The Power of **Student Voice** in Connecting **Learning** to the **Design** of the Physical Environment
or....

LET’S ASK THE STUDENTS!
Most students ...

Are very **aware** about need for learning
Know **how** they work best
Know **where** they work best
**Care** about their learning
**Expect** to use technology

**Learn** despite school
Most students dislike:

- Listening
- Copying
- Notes from books
- Dictation

Most students like:

- Collaboration
- Interaction
- Using technology
- Relevance
Most students want to be able to:

- experiment
- research
- observe
- think
- read
- document
- debate
- present
demonstration
large group work
small group work
individual work
using technology
movement
using technology
WHEN needed

- DECONSTRUCT the current teaching paradigm
- Construct a future learning paradigm
Types of Space
Want to contribute to leading learning
Formal teaching
Collaborative learning
Individual study
Project learning
Use of Technology
Mentor / Learning Guide
Context / relevance
The Result.....
So we want to design buildings and spaces for young people.... but we don’t want to ask them or even involve them?
“We just want to get in, build it and go onto the next project”

“We have our standard classroom design - we don’t involve staff or students – we know what works, it has done for many years…….”
“….and anyway, the students will have left by the time we’ve actually built it so they won’t even see it!!!”
UNIFORM

- Not see-through
- Fashionable
- Pupils have a say in it
- Smart-casual
- Neutral colours
- Comfortable fit

Bright colours stand out
This is the style we like best

Jackets instead of jumpers so don't mess up hair!!

Types of material NOT colour

The same for girls + boys

Same colours as logo - fenilnet
- Bright
- Cheery
- Uni-sex

Logo

Thomas Clarkson Community College

garethl.com

classofyourown®
“I don’t mind what the new school looks like as long as my new lab is identical to my old one. .... oh, and I have to have somewhere to put my 29 filing cabinets, (I’ve had them for twenty years)"

Science Teacher
UK

garethl.com
"I'm very optimistic about student involvement... It's not as deeply embedded as it should be – but it will be. Student voice is going to have a very powerful impact."

Sir Tim Brighouse – UK Education Guru
Do adults always get it right?

Ask the students!
What is this space for?
Is this flexible learning?
Build an outdoor safe play area for an 18 year old severely autistic student, where he can play alone.
The Result.....
“They looked forward to a fun area with decking and play equipment…”

“THE struggling parents of an autistic schoolboy were left in shock.”

“This boy should be out mixing with other people and learning not locked up like an animal”

“Autism charity branded the cage a “disgrace and 100% cruel””

MP says: “If that’s the council’s idea of an outside play area then there’s a problem”

“Bosses have since demolished the structure”
“It was built with the best intentions, but perhaps the right degree of thought had not been put into it………we are in discussion to solve it?”

BUT - WHY didn’t they ASK those who know FIRST?
Lighting
Student involvement
Concentration
Commitment to learning
Achievement
It’s THEIR learning space
“Staff and pupils in BSF schools had an unusually high level of input in the design process......... we were not convinced that there should be significant input by pupils ...“

We don’t agree – **ASK THE STUDENTS** they can add massively to the creation of effective learning spaces..
“Where there has been engagement with what students, teachers and the community wanted from a school building…. it's been inspiring,”

David Milliband, former UK Schools Minister.
So how do we get from engaging with students about thinking about all aspects of their learning to helping with the design and construction of new learning spaces?
Some special people are going to design and construct a brand new school for you. How exciting is that?!
In our survey, 71% of young people thought a career in construction meant "being a builder or a bricklayer."
Alison (to the class): “What is an Engineer?”
< stunned silence >
< nervous shrugs >
Student (finally): “Dunno really. Is it someone who fixes a car?”
And even...

“an architect is a guy who builds a building“
Confused???

So are our kids....
The creation of a new school doesn't start with an architect. Come to think of it, it doesn't end with one either....

Note to self: The Brits make a fine cup of tea.
The Built Environment is this...
“Sustainable development was considered a peripheral issue.... delivery was inconsistent and uncoordinated”

“...Pupils responded particularly well to education for sustainability when it gave them the opportunity to take part in practical activities within and outside the classroom, enabling them to research, plan and implement projects that made a clear difference to the school and the local community....”
“Indifferent teaching of highly specialised subjects from teachers who are not well versed in the courses they are leading....”

“The current system of vocational education is failing too many young people....”

“The need for new skills...”

“Not enough apprenticeships for 16-18 year olds and a lack of incentives for employers to be involved in the programme....”

“Perverse incentives, created by the performance and funding systems, encouraging the teaching of qualifications which attract the most performance points, or the most funding – not the qualification that will support young people to progress....”
John Moores University

tried and tested by those we work with...

links to FE and HE
Witton Park High School

“...doing it for real is huge and meaningful. The dissemination of skills from professionals to pupils works so well...”

St Bede's RC School

“...the workshops introduced students to a real project that is valid and has an impact outside of the classroom...”

Beardwood College

“...this is how Enterprise education should be...”
“We need lessons in sustainability – everyone thinks that it’s nothing to do with them. We need more opportunities. If we had ‘a class of your own’ in every school we would learn so much more about the real world. It would help with our career choices.”  

