Explain It to Me Like I Am Five Years Old

Science Outreach as a Model for Conference Presentations

Brian Katona

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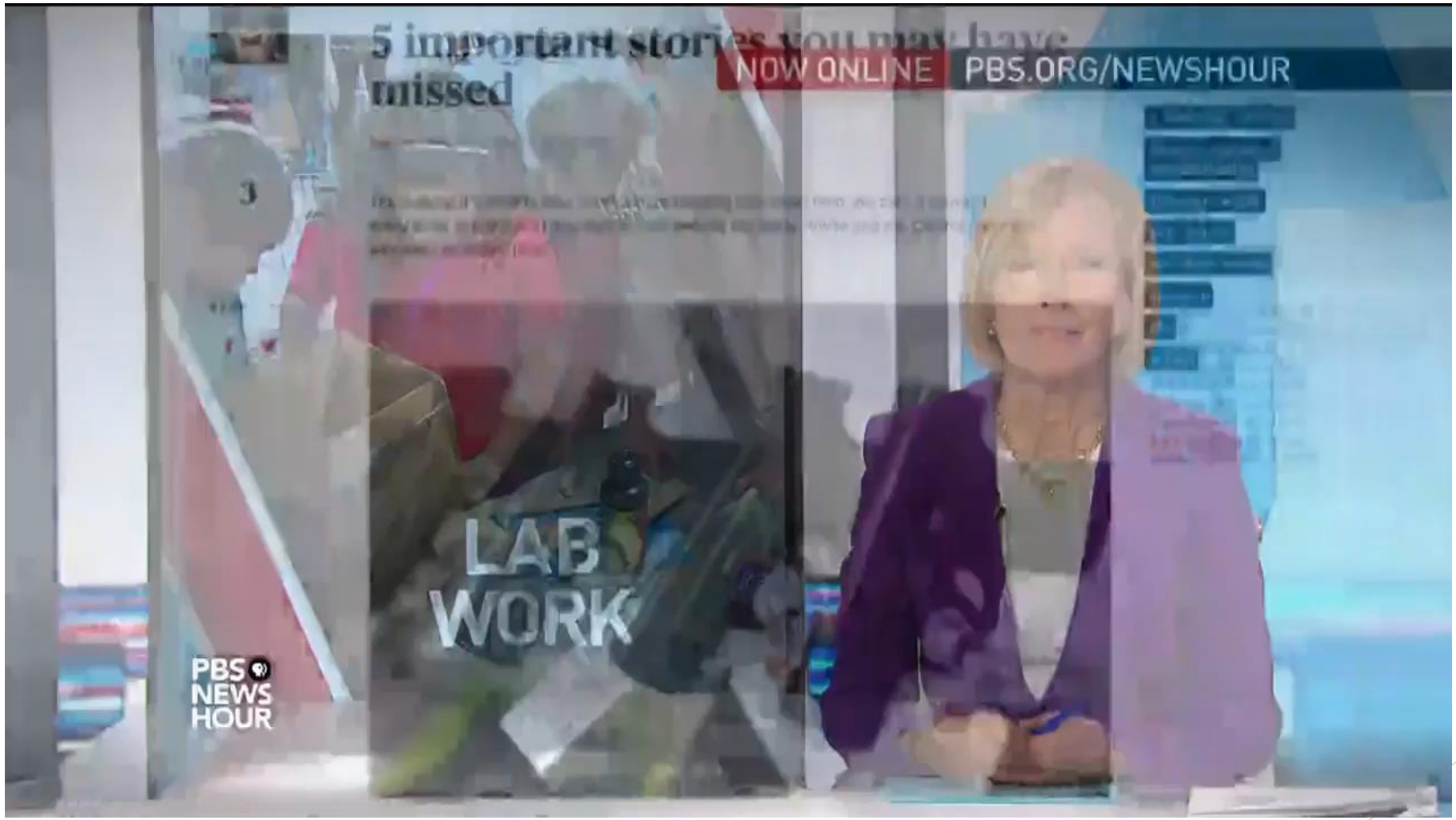

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Goals of conference presentation vs Goals of science outreach

Goals of conference presentation:

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Goals of conference presentation:

- Engage your audience
- Clearly communicate ideas
- Transfer knowledge
- Inspire audience to take further action

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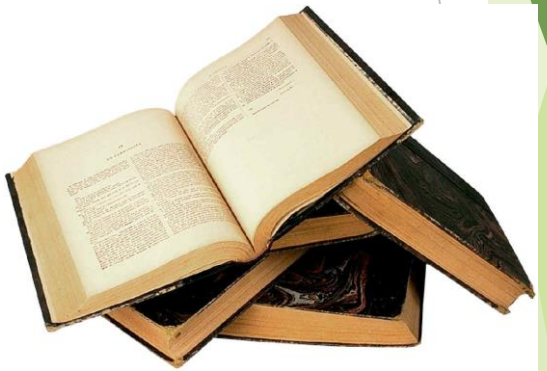
Pillars of Science Outreach

