Using Alumni Surveys to Assess the Impact of Innovative Learning Spaces on Development of Career-Ready Soft Skills

Jeffrey Ashley, PhD
Director of the Center for Teaching Innovation & Nexus Learning
Professor of Chemistry, College of Life Sciences
1. Understand the varied assessment techniques used to measure outcomes in active learning spaces.

2. Appreciate the value, and limitations, of incorporating alumni reflections in assessment strategies (based on research supported by a 2018-19 SCUP fellowship award).

3. Instill reflection upon your institutional assessment needs to create an assessment plan tailored to your institution’s learning spaces to quantify outcomes.
Coordinator
Active Learning Space Initiative
The Center for Teaching Innovation and Nexus Learning is the core faculty and staff development vehicle for fostering:

- Active and engaged learning
- Collaborative inquiry
- The use of real world problems and experiences
- The strong integration of the liberal arts and sciences with professional disciplines

Nexus Learning at Jefferson University East Falls Campus encompasses the above four tenets of teaching and learning. These are the key elements of engagement with course content and skills that catalyze intellectual growth and personal development for our students, as well as our faculty.

The mission of Jefferson University East Falls Campus Center for Teaching Innovation and Nexus Learning is to support faculty members’ experimentation and innovation in teaching to
Thomas Jefferson University - East Falls Campus

- Kanbar College of Design, Engineering, and Commerce
  - ~27 Programs

- College of Architecture and the Built Environment
  - ~18 Programs

- Colleges of Life Sciences; Health Sciences; Humanities and Science; and Rehabilitation Sciences
  - ~25 Programs
At Jefferson East Falls Campus, we have always believed in creating professionals of the future. We’ve been doing it since 1884.

Our method? We call it NEXUS LEARNING.
Nexus Learning: ACTIVE, COLLABORATIVE, CONNECTED TO THE REAL WORLD

...and Infused with the Liberal Arts and Sciences!
Nexus Learning: The 6 Steps to Success

1. Set the vision and goal
2. Inventory our teaching and learning strategies
3. Define it
4. Communicate the need
5. Create an infrastructure to support it
6. Assess it
Seven University Strategic Plan Initiatives (2008):

#1 Formalize our Signature Learning Approach
#6 Develop Innovative Facilities

STEP 1: Set the Vision and Goal
- Formed the Signature Learning Action Team

- Faculty submitted detailed narratives of their “Best Practices”

- Team categorized responses into broad signature learning approaches

STEP 2: Inventory our Teaching and Learning Strategies
Step 3: Define It

Infused with the Liberal Arts

Real World

Active

Project-Based

Collaborative

Team-focused

Industry-sponsored
STEP 4: Communicate the Need
What Do Employers Want?

Knowledge and Skills within that discipline

+ Soft skills

STEP 4: Communicate the Need
“...Students gain soft skills in the classroom, and in co-curricular and extracurricular activities—even though these aren’t evident from a traditional resume. And much of that achievement has resulted in products that students can show. Colleges and universities must adopt systems to allow students to demonstrate their achievements and communicate the underlying skills represented by that work to employers.”

**STEP 4: Communicate the Need**
STEP 5: Create an Infrastructure to Support It

2 Exemplars
Tony Wagner’s 7 core competencies
(Source: “The Global Achievement Gap”)

- Critical thinking and problem solving
- Collaboration across networks and leading by influence
- Agility and adaptability
- Initiative and entrepreneurialism
- Effective oral and written communication
- Accessing and evaluating information
- Curiosity and imagination

Exemplar 1: The Hallmarks Program
Core curriculum for general education

QUESTION: Curiosity and Confidence

CONTRIBUTE: Empathy and Collaboration

ASK: Initiative and Ethical Reflection

ADAPT: Contextual Understanding and Global Perspectives

Exemplar 1: The Hallmarks Program
<table>
<thead>
<tr>
<th>ABILITIES TO BE DEVELOPED</th>
<th>HALLMARKS LEARNING GOALS</th>
<th>HALLMARKS FOLIO ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>From the Hallmarks Core</td>
</tr>
<tr>
<td></td>
<td>Curiosity</td>
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</tr>
<tr>
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<td>Confidence</td>
<td>✓</td>
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<td></td>
<td>Collaboration</td>
<td>✓</td>
</tr>
<tr>
<td>ACT</td>
<td>Initiative</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Ethical Reflection</td>
<td>✓</td>
</tr>
</tbody>
</table>

*This can be satisfied by additional work in the Hallmarks Core or in your major.