Amber Prestage, Year 9

“Being properly involved when children are leading is a completely different perspective to looking out of the classroom window and seeing ‘builders’ doing it instead...knowing that professional people support us makes us really motivated. They are really listening.”  

Kamila Samin, Year 10

“We just thought building was get planning and up it goes. It’s done within a matter of months. Hardly anyone was involved in our new school building. It was just like ‘don’t go near it’. Now we have the opportunity to see what we want to see. We’re not treated as kids, but like young adults, professionals even.”  

Lauren McGuigan, Year 9
Dan - one cool kid...

three project managers...

one hundred bright ideas..
A new KS3 11-14 curriculum designed to raise the profile of architecture, engineering and professional construction careers.
The Pythagorus Theorem states:

“in any right angled triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.”

So we have a great theory, but how can we use that in construction?

Engineers use Pythagoras all the time.

Earlier we said that engineers are responsible for making sure everything is in the right place.

Here is a plan view of a small building which requires ‘setting out’ in the correct position.

The Engineer has already been given the orientation of baseline AB, it runs East to West.

The distance of the baseline (AB) is 9 metres.
The side of the building is 6 metres.

How can he be sure that lines BC and AD are square (perpendicular) to line AB? And indeed square to line CD?

Setting out your building

1. Find a flat, clear area with your mallet (make sure you have asked permission first). This is point B.
2. Using the compass, identify the EAST-WEST direction from the peg.
3. Using the tape with the zero end on the centre of the peg, walk along the EAST-WEST direction for 9 metres, and bang in your second peg at that point (A). This line is called the BASELINE.
4. Work out side ‘C’ using the formula \( C^2 = A^2 + B^2 \)
5. Have one person hold a tape on point B and measure out 6 metres along side B. What direction is this?
6. Have a second person hold the second tape on point A and measure out the distance you calculated for side C. You should be heading towards the point C. What direction are you travelling in?
7. The point at which the two tapes meet (i.e. when you have taped out the measurements for side B and side C) is point C. You may now bang in your third peg.
8. Repeat this process, and set out side D.
9. To complete your setting out task, fasten a string line around each wooden peg to form a rectangle and hey presto! Your first building is ready to be dug out!

You will need:
- 4 wooden pegs
- Mallet
- String
- Two 10 metre tapes

As an equation, we can write:

\[ C^2 = A^2 + B^2 \]

where A, B, and C are the sides of the triangle.
The Task.....

In small teams, armed with your knowledge of sustainability and what makes a good school environment, take a trip around your school and see what needs to improve....

1. Create a chart to record your information (see example)
2. Photograph the evidence
3. Interview members of staff and students (you could ask them why there is a problem, what they think could be done, who is responsible)
4. Put your evidence in a powerpoint presentation
5. Present to your school teacher, year tutor, head teacher
6. Agree an Action Plan and review at an agreed time
7. Present your findings at a school assembly

Keep an eye on progress - think how you will get your message through and keep people motivated!

Create an Instruction Manual full of ideas and helpful ways to encourage people to care more about the way they use their school. What will go in it?

Can it be used at home too?

Pupils from Highfield Humanities College in Blackpool presented their findings to the Women in FM Group at the 2011 World FM Day in London
In previous units, you’ve taken the time to research sustainability and how you can apply ‘all things green’ to your eco classroom design.

You’ve found out what your community knows – or perhaps doesn’t know – about sustainable living, so you know exactly how to get them thinking about how they might change their lifestyle.

You’ve explored a number of different roles within the design, engineering and construction industries, and how they contribute to your project.

You’ve got a great design. You’re just about ready to build.

But!...you don’t live in a 2D world, so you’re going to need a 3D building!

This is where Building Information Modelling (or BIM as it’s known in the industry) comes in....

Click on the film and let Autodesk’s Mr McClusky tell you why....

BIM

Building Information Modelling – BIM - is exactly what it tells you. Just like the 3D world you live in, you can make models of buildings in computer software and bring them to life in a very realistic way.

Making a 3D model of a building which includes lots of information about it. Types and costs of materials used, procurement information (see the last unit), power and energy...in fact all the things which would be included if you were building for real.

A really cool thing about BIM is that lots of real professionals use it, and what’s more, by 2016 just about every public building must use BIM before it can be constructed...just as you are leaving school, many of the world’s design, engineering and construction firms will be wanting to employ people with the skills you are about to learn....
2. Define PRECEDENTS

What does that mean?! (This is an important architectural term. Add it to your Wiki!!)

3.

Explore examples of similar sustainable projects, begin to investigate how they have helped improve the community, what they look like both inside and out, how they have been built and the materials and furniture used. Look at local AND global projects for inspiration.....

4. Create an Ideas Board

built up in layers on A0 sheets e.g.

Layer 1: descriptive words
Layer 2: descriptive images
Layer 3: sketches
Layer 4: cultural impact

"A smile is the universal welcome" (Montessori, 1929)

...Healthy Mind, Healthy Body

...Friendship, Trust

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