Hands On

Promote Discover

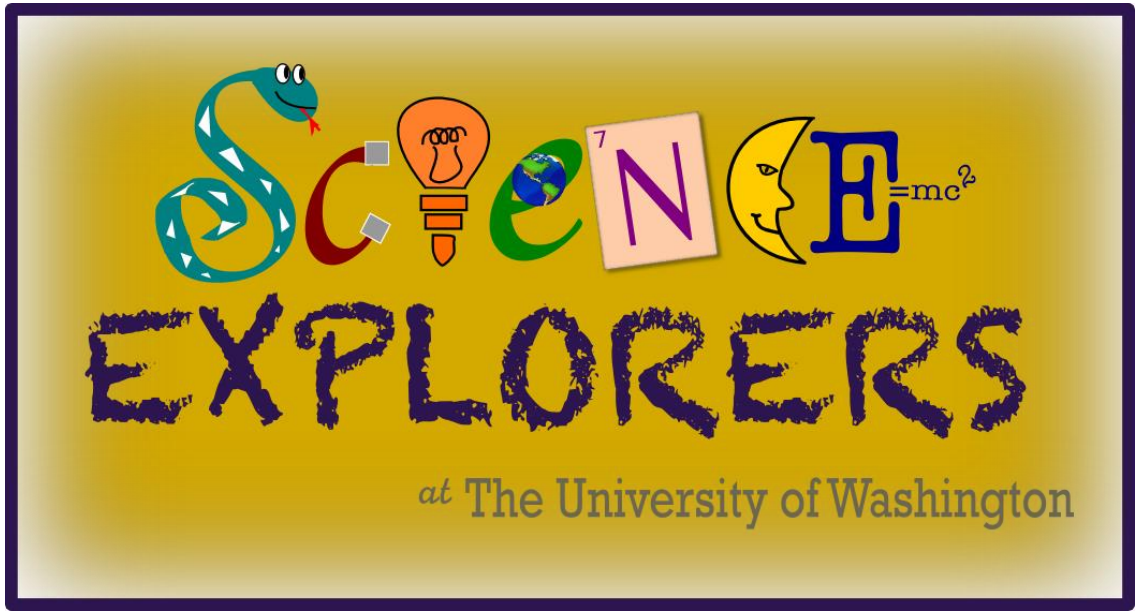
Personally Engaging

Accurate /Factual



Model program: Science Explorers at UW

- After school science program developed and led by graduate students
- Serves 4th and 5th grade students
- One hour lessons one day a week
- Each academic quarter is one broad topic, such as Earth Science or Engineering



