Evaluation of digital equity programs: What do they believe and try to do?

Panel on Diverse Learners

NRC Committee on Learning Science in Informal Environments

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Overview

- What diversity means in this context
- What learning means
- Sample of four programs
- Issues of access
  - Key forms of access
  - Learning as central concern
  - Pathways within informal space

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Assumption about diversity

- In the context of the Digital Divide
- Access to resources
  - Technological tools
  - Opportunities to learn
- Flexibility in content, purposes

Assumption about learning

- *Of* technology
- *Through* technology
- (Less boldly) *As* participation
- Relevance and interest are key
- (Most fuzzily) Experiences are different

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Sample of programs

- Community Technologies Center Program (OVAE, ED)—173 Grantees
- Intel Learn Program—250,000 children
- One Economy Corporation—200,000 homes
- Computer Clubhouse Network—100 centers

Quick overview of the CTC Program

- Diverse grantees
  - CBOs, colleges, gov't agencies, FBOs, libraries, tribal
- Diverse programs
  - Youth, adult, workforce
- Diverse learners
  - Rural, city, linguistic, 0-99, cultural, physical, gang, homeless, HIV, migrant workers, teen mothers

Key elements for program success in CTC Program

- Ensuring *physical access* for participants
- Responding *flexibly* to participants' needs
- Providing staff who are *committed* and deeply understand community
- *Sharing* resources among centers

Outcome indicators for diverse learners in CTC Program

- Particular to specific programs
  - Levels of achievement
  - Standardized measures and certification
  - Authentic performances
- Recommended GPRA indicators

Quick overview of the Intel Learn Program

- Nine countries
  - China, Mexico, Israel, India, Egypt, Russia, Brazil, Turkey, Chile
- Single program
  - 30-hour basic and 30-hour intermediate.
  - Critical thinking, collaboration, technological skills.
  - 21st century learning approaches
- Characteristics of learners
  - Little to no technology access, rural, homeless
  - New to non-traditional pedadogy

Key elements for program success in Intel Learn

- Skilled translation and localization
- Appropriate training and sustained support for staff
- Non-didactic approach ensuring exploration, collaboration, choice, etc.
- Support for connecting activities and projects to interests
- Community involvement

Outcome indicators for diverse learners in Intel Learn

- Participation rates
- Rubric-based assessment of learner work

Quick overview of One Economy programming

- Home access across the US for integration into the mainstream economy
  - Job seeking
  - Educational opportunities
  - Online transactions and resources
  - Community engagement
- Components of program
  - Inexpensive computer
  - Free Internet access (6-12 months)
  - Suitable content (Beehive)
  - Training and technical support from teens
- Characteristics of participants
  - Low-income housing or neighborhoods (e.g., San Jose and Miami)
  - Habitat for Humanity new homeowners

Key elements for One Economy program success

- Technical support
- Program follow-through
- Training and learning
- Community of users

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Outcome indicators for diverse clients of One Economy

- Amount of use
- Types of use
- Changes in economic status
- Comparisons to Pew Internet data

Quick overview of Computer Clubhouse programs

- Worldwide replication of model from MIT Media Lab
  - Part of Boston Museum of Science
  - Funded by Intel and other partners
  - 100 sites
- Youth development program characterized by
  - In-depth projects using technology
  - Adult mentoring
- Characteristics of participants
  - Under-served communities
  - Children 10-18 years of age

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Key elements for Computer Clubhouse program success

- Program that provides youth:
  - **Access to resources, skills, and experiences to help them succeed in their careers, contribute to their communities, and lead outstanding lives.**
- Program that supports change in:
  - Socio-emotional attitudes
  - Academic attitudes
  - Technology use

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Outcome indicators for diverse members of the Computer Clubhouse

- Socio-emotional attitudes tend to correlate with length rather than frequency of Clubhouse visit.
- Boys technology measures seem to correlate more strongly than do girls' measures.
- Girls academic measures seem to correlate with participation, while boy's ratings on these measures do not.

Alternative pathways for diverse learners?

- Stories of learners from program staff
- Characteristics that make the informal setting serve learning and career pathway objectives

Linking back to school

Practices to Promote Afterschool Learning

A positive culture of learning
- *Learning viewed as form of inquiry*
- *Mastery-oriented*
- *Refraining from comparison to others*

Meaningful learning activities
- *Extended activities that connect to lives of youth*
- *Collaborative projects that draw on diverse expertise of members*

Effective Adult Assistance
- *Attunement to youth's needs and interests*
- *Feedback focused on how to improve*

Support for self-regulation
- *Help with study skills and organization*
- *Experiences of self-monitoring (e.g., goal setting, organizing time and work)*
- *Opportunities to reflect on and revise ideas*

Positive connections to school
- *Work aligned to intellectual and school needs*
- *Role models emphasize value of schooling*
- *Helping students build bridges to culture of schools*

Support for parent engagement in youth's learning