re imagining learning
strategies for engagement

“Do not train a child to learn by force or harshness; but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each.”

Plato
Introduction
If you are an educator, a learner, a parent, a professional, or just part of the conversation about where education is headed, this catalogue is for you.

As designers for learning spaces, we see great examples of learning environments and those that could be better. The most successful spaces balance technology and low-tech solutions, and offer settings for both team-based learning and areas for individual focus. There are innovative learning spaces everywhere, and we’ve put this piece together to articulate what makes them great.

The collection of imagery in the pages that follow strives to leap beyond the tools and tactical aspects of effective classrooms. We hope to re imagine learning and to bring to light the latent aspects of successful learning environments that incite people to learn deeply, to recognize the real-world connections to what they learn, and ultimately to become lifelong learners, engaging in learning that is connected.

About This Book
The document is comprised of three sections:

- the different ways we learn
- qualities of effective learning spaces
- design strategies for engagement

We hope that this collection of imagery inspires you to look beyond the classroom to see learning or the potential for learning in all places you encounter.

This study reveals the latent aspects of environments that inspire deep thinking, real world connections and lifelong learning.
why reimagine learning?

A National Dialogue
An internet search of the term “U.S. students compared to other countries” yields hundreds of articles ranging in tone from “crisis” to a “non-issue.” The plethora of results, though, points to the fact that the quality of our public education system is under the microscope, and for good reason: many of our students are not making the grade in comparison to other countries. The discussion around U.S. education is everywhere: from news outlets and educational journals to TED talks and international conferences. Today, even the tech industry getting in the game, with organizations like the Gates Foundation, Apple, and Google all sponsoring initiatives to innovate and improve the quality of education in this country.

New research on the brain and how learning happens has resulted in a series of publications that are starting to change the vocabulary when it comes to teaching and learning. In “How we Learn,” Benedict Carey, notes that the brain has not yet adapted from its foraging instincts to “fit” the current model of education. In “How Learning Works” the authors describe learning as “a process that leads to change, which occurs as a result of experience and increases the potential for improved performance and future learning.” Learning is a process not a product, a process that involves change in knowledge, beliefs, behaviors, or attitudes. It is something students do for themselves. In the New Media Consortium’s Horizon Report: 2014 K-12 Edition, the NMC examines emerging technologies in schools with key trends revolving around the role of teachers, deeper learning approaches, focus on open educational resources, hybrid learning designs, the acceleration of intuitive technology, authentic learning opportunities, personalized learning, and developing technology for schools.

Shifting the Paradigm
Recent research by the Harvard Graduate School of Education, suggests our current system places far too much emphasis on a single pathway to success: (completing high school to graduating from a four-year college after), yet only 30 percent of young adults successfully complete this journey. According to the report, it is long past time that we broaden the range of high quality pathways offered, beginning in high school as lessons from other countries strongly suggest. New approaches to pedagogy and increasing levels of collaboration between schools and industry, spurred by the above factors, mean that the design of the classroom as we have come to know it, needs serious rethinking. The postwar model of neat front facing rows of desks, with the all-knowing teacher is outmoded. New designs must accommodate a variety of teaching modes and learning, and adapt to ever-changing advances in technology. Maker-type spaces that encourage hands-on learning are increasingly in demand. Most importantly, these spaces must engage learner and teacher alike, spurring the dynamic interactions that foster the deepest learning.
By learning in diverse and interconnected ways we build deep and durable knowledge.

**THE DIFFERENT WAYS WE LEARN**

- **CONVEY**: sharing what you’re learning
- **ACQUIRE**: actively seeking knowledge
- **MASTER**: proving you’ve got it
- **COLLABORATE**: fostering networks
- **EXPERIENCE**: testing knowledge by experimenting
- **REFLECT**: internalizing knowledge
acquire
actively seeking knowledge
actively connecting with an idea gives it relevance
collaborate

fostering networks

exchanging ideas with peers provides more than transferring information; collaboration forges networks of knowledge
reflect

internalizing knowledge

reevaluating and refining ideas, and absorbing and shaping new concepts embeds knowledge deeply.
experience

testing knowledge by experimenting

applying new ideas bridges the gap between learning and doing to build strong knowledge ownership
master
proving you’ve got it
assessing retention enhances learning by driving performance
convey
sharing what you’re learning
exposing new knowledge, when learners become teachers, solidifies the process
DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING

QUALITIES
OF EFFECTIVE
LEARNING SPACES

(3) critical qualities allied with a key differentiator (+1) - the vital value of engagement - that define effective, connected learning spaces.
1. **Diverse**
   Design to provoke and support a full spectrum of learning behaviors.