Science Explorers Instruction Format

Introductory Video

Science Explorers Instruction Format

Intro Group Discussion

Introductory Video

Science Explorers Instruction Format

Hands-on Activity

Intro Group Discussion

Introductory Video

Science Explorers Instruction Format

Hands-on Activity

Intro Group Discussion

Summary Group Discussion

Introductory Video

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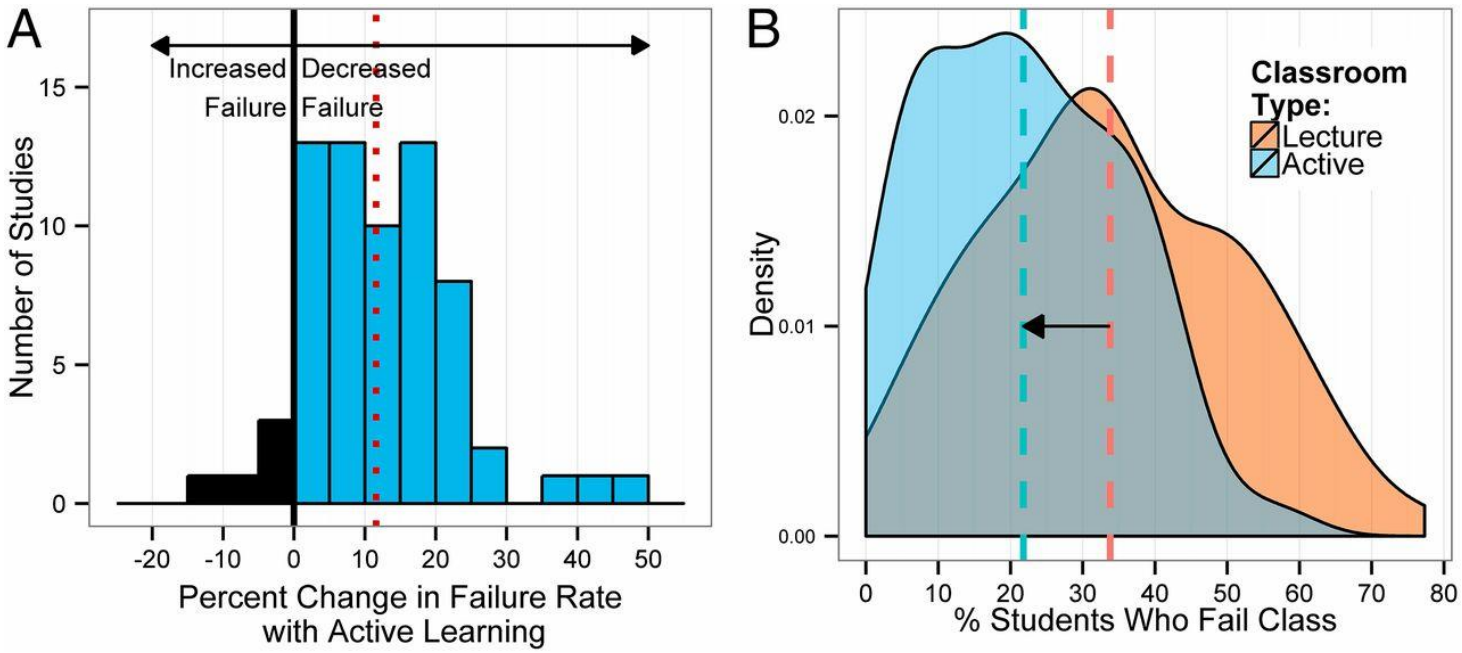
Summary Group Discussion

Introductory Video

Closing Video

Active Learning

Benefits of active learning for undergraduates:



Freeman et al., "Active learning boosts performance in STEM courses, Proceedings of the National Academy of Sciences, Jun 2014.

Active Learning

Benefits of active learning for K-12:

"the effect size of active learning at the undergraduate level appears greater than the effect sizes of educational innovations in the K–12 setting"

Benefits of active learning for instructing post-undergraduate:

Freeman et al., "Active learning boosts performance in STEM courses, Proceedings of the National Academy of Sciences, Jun 2014.

Activity

- Work in groups of 2-3 to design a simple lesson following the format
- Bonus points: Use your own research

