

Straight From the Source: Learn The Real Current Needs Of End-Users And How An Atypical Design Is Fostering Real Connections

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Introduction



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Why is the Architecture of Educational Facilities Changing?

Because the needs of Today's Students have changed.



Learning Objective - Targets:

- Learn about Educational Research Effect Size
- Learn current data on student experiences
- Learn
- Learn new conceptual learning model “Skill, Will, and Thrill”
- Learn how architectural design has evolved to support the student-centered learning environments of today.
- Learn about a variety of environmentally responsible design strategies and how they can be included in your next building project.
-

Educational Impact
Research
Effect Size

How educators measure Impact: Effect Size .4 hinge pt.

Item - Strategy - Researched	Guess of Effect size
Teacher Credibility	
Homework	
Feedback	
Teacher–student relationships	
Retention <input type="text"/>	
Teacher Subject Matter Knowledge	
Boredom	
Moving between schools	
Classroom Discussion	
Small Group	
Reducing Class size	
Teacher Expectations	

How educators measure Impact: Effect Size .4 hinge pt.

Item - Strategy - Researched	Actual
Teacher Credibility	1.09
Homework	0.29
Feedback	0.70
Teacher–student relationships	0.52
Retention	-0.32
Teacher Subject Matter Knowledge	0.19
Boredom	-0.47
Moving between schools	-0.30
Classroom Discussion	0.82
Small Group	0.47
Reducing Class size	0.15
Teacher Expectations	0.43

