Technological Fluency

The Clubhouse Learning Approach

What does it mean to be technologically fluent? Consider the analogy with learning a foreign language. Imagine someone who learned a few phrases so that they could read menus in restaurants and ask for directions on the street. Would you consider them fluent in the language? Certainly not. That type of phrase-book knowledge is equivalent to way most people use computers today. Is such knowledge useful? Yes. But it's not fluency. To be truly fluent in a foreign language, you must be able to articulate a complex idea or tell an engaging story – that is, you must be able to "make things" with language. Similarly, being technologically fluent involves not only knowing how to use technological tools, but also knowing how to construct things of significance with those tools.

Ability to *use* the computer
- ✓ Using basic features of the operating system
- ✓ Using standard application programs (word processor, drawing tools, …)
- ✓ Searching/finding/evaluating information on the Internet

Ability to *learn new ways* of using the computer
- ✓ Learning new features of a program as needed
- ✓ Learning new tools and programs
- ✓ Feeling comfortable and confident about learning new features/programs
- ✓ Making use of multiple tools/programs on a project
- ✓ Customizing programs to fit your needs
- ✓ Using a feature or program in unobvious ways

Ability to *create* things with the computer
- ✓ Creating images, animations, songs, videos, robotic constructions, …
- ✓ Revising your creations
- ✓ "Debugging" your creations when something goes wrong
- ✓ Understanding the range of what's possible to create with a given tool
- ✓ Iteratively modifying and extending your creations (and your ideas)
- ✓ Writing computer programs to create more expressive projects
- ✓ Over time, creating artifacts with more features and richer interaction

Ability to create things based on *your own ideas*
- ✓ Generating ideas for what you want to create
- ✓ Developing a project from an initial inspiration to a finished work
- ✓ Choosing tool/program that's appropriate for what you want to create
- ✓ Over time, incorporating more of your feelings/ideas into your creations

Ability to use technology to *contribute* to the surrounding community
- ✓ Sharing ideas and projects with others in the community
- ✓ Collaborating on projects with others in the community
- ✓ Modifying and extending projects created by others in the community
- ✓ Helping others learn new features, programs, and ideas
- ✓ Creating things that are meaningful to the community around you

Understanding *concepts* related to technological activities
- ✓ Some examples:
    - o Understanding perspective when creating images
    - o Understanding sensing and feedback in robotics project
    - o Understanding mathematics to coordinate objects in animation
    - o Understanding programming concepts: variables, conditionals
- ✓ Using these concepts in other contexts and situations
- ✓ Using a systematic/scientific approach to design and problem-solving