Making the Case
Catalyzing the Creativity of Learners
Inventing and Reinventing Maker Spaces

September 23, 2015
March 2015 workshop: VentureWell; Epicenter; Learning Spaces Collaboratory
Exploitation

Adopting strategies so far proven “best”

- Based on prior implementation, likely outcomes are known

Exploration

Creation of new possibly “better” strategies

- Facing challenges that even experts cannot clearly define, let alone solve

Learning Outcomes

• How to shape a community of practice with a shared language and mental images about spaces that matter to learning

• How to enable all voices to be heard in the process of planning and assessing spaces for undergraduate learning

• How to keep reinventing, embracing the future.
About the LSC – How Learning Happens

Robust learning happens when students are:

- actively engaged in evaluating, constructing, and re-evaluating their own knowledge
- actively engaged in a social and supportive community
- encouraged to assess, reflect and build on prior knowledge
- empowered to address problems that are meaningful, of importance to them and to the world beyond the campus.
About the LSC – Spaces for Robust Learning

Spaces should enable students to:

- become actively engaged with peers in shaping their own learning
- *practice* the skills, competencies, ways of thinking and doing of a professional in the field
- *practice* communicating and critiquing within a community of colleagues and peers
- be refreshed and renewed
- become self-aware, reflecting on what they are learning, what they are becoming.
March 2015 Workshop: Where we were
March 2015 Workshop: What we experienced

• Exploring a common language
• Challenging personal assumptions, forming teams for collective action
• Making language and mental images visible
ACT I
SETTING THE STAGE
9:00 - 10:30 A.M.

What kind of environment nurture creativity?
Freedom, novelty, and a sense of being at the edge.

— Nancy C. Andreason

Outcome:
- Exploring language about becoming and
  mental images of Maker Spaces.

Why:
- Becoming a community of practice.

How:
- Articulating personal aspirations for what
  users of Maker Spaces are to become.
- Sharing personal mental images of
  Maker Spaces.
- Sharing & appraising individual contributions.
ACT II
TAKING COLLECTIVE ACTION
10:20 A.M. – 12:30 P.M.

The first step of the technological or social invention is to visualize by an act of the imagination a thing or state of things which do not yet exist... emphasizing the social dimension of creativity...

— Dennis Gabor

Outcomes

- A collective (team) vision of becoming and learning in a Maker Space to present for critique.

Why:

- Modeling beginning the process of reinventing...

How:

- Fashioning four-five person working teams
- Analyzing & synthesizing individual posters
- Developing a poster depicting a communal language of what learners are to become and the learning experiences in Maker Spaces.

Maker Spaces Reenvisioned
VentureWeb: Digital Learning Spaces Collaboratory — March 22, 2015
ACT III
EXPLORING AUDACIOUS QUESTIONS
12:00 – 1:30 PM

The analysis of creative people and creative objects has demonstrated that the most
innovations emerge from joint thinking, passionate conversations and shared
struggles...

—- Gerhard Fischer

OUTCOME:
- CROSS-POLLINATING, STRATING, FORMING AUDACIOUS QUESTIONS
ABOUI REINVENTING.

WHY:
- Advancing the shaping of a community of
practice, moving toward a common
language, collectively addressing
audacious questions...

HOW:
- Taking the opportunity to move freely around
the space, examining the team
posters, gathering some "aha" ideas
to bring to the working session following lunch;
- Sharing reflections on the process of
reinventing—what should be carried forward.

THE GYM
MENTOR-LEARNER RELATIONSHIPS

ARTICLES:
- [1] "Creativity and Innovation in Education: A Literary Review"

REFERENCES:

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- Joe Smith

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DATE:
- October 15, 2023

LOCATION:
- Innovation Center, Room A

PREVIOUS SESSION:
- ACT II: INNOVATION LAB

NEXT SESSION:
- ACT IV: IMPLEMENTATION STRATEGIES

SCHEDULE:
- 11:00 AM - 12:00 PM: ACT II: INNOVATION LAB
- 12:00 - 1:30 PM: ACT III: EXPLORING AUDACIOUS QUESTIONS
- 1:30 - 2:30 PM: ACT IV: IMPLEMENTATION STRATEGIES

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REGISTRATION:
ACT IV
ADDRESSING AUDACIOUS QUESTIONS: WHAT HAPPENED?
WHAT'S NEXT? WHY NOT?
1:45 – 3:00 P.M.

Hacking is a form of tinkering with the goal of understanding how something works. In today’s
nichespaces, individuals with similar interests gather together to work on projects, share
knowledge, and collaborate, which all lead to
innovations and innovations.

— Susan Weinscher

Outcomes:

• A sharing and sharing of an experience as learners in a Maker Space – here
and new.

