Summary – Scratch in Informal Education

- Scratch is being used to teach 21st century skills and fundamentals/concepts of computer programming
- There are many Scratch workshops being held at various museums and libraries across the United States and the world

Scratch Workshops:

- Range from formal (a teacher guiding students to create or modify a specific project) to informal (open-ended, self-discovery time)
- Range from single sessions to multi-week courses
- Generally broken into 1-2 hour sessions (but some are significantly longer)
- Usually run after school, over the weekend, or over the summer
- Most take place in a dedicated space
- Most require advance registration (some with an associated fee)
- Most specify an age or grade range for participants
    - Some invite parents to co-learn with their children
    - Some are girls only
- Most assume no previous knowledge of computer programming
- Depth vs Breadth: Some teach a single skill and add layers of complexity; some teach many different skills
- Starting from Scratch: Some have participants create their own project; some use previous projects as a jumping off point

Aspects of a good learning experience:

- Dedicated space
- Proper technology
    - Hardware: laptop and/or desktop computers, consider ratio of students to computers
    - Software: Scratch
    - Extras (optional): Lego WeDo, PicoBoard, MaKey MaKey, Kinect…
- Trained staff
    - Consider ratio of students to staff
    - Ideal to have at least two to three open-minded staff members
- Time
    - Structured activity with worked out schedule
    - Unstructured activity—time can become an issue
- Appropriate activity
    - Consider age, gender, and skill level of participants, and aspects above
- Cultivate interest (e.g. relating Scratch to video games or introducing the idea of going "behind the screen")
- Ability to have continued learning (e.g. at home)
    - Accessing projects online (e.g. an online gallery)
    - Taking materials home (e.g. Scratch books)

Key Terms (a selection):

- Informal learning
- Constructionism
- Design-based learning
- Peer learning
- Community
- Digital vs tangible
- Physical manipulatives
- Storytelling
- Debugging
- Remixing
- BYOD (bring your own device)
- Levels of Online Participation: spectators, joiners, collectors, critics, creators
- Integration of Technology: entry, adoption, adaptation, appropriation, invention
- Workshop Guide: meeting one another, introducing and demoing Scratch, planning and creating projects, sharing and reflecting on experiences, preparing for next steps