The Reasons We Choose Science Careers: Motivational factors in choosing a science career.

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“Race to the Top” (Duncan, 2010)

• A school reform initiative that promotes the creation of science, math, engineering and technology (STEM) programs.

• The National Science Foundation (NSF)

How is this related to education and technology

• Qualitative Research
  - support qualitative research because it focuses on the experience itself (Husserl, 1970)
• Critical inquiry
• Preliminary
• Literature review on science career motivation
• Two prior pilot studies
• Current students are “Digital Natives”
• a “hot topic”

Statement of topic or problem

• A shortage of American students to fill science jobs in the United States, (Anderson & Okhee, 1993),
due to a lack of interest in science (Bolden, 2009).

• research question
  - What are the motivating factors or influences reported by adults when they chose a science career

Purpose

• This research study will address the issue of an unfilled national workforce in the scientific fields

Connection to existing or related research

Who or what influences students when choosing a science career?

• Bleeker and Jacobs (2004) insight of the influence of home life affecting children's self-perception in math and science
• Finken, Jacobs, Lindsey, & Wright, (1998) rural girls showed an intrinsic interest in science, were highly motivated early on, and had peer support and the support of their mothers
• Lee (1993) researched science interest and motivation of 24th grade students. The purpose was to ask questions about task engagement and related cognition, motivation and affect. “socializing”
• Brett (1995) found factors influencing career choice was family support, especially if both parents encouraged women in the sciences.
• Stake, 1984, motivation of college students: time & gender
Conceptual Framework

- Family
- Experiences
- Other adults
- Home life
- Environment
- Gender

Conceptual Framework

*A funnel depicts the career path which directs background, persons and rewards in life.

*In addition, feelings developed over the course of time, surface as anecdotes that make sense of the decision to choose a science career.

*results taken from pilot study

Description of the study design and research methods

- Type of research?
  - Literature review, ethnography, synthesis of research

- The data collection
  - Interviews, observations, questionnaires
  - In person interviews with leading Scientists

- Methods
  - Coding responses in Excel
  - Creating a conceptual framework from the data.
  - Comparing for similarities and contrast

Methods Discussion

- Habermas believes that human beings constitute their reality and organize their experience in terms of cognitive interests (Crotty, 2003).

- Merriam (2009) refers to the advantage of the insider or emic perspective Qualitative research is an appropriate course of action to explore what motivated adults to choose a career in science because this phenomenology can be expressed as a shared ethnographic experience of culture, and human society.

Findings or anticipated results

- Preliminary findings
  - Trends suggest parent or another significant adult are the main contributing factor
  - There are many various individualized factors

- Anticipated findings
  - Similarities
  - Stay tuned for more research results!

Findings:

Implications for research, theory or practice

- Leadership: Findings will help focus efforts and money to develop targeted programs.
- Governance: Findings will stave the waste of ineffective programs and create policy reform
- Organizational: Findings will show educational institutions how to reach students effectively
- Societal: Findings will steer society to help strengthen families
Commonalities in Literature

- What implications might there be?
  - For further research
  - For theory
  - For policy
  - For practice

So far......

- not one definitive reason, or motivational influence attributed to the selection of a science career!

Conclusions

- I’m not there yet!

(talk to me next year):-)

References


Special Thanks to WCSE

The End