Characteristics of Environments for Thinking and Learning

Paul Tatter, Science Museum of Minnesota, 1993

An environment consists of all the things, non-material and material, non-living and living (including people), of all the forms of behavior, interaction and transaction among these things, and of all the embedded meaning, esthetic and emotional qualities within a coherent space and time.

It is useful to ask how

1. the physical design of the space
2. the qualities of the material available
3. the actions of staff

support each of the following characteristics of an environment for thinking and learning.

- The environment has a sense of history, rich with meaning. There is evidence of past activity, uses, established forms of behavior and traditions.

- There is a feeling of work in progress, supporting the tentative quality of conclusions, with opportunities to change one’s mind, make corrections, improvements, additions and modifications.

- The space is designed to physically slow down activity. There are opportunities for lingering, sustaining concentration and focus, and a patience for wasting time and for making new connections.

- It draws upon curiosity by combining familiar and unfamiliar materials or procedures, and encourages spontaneous small group collaborations, acknowledging learning as a social process.

- There is freedom of movement with a leisurely pace; a sense that thought and action are voluntary and that behavior is under personal control.

- It provides a sense that the environment is sustained through the efforts of many individuals acting as contributors and collaborators.

- Conflict and disagreement are valued and utilized as a source for understanding and the development of new perspectives.

- It supports multiple modes and forms of communication and provides reasons for communicating and for making ideas clear.

- It allows opportunities for participation in decision making and evaluation.
The environment legitimates personal history as a source for inference, judgment, comfort and expression. It accommodates personal differences in style, skill, interest and role.

All the components in the environment are designed to allow for a broad range of entry skills. Most instructions are facilitative rather than directive. The materials allow possibilities for elaboration at many levels.

There is evidence for the valuing of esthetics and humor and joy in the surroundings, events, material, interactions and work products.

There are provisions for physical and emotional comfort.

The environment supports the creation and use of models of objects, ideas and processes, and models of interactions among objects, people, ideas and systems, through experiment, construction, role taking and play.

Everything in the environment can be manipulated and changed. The scale is proportional to the people within it. There are loose parts. The inhabitants feel some control over the materials.

There is a wide range of materials in close proximity allowing use of the materials in different contexts for different applications and purposes. Materials have multiple uses.

There is voluntary access to tools for use in observation, manipulation and creation.

It is customary to think about most of the above mentioned characteristics as procedural and consequently to assume that they may be accounted for by appropriate practices within any physical environment. Rarely is the impact of physical environmental design considered to be crucial to the very possibility of sustaining an environment for thinking and learning. However it is unlikely that such an environment can be maintained without the support of a physical context conducive to its nurturing.