2. **Adaptable**
   Plan for flexible spaces that allow for dynamic interchange among activities.

3. **Multimodal**
   Provide choice by ensuring a wide variety of learning settings.
engaging

engagement fuels learners from the inside out, spurring a proactive approach to their own learning process, and fostering ownership, accomplishment, and empowerment.
a seamless network, spanning the gaps between teachers and learners, among disciplines, and ultimately, bridging the continuum of learning from academia to cities and society.
Design strategies for engagement

Design can catalyze connected learning by embodying the (3) qualities of effective spaces and engaging learners (+1) by supporting the diverse ways we learn.

- Encourage an integrated culture of collaborative learning
- Design rooms to flex and grow depending on activity
- Ensure exposure to the community and the outside world
- Integrate physical and virtual learning environments
- Encourage learning to continue beyond the class period
- Increase collaborative opportunities
- Enhance acquiring and ultimately conveying of ideas

- Activate transition spaces into exciting areas
- Encourage learners to convey their work
- Integrate presentation with practice
- Increase awareness of learning
- Celebrate student work and enhance a sense of ownership
- Provide a sense of belonging and being a part of something

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- Promote a culture of sharing of thought process
- Support spatial and pedagogical diversity
- Design for impromptu interactions
- Increase awareness of learning
- Celebrate student work and enhance a sense of ownership
- Provide a sense of belonging and being a part of something

- Provide a sense of security
- Offer a collaborative touch-down point
- Allow for an immersive learning experience
- Enable individual focus within active, public settings
- Connect formal and informal learning
- Promote health and wellness

- Instigate new ways to activate and own the learning space
- Provide a destination for information exchange
- Enable diverse uses of spaces
- Help students to take pride in their successes
- Provide choice and cultivate autonomy
- Blur the boundary between work and fun

- Invite groups to gather for brief focused interactions
- Provide a collaborative touch-down point
- Allow for an immersive learning experience
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Connecting to the outdoors blurs the boundary between work and fun.

Pinup space allows learners to convey their work and learn from the work of others.

Short throw projectors transform space from an experiencing to an acquiring moment.

Ample work surfaces support experimentation, reflection, and collaboration.

3+1

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CAMPBELL HALL EPISCOPAL SCHOOL, NORTH HOLLYWOOD, CA
Power cords hanging from the ceiling make the space rapidly adaptable to diverse uses and activities.

Pegboard panels store and display tools while branding the space.

Ample storage (closet, wall, under-table) allows the space to accommodate a wide range of activities.

Sliding storage doors with a writable/projectable finish offer a space for learners and teachers to share ideas.

Learning settings at different heights support spatial and pedagogical diversity.
Activated circulation areas with built-in seating allow for impromptu interactions.

Residual spaces in the circulation core can become highly visible stages to display student work.

Use of natural materials shifts the focus of the space to learners and their work.

JAMES BERRY ELEMENTARY SCHOOL, HOUSTON, TX
Visual connections between learning spaces help connect formal and informal learning.

Writable and projectable surfaces on every wall allow for an immersive learning experience.

Lightweight furniture invites students to adapt the space to their evolving needs.

3+1 DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING
Movable walls allow rooms to flex and grow depending on activity.

Transparency increases awareness of learning activities throughout the building.

Writable and projectable surfaces on every wall increase collaborative opportunities.

Lightweight, flexible furniture allows students to transform their own learning environment.

Strategic use of color creates vibrancy and sense of joy.

3+1 DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING
Large displays or projection screens enhance acquiring and ultimately conveying of ideas.

Pinup spaces along entire walls celebrate student work and enhance a sense of ownership.

Movable amphitheater-like seating creates spaces within a space, supporting collaborating and conveying.
Views of the broader campus give a sense of belonging and being a part of something.

The users’ ability to control natural light allows the space to cater to changing needs.

Diverse learning settings encourage an active, engaging environment.

Diverse learning settings encourage an active, engaging environment.
Large digital displays create opportunities for teaching outside of the classroom and displaying students' work.

