Recreating the Learning Environment, a Lens Into Our Progress.

By David A Stubbs II

"A paradigm shift is taking hold in American higher education. In its briefest form, the paradigm that has governed our colleges is this: A college is an institution that exists to provide instruction. Subtly but profoundly we are shifting to a new paradigm: A college is an institution that exists to produce learning. This shift changes everything. It is both needed and wanted".

The above statement was first delivered in the November/December 1995 issue of Change Magazine. Robert B. Barr and John Tagg[1] wrote a brilliant article defining the need for change in the delivery of instruction titled "From Teaching to Learning: A New Paradigm for Undergraduate Education". Unfortunately, like most great ideas, the discussions of these instructional concepts were ahead their time. Not in understanding or need, but the ability for the supporting industries to respond three-dimensionally to the constraints of the learning environments that were being utilized.

Most decision makers in higher education have been challenged with this concept at nearly every conference, discussion, web site or book for what will soon be 20 years. However, until recently the resources for this change in the three-dimensional landscape continued to be limited.

Where have we been?

The concepts of leaning college, communities, outcomes and organizations as well as teachers as facilitators and ideas of TEAL and SCALE-UP have all been set in motion since the arrival of Barr and Tagg's article.

MIT's TEAL classroom (Technology-Enabled Active Learning) piloted in 2001 in an introductory physics class in electromagnetism, focused on the combination of lectures, responses, and hands-on experiments into one classroom experience. In order to create such an opportunity, the idea of the classroom had to be completely reimagined. The placement of technology and new ideas in furniture were created to support the desired instructional strategy providing spatial opportunities of collaboration, discussion and experiments in one space. This had not been typically possible in historical classrooms of rowed desks and or lecture halls.

The SCALE-UP (Student-Centered Activities for Large Enrollment Undergraduate Programs) project at North Carolina State University (NCSU) focuses on a different target, large-enrollment classes. The SCALE-UP is quite similar in delivery to other models; however, the rooms tend to be widely different simply due to the numbers of students in the class. These classrooms tend to rely heavily on flexibility and mobility.

The North Carolina State University conducted research comparing side by side examples of a traditional classroom against a SCALE-UP model of instruction, and has demonstrated significant results. According to the research, this approach improves conceptual understanding and has reduced the failure rate by about 50% as well as an attendance increase of 90%.

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[1] From Teaching to Learning: A New Paradigm for Undergraduate Education, Robert B. Barr and John Tagg, November/December 1995, Change Magazine.

Everybody Wants Some:

With demonstrated successes across the county, most instructions of higher learning realize that they may need to adapt to these models for two reasons, competition as well as the fact that K-12 institutions are delivering a more astute set of learners that have been working in collaborative environments that are both flexible and mobile. But the hurdles continue to be abundant, the largest being cost.

New technology and furniture can be expensive. New solutions also typically require more room not to mention they are quite often fixed, further limiting mobility and flexibility.

How Can We Afford Change?

In recent history, institutions of Higher Ed have become more successful in leveraging new funds to support this paradigm shift. We can begin to stretch these funds if we can make calculated and informed decisions about space utilization strategies. Additionally, if we consider gravitating away from fixed components, due to our inherent perceived need to remain tethered, more cost effective work can be achieved that previously imagined. We need to resist the need to install tethered devices by funding robust wireless technologies and units that are supported with extended life batteries. This will allow the ability to utilize the classroom for a variety of uses and opportunities now and in the future. Remember that facilities are intended to last 50 years and anything that is fixed will remain this way long after a staff member is gone or a learning strategy is changed.

Flexibility and Mobility

Universities are seeking to maximize flexibility. They are not only seeking opportunities for Scale-Up-style rooms with tables, they are also seeking flexible classrooms designed for active learning. Institutions are looking to transform the concept of lecture halls with wider tiers and rows of tables that will allow students to listen to conversations and then turn immediately to group work. This improves space utilization as long as mobility is never compromised. In addition to mobility, the solutions need to be easily understandable; they need to be intuitively reconfigured. They need to be Simplistic, Unencumbered, and Silent.

The Creation of Shift+

To be successful in creating appropriate three-dimensional environments, equipment, furniture or technology cannot be an afterthought in the design process. In our holistic approach to design, we need to understand the specific educational approach or strategy that is to be delivered. Additionally, considerations about lighting, acoustics, comfort, mobility, flexibility and adaptability needed to be addressed. The solutions need to be Basic, Simple, Intuitive, Untethered, Understandable and Effective. Lastly the resources or tools need to be an accessory to learning and must come with appropriate professional development.

Due to these vast parameters, in designing appropriate learning environments, we created a set of guiding principles to keep us on course. These were created in order for us to establish a finish line. We were very aware that during this process we needed to keep our focus on the completed task. We did not want to go down "rabbit holes" and never return. These principals are not specific to any tool or component within the environment. They were intended to be our guide for all decisions in the design of new facilities. The eight guiding principles in specific order are:

1. Change the Environment

2. Reduce the Clutter

3. Integrate Untethered and Transparent Technology

4. Respond to Multiple Learning and Teaching Styles

5. Develop Mobility

6. Create Adaptable, Flexible and Recoverable Tools

7. Design Multi-Functional Tools

8. Create Fun, Inviting and Engaging Environments

In the creation of Shift+, our intent was to create background music. We were not interested in the showcase of a product; we were interested in showcasing the variety of learning opportunities and styles. We were not interested in burdening our furniture with accessories; we wanted the end users to bring their accessories in and out of the environments as the lessons and learning transpired.

We understood that we were in the midst of a transitional period. We needed to remember that we were designing educational facilities that will be here 50 years. We were aware of the up curve of technology advancements, we interpreted that we are going to need less technologies and more effective people in the future. We were going to need to do more with less.

This new set of tools is elegant. Shift+ can be easily reconfigured to fit a variety of educational styles. The tools do not respond to a specific place, they can be utilized in classrooms, collaboration spaces, commons areas and media centers. Shift+ improves space utilization.

Shift+ is not about ONE solution. Shift+ is about providing a diverse set of tools enabling the end users to create their own unique environments. Shift+ responds to multiple teaching and learning styles simultaneously. Shift+ frees up the learning environments to be personalized, fulfilling the needs of specific occupants at a precise point in time.