

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** effecting children's self-perception in math and science
- Finken, Jacobs, Lindsley, & 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 24- 6th 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.
- Zinberg, 1971 & London, 1983 “The end of science”
- 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);~)

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