Research on Covid 19 Pandemic on Learning

Covid Impact meta analysis

- Storey/Zhang -.15
- Zierer -.14
- Betthausen et al. -.14
- Konig and Frey -.18

Educational Experiences

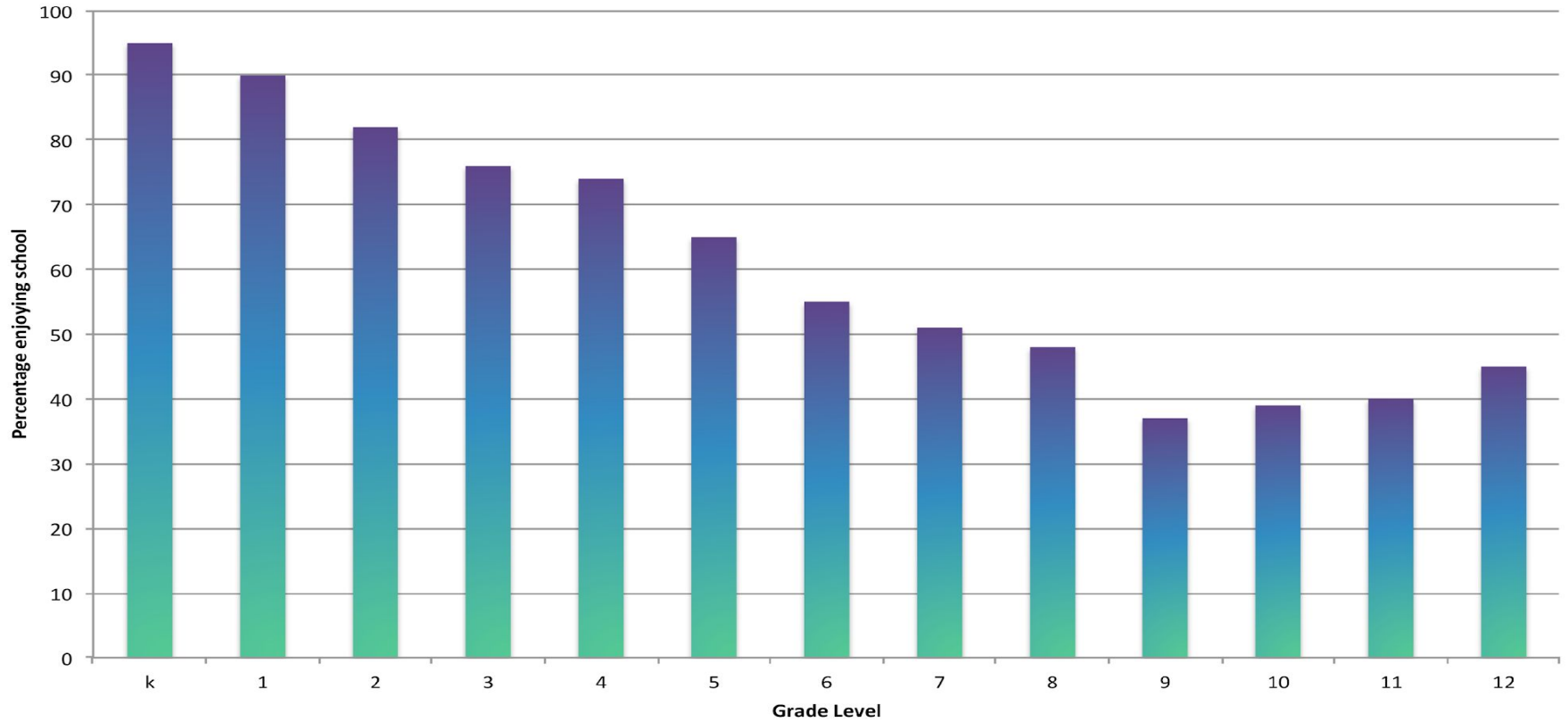
Outside Observed / Student Reported

What do we know from 17000 lesson observations:

Level of thinking required	Percent Observed
Low (Know)	87%
Middle (Apply, analyse)	9%
High (Synthesis / Evaluation, Transfer)	4%

Level of Engagement	Percent Observed
Engaged	6%
On-Task	91%
High (Synthesis / Evaluation, Transfer)	3%

Percentage of students who stated that they enjoy school



Lee Jenkins

When asked how they felt about today's learning?
Most frequently selected negative emotions - 1520 students



**“40% of what students are
taught they already know.”**

Graham Nuthall

Why is the shift in Teaching Pedagogy important



As Students change
Pedagogy must too

Shift from Teacher
focused Instruction
to Student Centered
Learning

Changes to
Teaching Methods
coupled with older
Facilities not ideal

Is This Still True for Today's Students

What is missing?



Curriculum Alignment and Traditional Classroom Layouts

“Teach the Test” vs. “Meet the needs of the Learner”

One size fits all approach - No child left behind, etc.

Very little engagement with or among students

Set Rows / compliance

Very little time for students to explore their curiosity, to be creative, imagine new ideas, and discover new approaches

Are Today's Students Prepared For Tomorrow's Workforce?



Today's employer needs employees who have character and are creative and imaginative problem solvers, can collaborate with others, think critically, communicate well and in different formats, and are global citizens.

