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LEARNING BY DESIGN

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Harnessing
Change

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Harnessing Change

By David A. Stubbs II

Educators and architects alike are challenged today to find storage space within the classroom to accommodate and support for next-generation pedagogy, self-directed learners, and complex thinkers. Concepts like Makerspaces, Collaborative Learning, Innovation Laboratories, and other tactical teaching practices are expanding. Removing antiquated storage solutions creates an opportunity to put in place new “system-based storage solutions” that assist educators in rethinking the organizational structures within classrooms, labs, and collaborative spaces.

Utilization of systematic, effective, safe and innovative modular storage solutions solve many needs. Components are extremely mobile and diverse in the wide range of agile solutions, which enable the end-user to create as well as maintain a self-organized environment. Use of “system-based storage” ultimately supports educators in the creation of change allowing teachers and students to adapt their behaviors to align with current pedagogy, thus sustaining this change.

Moving Forward

Schools and colleges need to have systematic and purposeful storage solutions that will allow the end-user to self-organize, dispense, store, secure and collect the wide assortment and extremely long list of items that will surface in every classroom. In the next generations of educational environments, standard cabinetry and adjustable shelving solutions will only hinder these environments by restricting the mobility and flexibility of the environment's furniture solutions and



Convent and Stuart Hall, Schools of the Sacred Heart, San Francisco

therefore will only suppress collaboration, engagement and creativity.

To clarify, we need to be certain that we do not simply “replace” or “replicate” the antiquated box that was truly not working. It is important to remember that educational design continues to shift from the “traditional” to a wide variety of pedagogical styles and we need to have appropriate solutions in place sustaining the work that is constantly evolving. The products not only need to mirror the work but also support the work in a transparent way.

Challenges Implementing Effective Storage

The Iolani School (Honolulu, HI) in 2016 was in need of additional science space on their campus but did not have the resources for new construction. The science department was occupying an entire second floor wing, 3250 sq. ft. The wing contained a total of (3) “traditional” science rooms. The school's goal was to create a total of (4) newly renovated agile science classrooms within this same footprint. Approximately 30% of the entire floor was occupied by non-classroom storage and it had to be absorbed into the new spaces. Since the sciences require a lot of resources, the surface of every classroom was completely filled with materials, projects, tools and resources.

In partnership with the project architect, lab designer, and storage solution manufacturer a complex analysis of the required tools and resources was conducted resulting in a plan that included the mill-work supplier that reduced the impact of storage solutions by 40%. This effectively enabled (4) classrooms to occupy space that once was (3) classrooms without sacrificing the function or quality of the environments.

Key to the success of this transformation was maximizing and organizing space. Each set of resources was organized in specific trays sized for that component. Everything had its place, was positioned, labeled and color coded. Due to the fact that each lab was organized and stored in specific trays and accompanying tray inserts with the required resources and housed within the racks of the cabinetry, the experiment material preparation time was virtually eliminated. The staff was then able to relinquish the prep room concept and space by utilizing trays to house specific content required for individual labs.

At *Convent & Stuart Hall, School of the Sacred Heart* (San Francisco, CA) the challenge was transforming historic residential mansions into modern learning spaces including flexible and agile environments. The administrative team recognized that in order to support the learning spaces, an astute attention to the housing of the tools and resources (in contrast to antiquated fixed storage solutions) were required. In the effort to reduce the impact on student space, concepts began emerging to share resources and discover multifunctional tools to support the end users. One teacher commented, “Prior to the new classroom design, my room was set up rather traditionally with individual desks placed in small groups. Storage was either hidden in fixed cabinets attached to the walls, or on shelves in a small walk-in closet. Because things weren’t visible it was easy to forget what materials I had and where they were. Now, sharing with my teaching partner has been wonderful. The attached towers in the shared closet allow for better organization and function of teaching tools/supplies and gives us the opportunity to share materials more easily.”

Over time Geoff De Santis, Director of Physical Plants/Strategic Design Facilitator, and his team systematically transformed one or two classrooms at a time focusing on all attributes of space where possible, down to the smallest of details. The result of this work was the organization of the required tools and resources in less space that resulted in change as to how students and staff utilized space. Another staff member sums up the transformations not only in space but in student agency. “The classroom storage offers the teachers and students clear access to materials as the bins are labeled. An additional boost has been the student agency that these changes have brought to my students. Each student has a drawer with his name on it where all his workbooks and phonics supplies are stored and easily accessible. Classroom supplies are labeled, and students can be independent when they need to get an item.”

At the *Baltimore County Schools* (Baltimore, MD) a multi-year space design transformation program including addressing issues of storage was implemented. With over 175 individual schools in the district, change had to evolve in a more traditional yet scalable path. The district began with 7 original

lighthouse schools in 2013 and over the course of five to six years, systematically permitted change of the storage tools and space resources as they were able to receive feedback and gauge the impact of newly envisioned products supporting agile learning environments. The early schools just focused on the modification of desks and chairs and later to all tools, most recently focusing on the transformation of storage in the form of grade level storage to solutions that support teaching and learning in the classroom.

Baltimore County Schools championed the Certwood LTD high-capacity storage and mobile tray solutions housed in wall units and mobile carts within grade level storage as well as within classroom environments. This new storage design frees up as much as 40% more space in each classroom over traditional solutions, benefiting students and teachers exponentially. The new storage carts and trays allow access to materials for both group and individual projects. This empowers the students to help prepare for and help with clean-up for the next project. The teachers can be freed up to spend more time facilitating and engaging with students instead of having to do all the set up and cleanup themselves. Baltimore County schools recently implemented Certwood’s unique Storsystem™ 3-tier approach this fall when opening three of their new schools.

How Can We All Affect Change?

If we truly desire to initiate then successfully sustain change in the creation of “agile” learning environments, it is imperative we re-imagine antiquated solutions and incorporate effective “system-based storage solutions” that will maintain organization of all educational resources. **LBD**

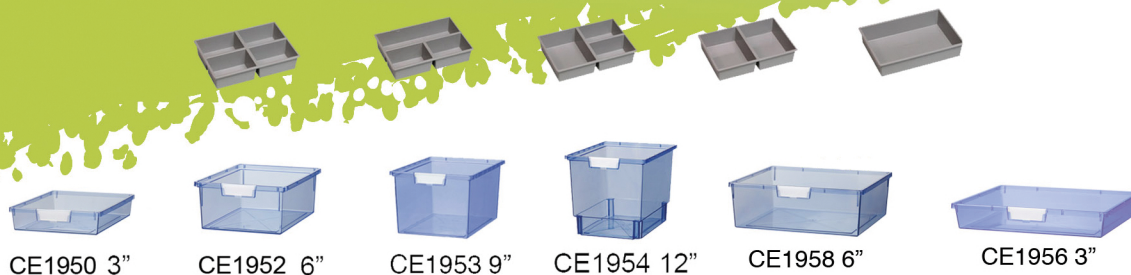
David A. Stubbs, II is Founder of Cultural-Shift, a leading design and consulting firm, impacting 21st Century environments as an innovator, researcher, disruptor, and designer as well as an author, adviser and speaker. Visit www.cultural-shift.com to learn more.



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Laporte Way
Luton
Bedfordshire LU4 8EF
Office +44 (0) 1582 456 955