Establishing and Propagating a Model for Evaluating the Long-term Impact of Pre-College Computing Activities

Adrienne Decker, Rochester Institute of Technology, PI (adrienne.decker@rit.edu)

Monica McGill, Knox College, PI (mmmcgill@knox.edu)

November 29, 2017

Welcome!

- Why are we here?
- How did we get here?
- What are we doing?
- Questions for you (and for us)

Why are we here?

- The RPP community has a set of projects that fit squarely within the domain of our project
- Proposed a data repository and tools for evaluation and analysis that can be leveraged by these projects to help the community see collective results
- We would like to provide resources through our site to make this a reality

How did we get here?

- Prior work
  - Pre-college and college computing education research (published in ToCE, ICER, SIGSCE, ITiCSE, FIE, etc.)
  - Diversity / broadening participation
  - Participation in outreach activities
  - Volunteer work within the computing education community
- Involved in Game Education
  - Equally poor (if not worse) gender/minority gap
- How can we implement programs to change it if we don't have evidence that they are beneficial in the long run?

We had this crazy idea....

...and were awarded a 5-year, $1.19 million grant NSF IUSE Grant to help tackle this problem.

Apparently, it's interesting and needed, but not easy....

We formed a team (including external evaluators SageFox and an 7 member advisory board whose membership included Leigh Ann DeLyser [CSNYC])

What are we doing?

The goal of this project is to transform the pre-college computing education community by implementing a process for evaluating the *long-term* impact of pre-college computing activities on the participants.

This includes:
- Examination of the types of activities in which participants engage
- Participants' perceptions of computing as a discipline
- Participants' skill/knowledge development
- How participants perceive themselves as part of the computing field
- How computing fits into participants' lives and careers
- Participant choice of major/field of study
- Participant choice of a computing or computing-related career

What are we doing?

The two primary objectives for this project are:

- Identify, review, and analyze past and current pre-college computing activities and their impact on participants to determine the major influencing variables

- Create and implement a formal process for collecting data related to pre-college computing activities, including major influencing variables, necessary for educational researchers to be able to evaluate and analyze the long-term impact of these activities.

Phase 1 (2016-2018)

- Identify past and current pre-college computing activities and create a publicly available archive of this information, including information about impacts of participation

- Identify variables (independent and dependent) of past and current pre-college computing activities necessary for analyzing long-term impact of these activities, including specifics about the activity itself to provide individual context of the participants

Phase 2 (2018-2021)

- Would like to involve this community in shaping some of the direction of Phase 2 to achieve our goals **and** the objectives within the RPP community

- (2018-2019) Establish a process for collecting and analyzing data from participants

- (2019-2021) Collect and analyze an initial set of data through the efforts of the research team along with a select group of pre-college computing activity coordinators (hopefully many from this community)

Website

- Sharing Phase 1 data
  - Research data repository
  - Resources for conducting research
- Beta testing in December/January (on Phase 1 data)
- csedresearch.org
  - Let's take a look

  - Please do not take the survey until we send out the requests in a few weeks. (Any survey results taken now will be deleted.)

- Looking ahead:
  - Website will support Phase 2 initiatives in providing resources, data collection and analysis

Questions (for us in voice)

For you (in chat)

- What are your needs for pairing research with practice?
- What are your needs for evaluation?
- How could you see your project leveraging such a data repository?

We are going to be following up with a survey to this community to determine how our site and its features can help serve your needs.

Adrienne Decker - adrienne.decker@rit.edu

Monica McGill - mmmcgill@knox.edu