What is Pedagogy and Why it Matters

Art & Science of Teaching

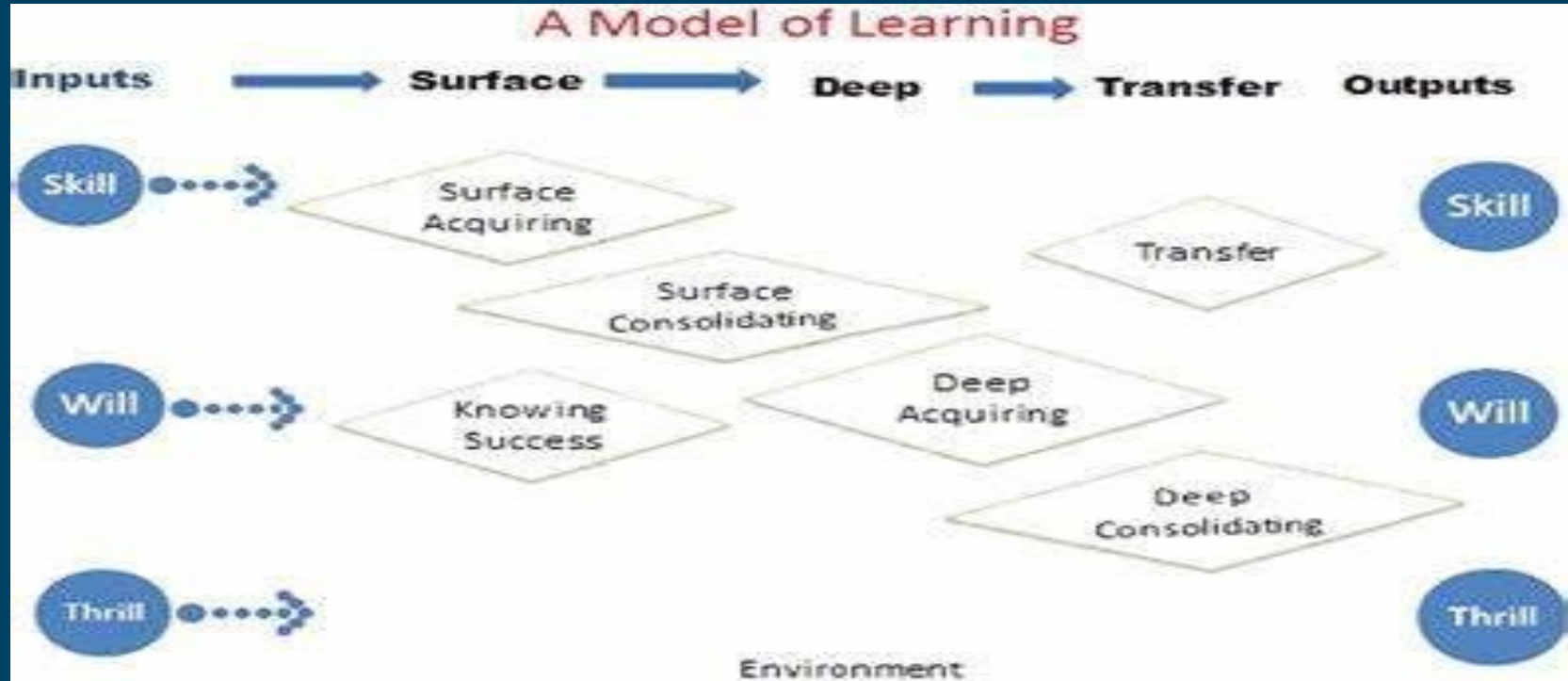
Teaching “Methodology”

Teaching “Technique”

Teaching “Philosophy”

