What better place to have a deep discussion on the impact of space on learning than right outside of our nation’s capital of Washington D.C. – an area that embraces learning, offering countless cultural and historical artifacts, monuments, and experiences to the curious visitor or scholar. The 2011 LSC National Colloquium on Assessing the Impact of Spaces on Undergraduate Learners: Building a Community of Practice, took place in Chantilly Virginia on November 4-6, 2011. In fact, the origin and history of the word *colloquium* means to gather for conversation or discussion, and that is partially how to describe this event. Other descriptions could include *sharing, collaboration, creative insights, spontaneous feedback*, and many more. There was an *international awareness* present in many of these conversations, and a collective yet diverse interest in the topic of “defining what difference space(s) can make in a learning environment.”

This discussion – the Colloquium – was attended by a wide variety of participants including educators, librarians, administrators, vendors and architects, all with a vested interest in learning spaces. This interest included elements of design, use, content and texture, and lasting impressions that space can make on individual or group learning experiences. The Colloquium’s discussions revolved around four basic questions to explore:

- Looking 10 years out, what would we like our students to be recognized for?
- What kind of learning experiences will bring about such accomplished graduates of our institutions?
- What kind of learning spaces will accommodate those experiences?
In the planning process, how do we explore such questions and what do we do with the ideas, insights, and language emerging from such explorations?

Thus was the challenge issued by Jeanne L. Narum, Principal, Learning Spaces Collaboratory on Friday afternoon, as she convened this three-day discussion in what she termed a “sandpit concept.” In this concept, the sandpit is the creative environment to meet and discuss with others, common concerns and ideas about how learning can be influenced by the space(s) in which it is presented or occurs. The sandpit can be surrounded by both practical needs, such as money, time, and one-dimensional thinking, as well as abstract thoughts involving the complexities of learning, for example spaces that enable curiosity or spaces that motivate people to explore. The desired outcomes of this conversation include ideas, suggestions and thoughts that are potentially transformative, innovative, and new, and cover a variety of interdisciplinary subjects that focus on creating that “Wow” factor for learning.

Setting the stage for discussion during the first plenary session, recognition was given to the planning process – of needing to know the desired end results prior to investing time and monies into changing spaces. Are we building new spaces just to be trendy, or to match other physical components within a facility? What factors could most influence a 21st century learner’s ability to gain maximum return from the space in which they are taught, study, experiment and collaborate? That was the challenge in looking 10 years out at what students should be recognized for and how we could help get them there. Colloquium participants were asked to think, inquire, and share their ideas related to a 21st century learner 10 years out. These conversations took place in small breakout groups that would later report back to the larger group. These initial conversations were meant to include discussion beyond the basic comforts afforded students as supplied by the institution, and focused more on how spaces would or could blend with technology, teaching styles, and collaborative efforts, and be free of campus political or “controlling influences,” in order to provide the best creative options possible. So, if students are engaged in the spaces in which they learn, what could be the outcome of that learning, 10 years from now?

The Importance of Assessment

A large part of learning how space can make a difference in students 10 years from now is by assessing what is happening right now, and understanding how these findings can positively influence the effectiveness or efficiency
of today’s programs or actions. Participants shared many examples of space assessment activities, including a reference to a toolkit produced by the National Institute for Learning Outcomes Assessment. This toolkit is an online inventory of assessment resources that may be useful to those wanting to measure outcomes related to space and technology planning.

Assessing the use of space is not uncommon, but the challenge might be to look at an assessment design in reverse by first determining what exactly you are trying to accomplish with the space(s) that you currently have or want to build. Then other considerations such as teaching methods or instructional design factors, pedagogical enhancements or constraints and physical properties inherit in the space you are planning can be developed from assessing the effectiveness of that combination.

Assessment is critical in the future planning of spaces and serves as one element, of many, to consider. Measuring impact of services or programs, understanding user needs, comparing and benchmarking attributes, and taking a “macro” or broader institutional view can also positively affect planning decisions both early- and long-term.

A Changing World

Saturday morning began with a discussion of change and how learning spaces are and can be agents of change within an educational environment. A panel of experts shared their thoughts then led a group conversation regarding how research on learning and teaching methods has demonstrated the impact of space on successful learning outcomes. This included recognizing spaces that allow for active and social engagement, flexibility (including the integration of technology, which is also ever changing), reflection, and other experimental needs to promote critical thinking and support problem-solving.

Breakout sessions then showcased examples of spaces, situations, or initiatives that have already demonstrated an investment in space design and the impact it has made on learning. Some of these experiences included:

- Duke University’s LINK, which offers innovative spatial and technology approaches to teaching and learning.
- The University of Maryland’s formal centers that promote teaching excellence.
North Carolina State University’s SCALE-UP initiative, which effectively set the bar on designing group learning spaces with active components.

Some useful notes that came from these breakout discussions included references to the impact of these spaces on learning, but also the value of addressing space considerations in the strategic planning process. Overall, by linking learning outcomes to space design and management, strategic initiatives related to these activities become political and economic justification for higher-level decision making. An active and engaging classroom that is designed around elements that support and enhance the teaching and learning process are clearly preferred by students and faculty over passive or simply “basic shelter” types of offerings.

