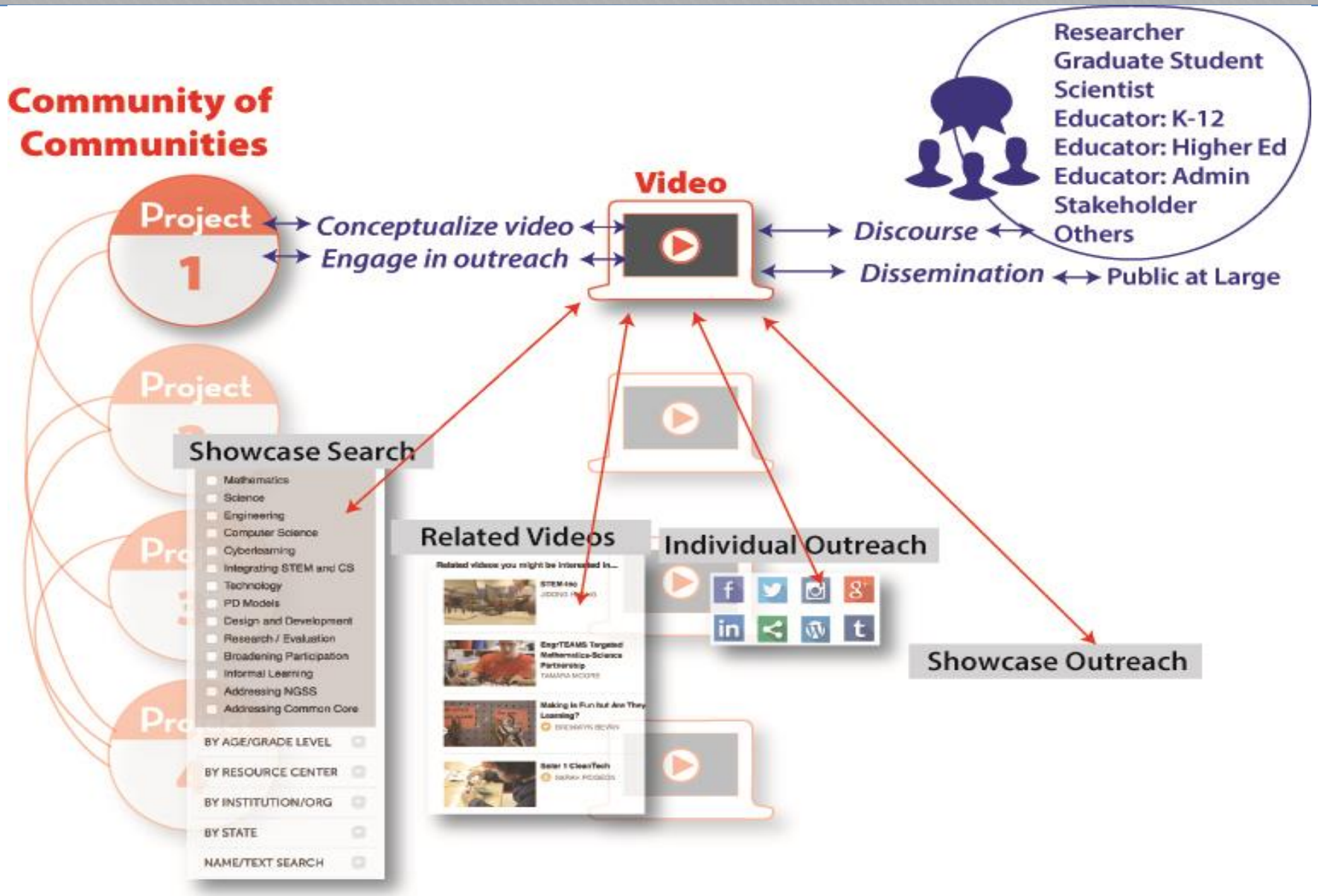

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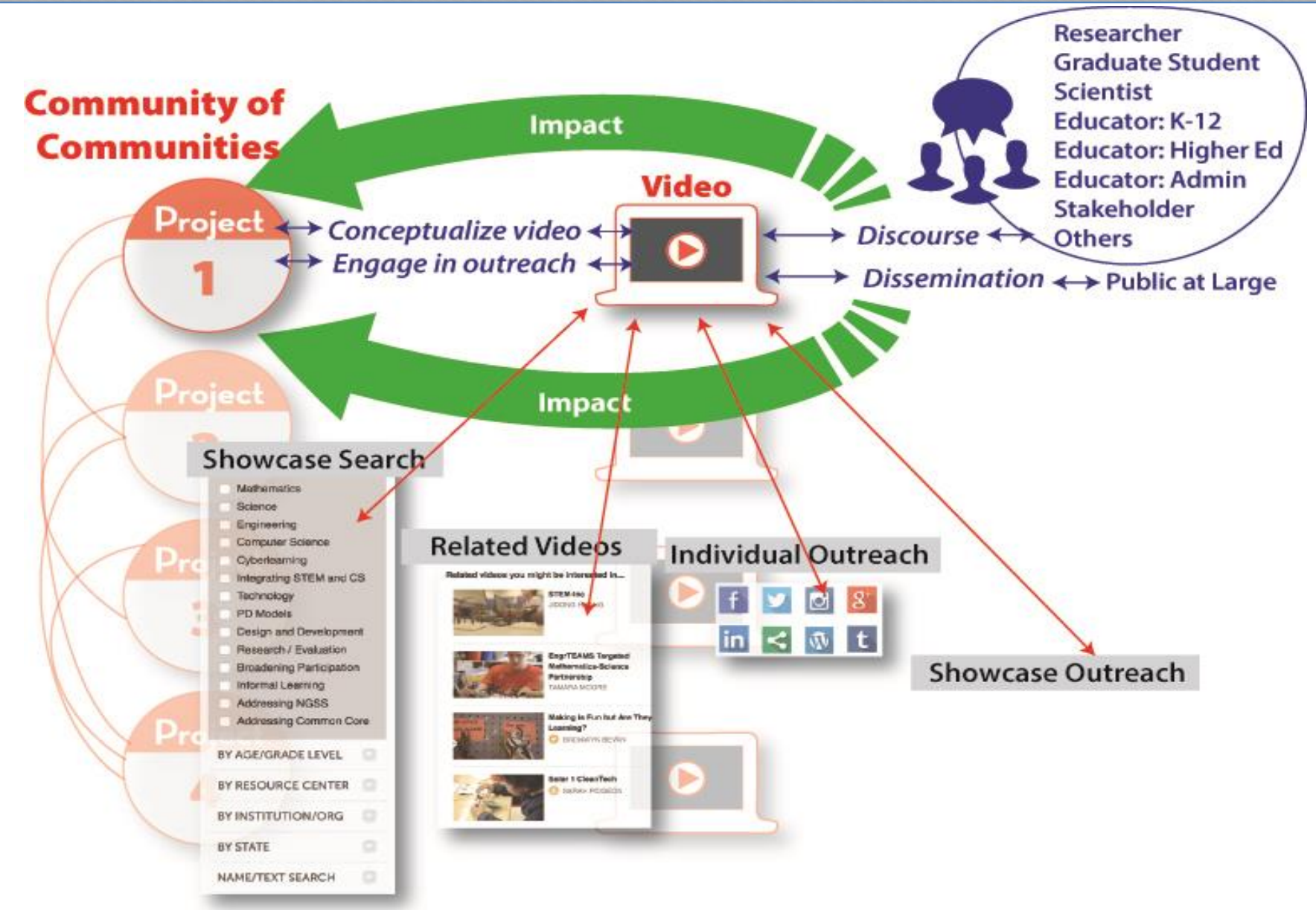

Questions for audience discussion

- Will researchers find video dissemination useful? Why or why not?
- What are the advantages and disadvantages of using video to disseminate research results to a broader general audience?
- What are the advantages and disadvantages of using video to persuade and narrate research results beyond the research community?
- What are advantages and disadvantages of disseminating products such as video *before* the final results in order to build interest? Navigating timeliness and caution.
- What are the best ways to meet the goals of NSF and of researchers, who Neild says, "…have failed to make an impact" on Who? For What Purpose?
- What does past experience and current new efforts tell us about how to approach this problem?
- Should the value of research be contingent on how well you market it? Is dissemination marketing?

Thank You

Website: http://ospri.research.gwu.edu/ or

inclusivesteminsights@sri.com

OSPrI
Opportunity Structures for Preparation and Inspiration in STEM

NSF

Thank you!

See more at