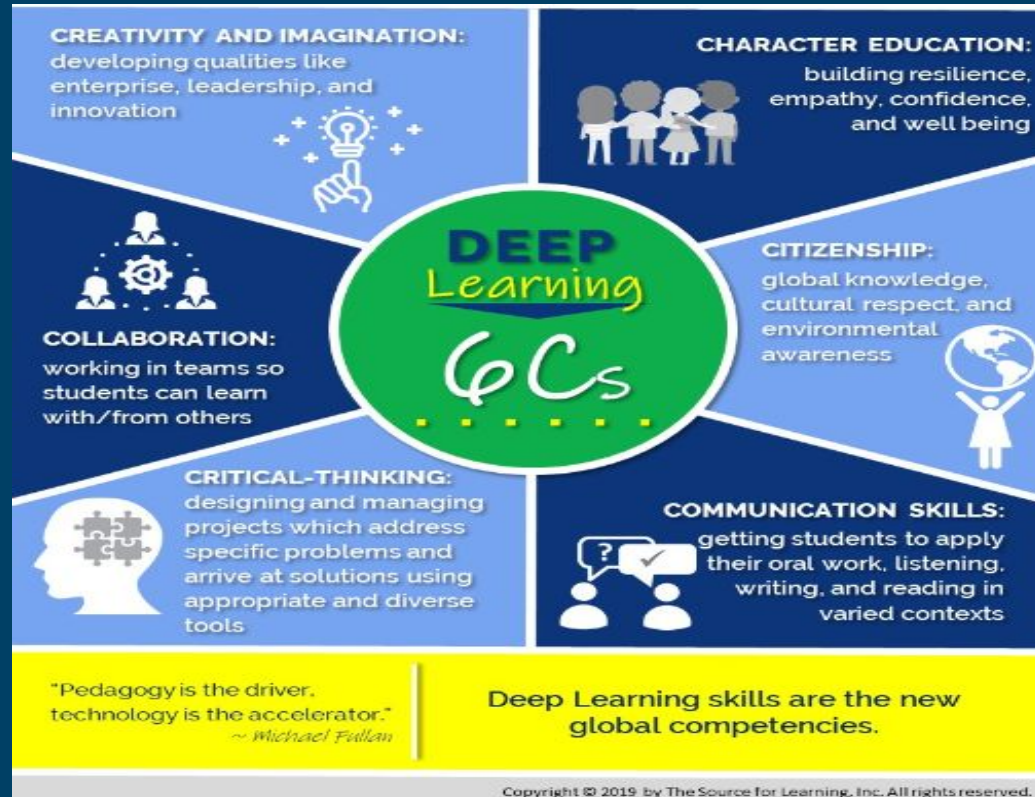


Conceptual Learning Model: Skill, Will and Thrill



6 C's of Deep Learning

Meeting the Needs of Students For A Global Future



2 More C's

Curiosity

Connection

Are our designs supporting what students want?



Are our designs supporting what students want?



Engagement and Flexibility

Why is student engagement important?

- Engaged students are 2.5 times more likely to say that they get excellent grades and do well in school, and they are 4.5 times more likely to be hopeful about the future than their actively disengaged peers.
- Employee engagement has been linked to a wide range of workplace outcomes. Specific to schools, teacher engagement has a strong relationship to both absenteeism and employee turnover, and is a key driver of student engagement.
- 70% of what you say and write hands on - collaborative lessons, and 90% of what they do simulate, model, experience, design

Engagement and Flexibility

School Engagement is more than Just Talk

“We want our students, teachers, parents and the entire school community to be engaged. But what does that really mean? What comes to mind when you think about an engaged school community? What difference does engagement make? And what can we actually do to build and sustain a culture of engagement?”

- Tim Johnson, Gallup Education..

<https://www.gallup.com/education/244022/school-engagement-talk.aspx>

Changes to End Users Needs have required Changes to the Architecture supporting new ways of learning

Flexible Classrooms /
Collaborative Spaces

Flexible Furniture

Blended Learning

Learning Styles - .41 effect size

Brain friendly strategies

Collaborative hum...

Humanizing education - Social skills
development

Makerspace

Technology enabled campuses

Open use of digital tools (smart
boards)

Varied classroom set ups ...



Varied learning arrangements...