Notes from the breakout sessions related to the impact of learning included a wide recognition that the way students learn has changed, and that we as educators – and our institutions as service providers – feel a responsibility or commitment to teach and encourage a high level of active engagement in the learning process. The lecture model is often outdated and learning outcomes have been shown to have higher impact when impressionable learning moments are developed through activity or some form of engagement. While basic comforts such as natural light, proper furniture and access to technology are still needed, customized spaces that encourage critical reflection are the new and desirable expectations in our ever-changing world.

Putting Theory with Practice

People engaged in learning space conversations today have fairly wide agreement that the attributes of a given space used for teaching or learning can have a significant impact on the depth and quality of the learning outcome. So, how do we start the process of getting the larger academic community to view spaces in this light as well? Although many of the Colloquium discussions were centered on STEM topics related to learning spaces, much of our thinking applied to any subject discipline or topic. A late-morning group exercise further demonstrated the value of collective thought and diverse experience when, as smaller groups, participants discussed what their vision and mental image of a learning space could be. Then, to help us further describe and develop our visions for 21st century learners and learning spaces, each group was asked to create an assessment question for the spaces we conceived.
The assessment question served as a foundation for building a sharper metal image of the 21st century learning spaces we imagined.

That afternoon these groups merged together again, and launched into a collective conversation about how these different visions and images could translate into goals, strategies, and guidelines for putting theory into practice. This is where the value of such a diverse group became apparent – when educators and librarians are sharing thoughts about space as a learning tool with administrators and designers. These boundary-crossing discussions included issues such as community use and collective impacts, how spaces should or should not be controlled, and other challenges to space planning and development.

One work cited was from the Lemelson Institute, which published a report on how space promotes inventiveness or creativity. The report identifies common attributes that “work” to promote creativity and discusses how the “flow” of space is important for long-term inventiveness. This lead the discussion participants to begin seeking similar means of assessing the factors needed to create spaces that have the same type of impact on learning.

Assessing What Works

The next plenary session pulled together these previous, small group conversations into a collective discussion of understanding how and when any defined space matters to the learning experience. In the space planning process, it was noted that beginning an assessment with the end in mind can be crucial to spending time and effort wisely. Four questions were posed for consideration in any future planning and assessment activities. First, why put resources into assessing space – what motivates educators to do so? The simple answer would be to improve learning, but of course the circumstances could be more complicated than that.

Second, how do you learn more about learning spaces, or how do you learn to use them more effectively? Can you learn from existing spaces or do you need to take a different, less traditional approach? This question was meant to encourage broader conversations back at everyone’s home institution, suggesting that different perspectives could encourage an expanded point of view. It was suggested that the broader the conversation, the better the overall perspective and, therefore, the greater opportunity to learn more about what works in any given space.
The third question posed was related to the development of assessment metrics. If the metrics today are not serving our needs, how do we get to the proper metrics? Have traditionally-valued metrics changed, or are they no longer useful for assessing the value placed on a space or spaces?

The fourth and final question to consider took a more holistic view: how do we deal with the complexity of the institution as we assess learning spaces? Or, posed in another way, how can we facilitate the development of a network of interconnected learning spaces? These questions touch on territorial and/or political issues that campuses might face, in particularly around budget issues. If a campus already serves as a network of learning spaces, additional value might still be supposed by having these spaces interrelated or used for multiple purposes. Spaces might also be more clearly linked in the learning process to support particular learning needs at specific times. This is another justification for encouraging campus-wide conversations.

What Keeps Us Up At Night?

The colloquium concluded with a reference on reflection as viewed by Kolb in his cycle of experiential learning. Kolb considers adapting a reflective practice as essential to growth and improvement. To reflect upon the discussion of the last several days is to better understand and gain a broader perspective on how the space(s) in which we are taught and subsequently learn can impact this learning experience. Active, engaging, reflective consideration of the impact of spaces should help develop more creativity in space design. This kind of thinking and pondering can keep us up at night as we consider the range of concerns. The questions that are now on the table for continued thinking and deliberation include:

- Can we go back and have “different” conversations with others on our campus, in order to begin changing how space decisions are made locally?
- Can space ownership be more flexible to increase the possibilities? (collaboration)
- Are we gathering the right data we need for decision-making related to space? (metrics)
- Are people emotionally invested in spaces that need to change? (barriers)
- What have we learned about spaces from the growth of distance learning initiatives? (cross-thinking)
- How much input do end users have in the design of spaces? (programming investment)
These questions and many more form the basis for continuing this conversation into local and regional institutions that are trying to do more with less. Perhaps clearly identifying what factors most heavily impact the “more” is part of the process.

The colloquium participants that gathered to have this conversation outside of Washington DC could be considered boundary-crossing agents in terms of helping others see the benefits of changing how learning spaces are viewed. Be it classroom, library, laboratory, social space, or just the overall atmospherics of a campus environment – recognizing, assessing and growing the attributes of spaces used in the pursuit of learning can produce significant achievements for the 21st century learner. This group of educators, architects, librarians, administrators and others has begun to share their own thoughts with the collective and to share their expertise. You can follow this continued conversation through ongoing reports and reflections from the PKAL website.

The purpose of this summary was to share this experience with a wider audience, in hopes that the organization and the concepts it promotes would be valued by anyone involved in space planning and the teaching of future generations. The PKAL homepage has much more information regarding this initiative and you are encouraged to learn more. Impacting future learning is an important goal for any of us, you start by “Having the Conversation”.

**BOLD = Pull Out Statement Suggestions**