Abundant natural light makes spaces more inviting and promotes health and wellness.

Activated circulation areas with built-in seating allows for impromptu interactions.

Open teaching areas create new interactions where students collaborate and teachers facilitate.

Diverse, Adaptable, Multimodal + Engaging
Enclosed seating in open spaces allows for focused learning while keeping a feeling of belonging.

Art walls allow students to take ownership of their learning environment.

Movable furniture allows the space to be reconfigured quickly for a different use.
Environmental graphics create dynamic and engaging spaces.

Open security check points create inviting spaces and provide a sense of security.

Puzzles used as environmental graphics create challenges for students as they walk through school halls.
Accent colors on teaching walls **draw students’ attention** in lecture-style classes.

Natural light and exterior views promote **health and wellness** in the classroom.

Movable furniture allows for different **teaching modes** and **increases collaboration**.

3+1  
**DIVERSE | ADAPTABLE | MULTIMODAL | ENGAGING**
Displaying student accomplishments helps students to **take pride in their successes**.

Environmental graphics **activate** transition spaces into dynamic areas.
Comfort is a key driver in establishing an inviting and engaging learning experience.

Writable surfaces *activate* an ordinary wall and create an area for teaching moments.

Tackable surfaces augment corridors as display areas to *showcase* student achievements.

LOYOLA MARYMOUNT UNIVERSITY, LOS ANGELES, CA
Different types of furniture encourage diverse activities: collaborative learning and focus time.

Open storage allows students to have easy access to their projects before class.

Movable furniture allows groups to gather for brief focused interactions.

3+1

DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING
Clear wall surfaces allow maker-spaces to become hackable spaces used for different functions.

Changes in floor finishes suggest different use of space and promote new activities.

Dual-function teaching screens enrich learning.
Visual connection to the outdoors enhances the learner’s experience.

Choice among various learning settings allows for different modes of study.

Stadium seating transforms a staircase into an impromptu auditorium.

3 + 1

DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING
Non-linear lighting allows the space to be used in different ways and orientations.

Movable seating provides an audience with the ideal line of sight for a presentation.

Easy access to technology provides students and faculty full control for lecture style teaching.

3+1

DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING
3+1

DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING

An optimal work surface allows use of multiple study materials so real work gets done.

Diffuse lighting provides an effective environment for individual tasks, study, and reflection.

Semi-enclosed furniture elements enable individual focus within an active, public setting.
Power drops from the ceiling allow flexibility to adjust the workspace for **team-based prototyping**.

Roll-up doors provide a low-cost alternative to divide spaces **based on the learning activity**.

Durable, raw finishes encourage messy activities and foster an atmosphere for **testing ideas**.
Arrival points identify orientation and place and provide a destination for information exchange.

Digital interactive displays leverage and enhance human interaction and invite new kinds of engagement.

Connection at the street level draws the community in and increases exposure to the outside.
Locating open workstations at the perimeter allows for equity in daylight for all users.

Zoning open areas builds awareness and supports increased production and flow of ideas.

Distributing digital screens throughout a space creates ease of access to virtual learning environments.

Standing-height tables with integrated technology offer a collaborative touch-down point.

Diverse | Adaptable | Multimodal + Engaging
Writable glass walls promote a culture of sharing of thought process.

A variety of seating configurations provides choice and cultivates autonomy.

Comfortable furniture encourages people to linger longer beyond class time, activating the campus 24/7.
Visual cues that suggest ways to use a space invite new ways to activate and own its configuration.

Locating flexible furniture outside of the classroom allows teaching to continue beyond the class period.

Movable tables flex between individual work and class time, promoting intensity around learning.
Locating writable surfaces in social spaces encourages an integrated culture of collaborative learning.

Built-in seating activates circulation to double as social gathering or team space.

Change in floor pattern indicates a shift in activity and suggests cues for new behavior.
Digital display size and placement helps separate large gathering areas from small group activities.

Change in height, seating, and location invites movement between areas based on activity.

Zoned furniture layouts provide a framework to use and change the space based on preference.

Diverse | Adaptable | Multimodal + Engaging
Informal spaces for collaboration allow impromptu sessions based on process and work flow.

Playful and informal furniture elements enrich interaction and promote a culture of social learning.

Connecting meeting spaces to general circulation prompts broader sharing of ideas.
A flexible grid of technical infrastructure allows for multi-directionality in orientation.