Outdoor spaces for teaching and study



Outdoor spaces for teaching and study



Varied learning environments

Breakout & Collaboration



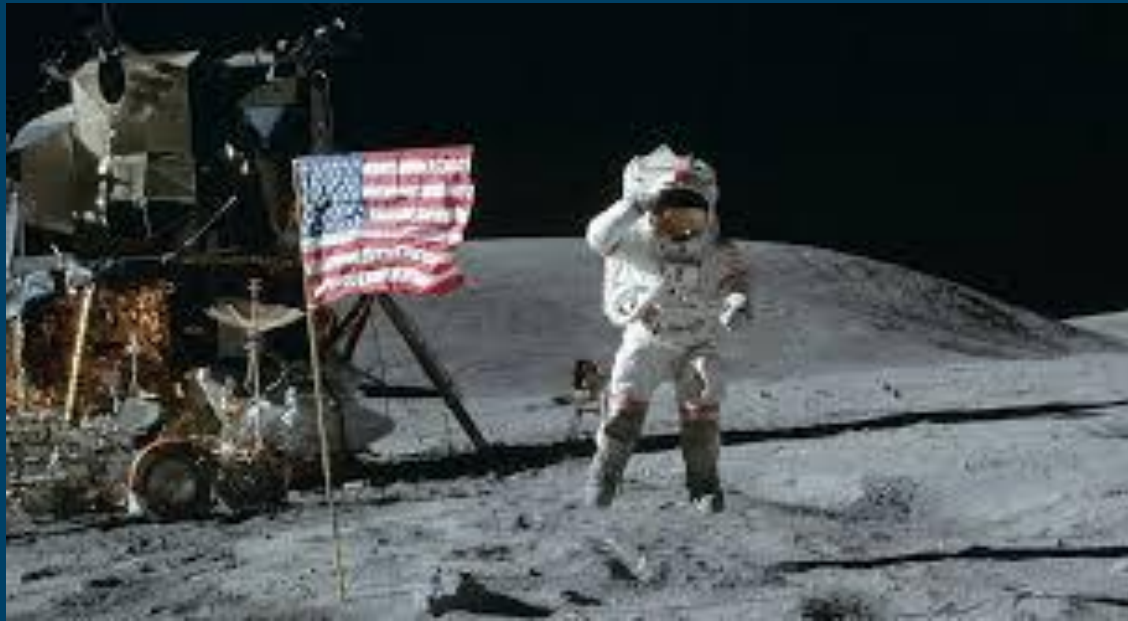
Varied learning environments

Breakout & Collaboration



environment

- The open plan of our building makes for a great learning environment for students, allowing for lots of places to conduct collaborative learning.
- Wish there was more outdoor space for learning...outdoor learning spaces protected from rain and sun.
- Love the bright newness of it all! Allows for mobility , flexibility and movement for students when collaborating and learning together!
- Environment provides easy access to conferences with students both in the classroom and in the collaboration space
- Desks and tables provide collaboration between students and easy grouping
- Since we have large class sizes, expanding classroom space into the collab alleviates crowding. Glass walls allow me to supervise students more easily. The building makes it easier to provide students choices
- Students have great workspaces where they can collaborate in large and small groups, as well as work individually. This helps teaching needs and well-being.
- Students have flexibility to be in the classroom or out in the collab space. There is a variety of furniture options for students to utilize.



President John F. Kennedy was visiting NASA headquarters for the first time in 1961. While touring the facility, he introduced himself to a janitor who was mopping the floor and asked him what he did at NASA
"I'm helping to put a man on the moon!"— The janitor

The janitor got it. He understood the vision, his part in it, and he had purpose. That was his WHY!!

Contact Information



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Teacher viewpoint:

K. Tayloe 5th grade teacher - “The design and layout of our building has changed the way I teach and the way that my students learn. After recognizing that the students I teach today, and in the future, need to be able to collaborate with others, I quickly “took to” the design and layout of the building in which we are working. Children are now in control of their own learning...and I am a facilitator. The way that our building is designed pushes for this to happen.

“The collaborative learning and collaborative “hum” that takes place daily gives children the ability to expand their thinking “outside of the box.” It makes children want to learn, and it pushes for deeper thinking and higher level thinking skills.

Students viewpoint:

“The design and the furniture in the school helps me discover new ways of learning, new people and new ideas. We now get to go out in the Learning Commons and learn with kids...your teacher just helps.It may look distracting but it helps me to stay on task.” - Adriel Smith Grade Student

“It helps how we learn because it is better to come out to the Learning Commons than stay in the classroom. Other people can give you ideas. It helps me be creative because people can give you creative ideas like something you will not think of.” Charlotte Nitz

The design also helps us with creativity because we are able to go anywhere and to be able to make our work unique and different instead of all of having the same paper word for word. Lastly, the design helps with imagination because the pictures, and also the teachers, can put stuff on the glass walls and a lot of us will use that for reference to make our work more unique.” Boyan Velickovic