Exemplar 1: The Hallmarks Program
Exemplar 2: Innovative Learning Spaces
Nexus Learning Hubs

Exemplar 2: Innovative Learning Spaces
STEP 6: Assess It
The Assessment Process

1. Identify Outcomes
2. Select & Design Measure(s)
3. Plan for Data Collection & Implement Measure
4. Analyze Data
5. Use Results to Improve
What Are The Outcomes?
Outcome:
Enhanced acquisition of collaboration skills

Outcome:
Enhanced ability to employ collaborative pedagogies
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Example of Outcome</th>
</tr>
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<tbody>
<tr>
<td>Center for Teaching &amp; Learning</td>
<td>• support for faculty members to optimize teaching</td>
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**Assessment Tools**

No One Tool Fits All!
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<th>Assessment Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Image of Center for Teaching &amp; Learning]</td>
<td>• support for faculty members to optimize teaching</td>
<td>• Ethnographic observations of classes</td>
</tr>
<tr>
<td></td>
<td>• Refinement of guidelines for ideal active learning spaces on campus</td>
<td>• Faculty reflective journals</td>
</tr>
<tr>
<td>[Image of Physical Plant &amp; Operations]</td>
<td>• Evidence to continue financial support of these spaces</td>
<td>• Faculty surveys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Student and faculty reflections</td>
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<tr>
<td>[Image of Board of Trustees]</td>
<td></td>
<td>• Pre and post surveys</td>
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<td></td>
<td></td>
<td>• Post-Occupancy survey</td>
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<tr>
<td></td>
<td></td>
<td>• Collating faculty success narratives</td>
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</table>
My SCUP Fellowship Research Project!
YOU DON'T KNOW WHAT YOU DON'T KNOW UNTIL YOU KNOW IT

Why Alumni?
Why Soft Skills?

Top 10 Soft Skills Managers Want to See in Candidates
Source: CareerBuilder

- Strong work ethic
- Dependable
- Positive attitude
- Self-motivated
- Team-oriented
- Organized, ability to multi-task
- Works well under pressure
- Effective Communicator
- Flexible
- Confident

Percentage Scale: 0% to 80%
Outcome: Nexus Learning Hubs Develop Soft Skill Acquisition
## Outcome: Nexus Learning Hubs Develop Collaboration Skills

<table>
<thead>
<tr>
<th>Hard skills</th>
<th>Soft skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learnable and presentable skills, knowledge, and qualifications</td>
<td>Character traits; personal, interpersonal skills</td>
</tr>
<tr>
<td>- Language knowledge</td>
<td>- Communication skills</td>
</tr>
<tr>
<td>- Degrees, apprenticeships, certificates</td>
<td>- Flexibility</td>
</tr>
<tr>
<td>- Accounting</td>
<td>- Self-discipline, self-reflection</td>
</tr>
<tr>
<td>- Typing techniques</td>
<td>- Teamwork</td>
</tr>
<tr>
<td>- Machine operation</td>
<td>- Time management</td>
</tr>
<tr>
<td>- Programming languages</td>
<td>- Empathy</td>
</tr>
<tr>
<td>- Software knowledge</td>
<td>- Ability to take criticism</td>
</tr>
<tr>
<td>- ...</td>
<td>- ...</td>
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My Assessment Process

1. Identify Outcomes
2. Select & Design Measure(s)
3. Plan for Data Collection & Implement Measure
4. Analyze Data
5. Use Results to Improve

Steps:

- IRB Approval
- Pre-Survey
- Survey
- Data Analysis
- Conclusions
For this survey, collaboration skills are defined as the ability to:

• communicate effectively, respectfully and productively with peers and instructor

• manage conflict and build consensus as a team

• listen with empathy to understand and value the views of all

• recognize that collaboration leads to better outcomes

• think differently through sharing of knowledge and approaches
Do you agree or disagree with the statement “Nexus Learning Hubs developed my collaboration skills”? (n=108; 20% response rate)

PRE-SURVEY Responses:

67% Agree
What in particular (provide examples) allowed collaboration skills to be developed in Nexus Learning Hubs as opposed to traditional ‘row and column’ classrooms? (n=108)

PRE-SURVEY Responses:

Space/Attributes: Configuration, furniture, tables, aesthetics

Technology: Digital and analog

Instructor/Pedagogies: Teaching and learning methods/activities
In your opinion, which was the most important attribute of Nexus Learning Hubs in developing your collaboration skills (pick only one)?

- Orientation of furniture (being able to face other people and engage in discussion)
- Instructor's teaching and facilitating style
- The assignments/group projects
- Digital technology (computers, wall-mounted monitors, projectors)
- Whiteboards and whiteboarded surfaces
- The spaces between furniture allowed for easy movement throughout the room
- Room aesthetics and comfort level (color/type of furniture, accent walls, flooring choices, etc.)
- Other...
Are you currently employed in a position related to the major you studied? (n=49; 10% response rate)

76% YES

24% NO
Approximately how many courses did you have in Nexus Learning Hubs during your undergraduate/graduate experience? (n=49)
Describe your current workspace environment with respect to its ability to foster collaboration? (n=43)

~40% Cubicles
Isolated Desks/Offices

Varied spaces - retail, open office, labs, clinics
What specific aspects of your workplace environments emulate (look like and function as) Nexus Learning Hubs? (n=43)?

- 7% Technology (Digital/Analog)
- 21% None
- 72% Furnishings/Configurations
To what degree do you agree with the statement "Nexus Learning Hubs developed my collaboration skills in ways not provided in traditional "row and column" classrooms? (n=43)
Do you think your experiences in Nexus Learning Hubs developed your collaboration skills (n=43)?

Towards End of Survey

Number of Responses

86% YES
To what degree do you agree with the statement "Nexus Learning Hubs developed my collaboration skills in ways not provided in traditional "row and column" classrooms?"