Introductory Video

Introductory Questions

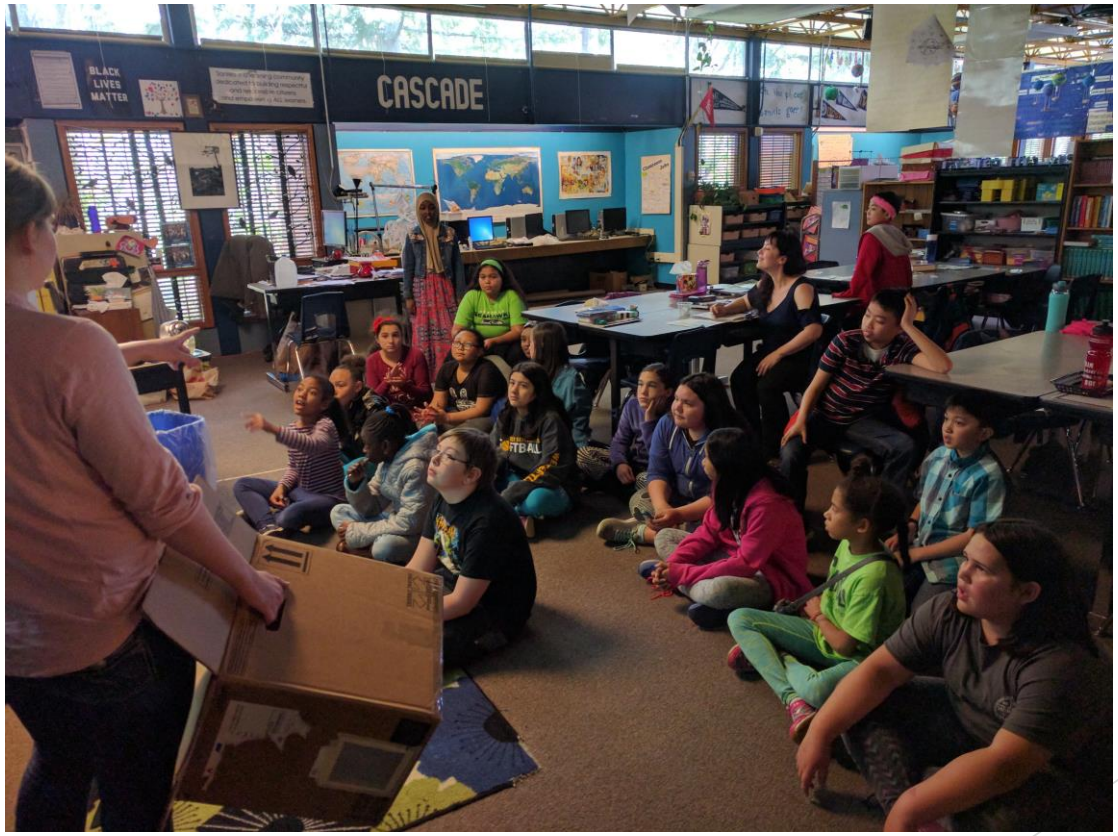
Hands-on Activity

Some sciencey topic ideas:

- Photosynthesis
- Volcanoes
- Density
- The food chain
- Magnetism
- States of Matter
- Earthquakes
- Or a topic of your choice

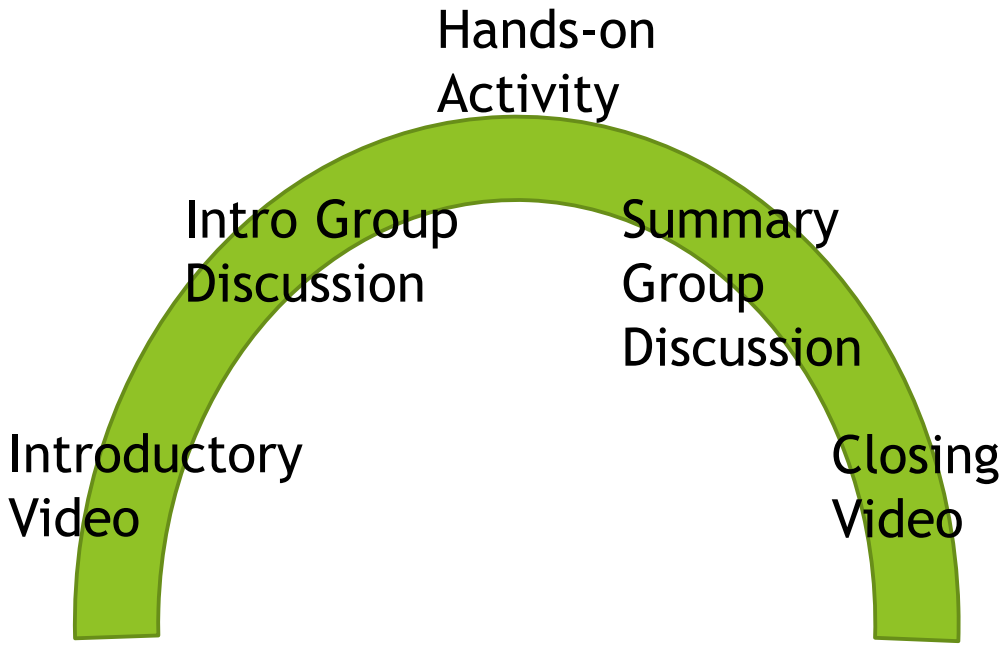
Report Out

- What did you come up with?
  - Share with one or two groups around you



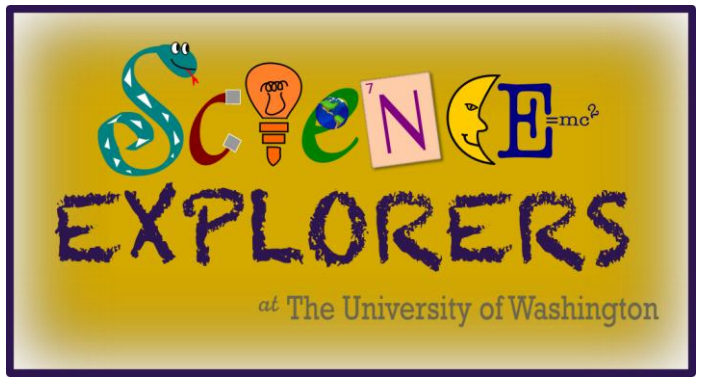
Take-away

- Conferences and scholarly communication should have the goal of engaging and teaching the audience
- The science outreach community has developed effective methods for creating engaging and informative scholarly communication
- Therefore, science outreach can be used as a model for all scholarly communication



Thank you!

- FORCE2018 Organizers and Attendees
- Science Explorers tutors
- Science Explorers participants and teachers at Sanislo Elementary
- Itzue Caviedes Solis for inspiration and edits



Closing Video