Telescoping tiered seating maximizes flexible use for events, presentations, classes, and informal activity.

Multipurpose spaces integrate presentation with practice, simulating performance in everyday experience.

DIVERSE | ADAPTABLE | MULTIMODAL + ENGAGING

HOUSTON BALLET, HOUSTON, TX

This book introduces seven general principles of how students learn. The authors have drawn on research from a breadth of perspectives (cognitive, developmental, and social psychology; educational research; anthropology; demographics; organizational behavior) to identify a set of key principles underlying learning, from how effective organization enhances retrieval and use of information to what impacts motivation.


Cary sifts through decades of education research and landmark studies to uncover the truth about how our brains absorb and retain information. What he discovers is that, from the moment we are born, we are all learning quickly, efficiently, and automatically. Yet our education system seems to ignore valuable processes that enhance learning.


The U.S. school-to-career system is highly developed in some ways and underdeveloped in others. Well-developed pathways function like pristine interstate highways for our most academically skilled children from relatively wealthy communities and households. They move smoothly from kindergarten through elementary, middle, and high school on to four-year colleges from which they graduate into careers.

Conversely, students possessing fewer academic skills (no matter what their family backgrounds) or growing up in less well-to-do families and communities, often face narrow and poorly maintained pathways full of potholes, detours, and missing road signs. The Pathways vision is that young Americans from all racial, ethnic, and socioeconomic backgrounds, and from all parts of the nation will complete secondary school, receive post-secondary preparation and certification for entry into viable careers, and then transition successfully into the adult world of work.

Disrupting Class points out that motivation is central to learning and that if schools and learning are to be transformed as they must be, motivation must be at the center of the work. They also point out how technology should be used to personalize learning and what the future might look like for schools.


Cathy Davidson and Duke University gave free iPods to the freshman class in 2003. This radical experiment is at the heart of Davidson’s inspiring new book. Using cutting-edge research on the brain, she shows how “attention blindness” has produced one of our society’s greatest challenges: while we’ve all acknowledged the great changes of the digital age, most of us still toil in schools and workplaces designed for the last century. Now You See It is a refreshingly optimistic argument for a bold embrace of our connected, collaborative future.


The Heath brothers speak energetically and encouragingly on how to modify our behaviors and businesses. Change is not inherently frightening; but our ability to alter our habits can be complicated by the disjunction between our rational and irrational minds. The trick is to find the balance between our powerful drives and our reason.


In Brain Rules, Dr. John Medina, a molecular biologist, shares his lifelong interest in how the brain sciences might influence the way we teach our children and the way we work. In each chapter, he describes a brain rule - what scientists know for sure about how our brains work – and then offers transformative ideas for our daily lives. Medina’s fascinating stories and sense of humor breathe life into brain science.


According to Pink, the keys to success are in developing and cultivating six senses: design, story, symphony, empathy, play, and meaning. Pink compares this upcoming “Conceptual Age” to past periods of intense change, such as the Industrial Revolution and the Renaissance, as a way of emphasizing its importance.


According to Pink (A Whole New Mind), everything we think we know about what motivates us is wrong. He pits the latest scientific discoveries about the mind against the outdated wisdom that claims people can only be motivated by the hope of gain and the fear of loss. Pink cites a dizzying number of studies revealing that carrot and stick can actually significantly reduce the ability of workers to produce creative solutions to problems.


Inevitable: Mass Customizing Learning (MCL) describes a detailed vision of how schools can change from the present outdated Industrial Age, assembly line structure to a mass customized learning structure with the capacity to meet the individual learning needs of every learner...that’s every learner, not some, not most, but every learner.


Poised to transform every social institution, the Net Generation is reshaping the form and functions of school, work, and even democracy. Simply put, the wave of youth, aged 12-30, the first truly global generation, is impacting all institutions. Particularly, employers, instructors, parents, marketers and political leaders are finding it necessary to adapt to the changing social fabric due to this generation’s unique characteristics.


In this groundbreaking book, education expert Tony Wagner provides a powerful rationale for developing an innovation-driven economy. He explores what parents, teachers, and employers must do to develop the capacities of young people to become innovators. Play, passion, and purpose: these are the forces that drive young innovators.
3+1

DIVERSE | ADAPTABLE | MULTIMODAL | ENGAGING