84% YES

Do you think your experiences in Nexus Learning Hubs developed your collaboration skills?

86% YES
Pedagogy

Space

Technology

Source: Steelcase Research
What approaches did your instructor(s) use to develop collaboration skills?
Apart from your instructor, what in particular (provide examples) allowed collaboration skills to be developed in Nexus Learning Hubs differently from how they were developed in traditional ‘row and column’ classrooms?

82% Benefits of Furniture Configuration

- We were able to spread out our notes and see everything in a more visual manner.
- It’s easier to get to know and work with colleagues when you’re facing them and have the ability to communicate/ work with them face-to-face.
- Feeling of connection with the other students in your group of tables and in turn, feeling more comfortable to talk and be more open to discuss and learn.
- It was easier to speak at a moderate voice level without everyone else around you being able to hear your group discussion.
Apart from your instructor, what in particular (provide examples) hindered development of collaboration skills in Nexus Learning Hubs as opposed to traditional ‘row and column’ classrooms? (n=43)

21% No hindrances
Apart from your instructor, what in particular (provide examples) hindered development of collaboration skills in Nexus Learning Hubs as opposed to traditional ‘row and column’ classrooms? (n=43)

- 21% No hindrances
- 15% Technology Problems
Apart from your instructor, what in particular (provide examples) hindered development of collaboration skills in Nexus Learning Hubs as opposed to traditional ‘row and column’ classrooms? (n=43)

- 21% No hindrances
- 15% Technology Problems
- 14% Distracting
Which were the 1st, 2nd and 3rd most important attributes of Nexus Learning Hubs in developing your collaboration skills? (n=43)
Which were the 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd} most important attributes of Nexus Learning Hubs in developing your collaboration skills (binned responses; n=43)
Relative importance of attributes of Nexus Learning Hubs in developing your collaboration skills
If you could improve on the development of collaboration skills within Nexus Learning Hubs, what would you suggest doing? Please explain.

44% Pedagogy

- Collaborative furniture and lessons are of no use if the faculty are not conducive of the collaboration that Nexus inspires.

- Making each time the students come to class have a different way they interact within the room will make them more excited and engaged in the class overall.

- More cohesiveness.
If you could improve on the development of collaboration skills within Nexus Learning Hubs, what would you suggest doing? Please explain.

44% Pedagogy

18% Technology

- Offering screen mirroring so that projector screen can pop up on student’s laptops.
- I would suggest having more ease of use for the technological aspects.
- Adding individual iPads or laptops for a more advanced experience.
If you could improve on the development of collaboration skills within Nexus Learning Hubs, what would you suggest doing? Please explain.

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<th>Percentage</th>
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<tr>
<td>Pedagogy</td>
<td>44%</td>
</tr>
<tr>
<td>Technology</td>
<td>18%</td>
</tr>
<tr>
<td>Physical Attributes</td>
<td>14%</td>
</tr>
</tbody>
</table>

- Better aesthetics, art, ergonomic chairs, etc.
- Change the style of rolling seating and provide just a little more room between seats so people don't impede on others' space
- Have optimal natural lighting
Responses represent self-reported perceptions of their development of collaboration skills in Nexus Learning Hubs.
The relationship between satisfaction with college and learning gains could be the product of a halo effect—an artifact in which an alum’s assessment of a few items colors or ‘halos’ the entire evaluation.


**Reflections of my Survey Approach**
Difficulty in identifying those sets of competencies that are actually developed in innovative learning spaces rather than those that can be acquired elsewhere.


Reflections of my Survey Approach
• According to polled alumni, Nexus Learning Hubs developed collaboration skills (85%; n=43)
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• Alumni felt that space attributes ranked highest for allowing collaboration skills developed (over pedagogy, technology)

Conclusions
• According to polled alumni, Nexus Learning Hubs developed collaboration skills (85%; n=43)

• Alumni felt that space attributes ranked highest for allowing collaboration skills developed (over pedagogy, technology)

• Further faculty pedagogical support and/or gate-keeping should be considered to further develop mindful and effective Nexus Learning pedagogies (such as collaborative learning).

Conclusions
According to polled alumni, Nexus Learning Hubs developed collaboration skills (85%; n=43).

Alumni felt that space attributes ranked highest for allowing collaboration skills developed (over pedagogy, technology).

Further faculty pedagogical support and/or gate-keeping should be considered to further develop mindful and effective Nexus Learning pedagogies (such as collaborative learning).

Analog technology continues to be highly valued while digital technology sometimes results in frustration.

**Conclusions**
SCUP Fellowship

SCUP Fund Sponsors

THANK YOU!
SCUP Fellowship Mentors

Nancy Strum
Principal Consultant
The Sextant Group, Inc.

Danuta Nitecki
Dean of Libraries, and
Professor, College of Computing & Informatics
Drexel University

THANK YOU!
Learning Space of the Future: Personal Learning & Neurodiversity

Scott Montemerlo + Jeffrey Ashley

Tuesday, July 16th

8:30 am - 9:30 am

4C-4

Finally...a shameless plug!