

Media and Informal Science Education

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A Starting Point

- Some definitions
 - What is included, what is not
- The audience
- The lay of the land

Definitions

- Television (including podcasts)
- Radio (including podcasts and RSS)
- Large format films (IMAX)
- Planetarium shows

- Not: Websites, print, brief videos in museums, etc.

The Audience

- Adults
 - Older, wealthier, whiter, more educated
- Science, news, arts (persistent)
- Increasingly using multiple media
- Autonomous, self-directed, practical, looking for respect and relevance

The Lay of the Land

- More than PBS / NPR
- Attributes of science and nature programming
 - Big eyes and fur, crocodiles and dinosaurs, Voice of God, existential questions, very large or very small, sex and reproduction role of women in science, planetary exploration, code breaking, submarines

Why are Programs Like This?

- Schedule drives design and production
- Media requires significant funding
- The money is in production
- Built on values, not theory
- Review process focuses on media, not outcomes

**There would be no bucks
without Buck Rogers.**

– Old NASA adage

Media for Children vs. Adults

Children's media

- Series
- Repetition
- Iterative
- Curriculum design
- Intentional

Adult media

- One-offs
- Content not consistent
- Informational
- News focus

**You take the truth and I'll
take repetition and I'll beat
you every time.**

– Old advertising adage

Outcomes

- Consistent findings
 - Knowledge gain and limited attitude change
- Limited range of outcomes
- Methodological weaknesses
- Limited generalizability (selection bias)

**The difference between
outputs and outcomes
is like the difference between
what is so and so what?**

– Michael Scriven

Constraining Factors

- Funding patterns (NSF)
 - Needs,, formative, summative
 - Time frame
 - RFP process
- Sample selection/IRB
- Funding
- More powerful designs

Getting to “So What?”

- Policy and practice
 - More focus on research in RFPs
 - Enhanced funding
- More creative research approaches
- More powerful research methodologies
- Interactive multiple media strategies

**Of course it works in practice,
but will it work in theory?**

– French research saying

The future needs to focus on:

- Multiple media
- Interactivity
- Targeted content
- Targeted outcomes
- Equity, equity, equity

You can go a long way with a smile. You can go a lot farther with a smile and a gun.

– Al Capone