How:

• Formulate a visual synthesis of their ideas, language, mental image of:
  1. the learning of learning:
  2. the journey of the learner within a Maker Space:
  3. the process of planning (inventing) a Maker Space:
  4. the physical affordances of the reinvented Maker Space:
  5. evidence to document how Maker Spaces transform the experience of
         learning, becoming:
  6. Your call!

Maker Spaces Reimagined
VentureWise Expedition: Learning Spaces Collaboratory — March 22, 2015
March 2015 Workshop: Planning lessons learned

- Spaces that are flexible, easily reconfigured are good venues for planning/reinventing: ... *It can be shown that as buildings and spaces become more solid and permanent, so do their occupants, often with a resulting waning of creativity.*

- Spaces that make it easy to have joint thinking, passionate conversations and to engage in shared struggles are good venues...

- Spaces that allow for the iterative shaping and sharing of mental images are good venues ....
Tim O’Connell
HOK
Questions & Comments
Jacqueline P. Ashby
Consultant

Image Credit: Maciej Wojnicki, Flickr
WHAT IS CREATIVITY?

TENSION
EMERGENCE
PROCESS

PRODUCTIVITY
PROBLEM SOLVING
ORIGINALITY
PRODUCT

A CHOICE

Image Credit: Christoph Niemann
The Learning Paradigm
Space
- Location
- Safety/Security
- Collaborative
- Virtual

Resources
- Staffing
- Equipment
- Workshops
- Curriculum

Time
- Communication
- Community
- Failure/Support
- Accessibility
Methods for Designing Space

**Method**
- Define
- Articulate

**Questions**
- Visualize
- Illustrate

**Activities**
- Measurable
- Observable

**Objectives**
- Document

**Resources**
- Affordances

*If you don’t, someone else will!*
Questions & Comments
Physical Traces (or, the Archaeology of Environmental Psychology – John Zeisel, “Inquiry by Design”)

By-Products of Use
- Erosions
- Leftovers
- Missing traces

Adaptations for Use
- Props
- Separations
- Connections
Physical Traces (*or, the Archaeology of Environmental Psychology – John Zeisel, “Inquiry by Design”*)

Public Messages
- Official
- Unofficial
- Illegitimate

Displays of Self
- Personalization
- Identifications
- Group Membership
Other Sources – Social Media

#yourspacehere
Questions & Comments
Question & Comments
• Makers innovate through tinkering
• Hackers innovate through deconstruction
• Co-working members innovate through networking
Community of learners

Hands-on Learning

Teaching and Learning
Overview and Purpose

The purpose of the Vision Session is to engage MSU BSSC key decision makers in the process of defining goals, context and visions for the project. The framework derived from this work session will help form the criteria for evaluating solutions and developing concepts for the design of the new facility. The vision & goals are summarized in this report.
VISIONING EXERCISE HOUSE RULES

The group was given rules to encourage participation...

• All comments are important so don’t be shy - chime in!

• Express likes and or dislikes.

• Visioning is not about designing space. It is about identifying the vision and goals for the building.

• We will not achieve 100% agreement but areas of alignment will become apparent.

• Try to keep it at a high level, stay out of the weeds (assume the new building will not have drafts or leak etc.)

• Think broad context and do not limit yourself to “how we do it now”.
Visioning: Images

Architectural images were pinned to the wall and each individual was asked to place 3 blue dots on the images they liked and three red dots for the images they did not like as representative of the new building.
Visioning: Images Most Representative

Architectural images were pinned to the wall and each individual was asked to place 3 blue dots on the images they liked and three red dots for the images they did not like as representative of the new building.
Visioning: Images Not Representative

Architectural images were pinned to the wall and each individual was asked to place 3 blue dots on the images they liked and three red dots for the images they did not like as representative of the new building.
Visioning: Snow Cards & Alignment

Snow cards were written to capture the ideas as the group expressed them. They were grouped by topic & hung on the wall. Then each individual was given 3 dots to place on the 3 most important goals as they saw them.
Summary Thoughts
Spaces in which humans grow: a learning community...where mind and sensibility are shared...a place to learn together about the real world, and about possible worlds of the imagination, of materials and learn the power of doing these things together.

Learning Spaces Collaboratory

Join the conversation – send us your ideas about questions to ask in shaping learning spaces pkallsc@pkallsc.org

Fall LSC Webinars

• Making the Case: Spaces that have a Role in Preparing Students for Productive and Meaningful Lives October 20, 2015

• Making the Case: Spaces that Matter in Ensuring the Persistence and Success of all Students November 17, 2015

• Making the Case: Spaces that Nudge Learners to Become Boundary-crossing Agents in an Increasingly Complex World December 9, 2015