Learning: What Does the Literature Say?

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Informal Learning Environments: Do They Matter?
SCUP Mid-Atlantic 2019 Symposium
Learning: What Does the Literature Say?

How do we learn?

Two Perspectives

Psychological / Anatomical
Brain-based
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Sociological
Experiential / Contextual
Physiological / Anatomical View

Learning is a process of building neural networks

Learning is a primary brain function

We are learning (almost) all of the time

We use our whole brains

Everything in our memory begins as a sensory input from our environment

99% of all sensory stimuli is discarded immediately upon entering the brain

\(^1\)Patricia Wolfe, *Brain Matters: Translating Research into Classroom Practice*, second ed., 2010
Physiological / Anatomical View

Knowledge is the result of brain plasticity

Brain plasticity = new neurons + dendrite activity

Neurons have 6,000 – 10,000 dendrites

Connections become more persistent the more they are triggered

Brain plasticity is greatest when environment is highly interactive and encourages risk-taking
Physiological /Anatomical View

Active Learning (Multi-sensory)

Not “Sit and Git”

“Anything that involves students in doing things and thinking about things they are doing.”
Bonwell & Elson, 1991

“What we have learned, I think, is that the most effective learning is active learning ....”
Prof. Stanley Katz, Woodrow Wilson School, Princeton University
Physiological /Anatomical View

Innate search for meaning

Goal of creating a world construct

New knowledge builds on old

Meaning and emotion play major roles

It’s time-consuming
Sociological View

Learning is controlled by social norms

Social archetypes affect engagement

Social distance (proximity)
Sociological View

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Social archetypes affect engagement

Social distance (proximity)

Sociofugal and sociopetal

Furniture / physical space

In Sync: Environmental Behavior Research and the Design of Learning Spaces

Lennie Scott-Webber
Sociological View

Impact of Environment

Almost any form of student involvement benefits learning and student development.

Study time (time on task) had numerous positive academic outcomes.

Cooperative learning has enumerable benefits.

Peer group interaction is the most important factor in academic and personal development.

*Four Critical Years*, 1977
Alexander Astin

*What Matters in College*, 1993
Alexander Astin
Learning: What Does the Literature Say?

Sociological View

7 Principles for Good Practice in Under-Graduate Education

1. Encourages contact between students and faculty
2. Develops reciprocity and cooperation among students
3. Encourages active learning
4. Gives prompt feedback
5. Emphasizes time on task
6. Communicates high expectations
7. Respects diverse talents and ways of learning

Chickering and Gamson, 1987

“Guide at the Side” instead of Sage on the Stage”
Sociological View

Membership is the ultimate goal of a learning community
Build Community (environment must be purposeful, open, just, disciplined, caring and celebrative)

**Carnegie Foundation and Dr. Ernest Boyer (1990)**

Engagement is the most important factor in student success (graduation)

Engagement is synonymous to community membership

**National Survey of Student Engagement (NSSE)**
Dr. George Kuh (1999)
Sociological View

Architecture affects community-building, engagement

Physical space, human aggregate, organizational structures, constructed culture all shape the student experience (Strange & Banning)

Location is a critical consideration

Susan Painter’s Rule of 400

“Community cannot form in the absence of communal space.”

Duany, Plater-Zyberk, Speck
References


**In Sync**, by Lennie Scott-Webber, 2004, published by SCUP and available at [www.scup.org](http://www.scup.org)


