It's 15 years in and how are we progressing?

Are we fiddling on the edges with the internet,

the flipped classroom,

or are we thinking about schooling differently.
The Australian Science and Mathematics School open in 2003 on the grounds of the Flinders University.

The award winning design of this purpose build school is documented by the OECD,

as are its programs and systems as one of 40 schools across the world Inventory Case Study of the Innovative Learning Environment Project.

Yes, the school has creds.

It was designed with the 21C in mind, at least what they thought that would be.
The ASMS was designed to address the crisis of our young peoples disengagement with STEM learning.

It has the open learning environment, on online interdisciplinary curriculum, the team teaching and the PD to go with it.

How are the rest of our schools doing?
The 1950s versions of schools.

This will be familiar for some of you.
Not much different to the 1940s version
What we do know is that they have corridors,

what were they thinking,

on the bell 100s of students spill into these spaces,

where they can bully, push people around, be scared, etc
And in the classrooms there are the rows,

and the teacher out the front.

At best the students can talk to one person beside them.
School design has come a long way

http://www.takepart.com/photos/classroom/next-gallery
Can your students turn on their phones at school?

Has your school got a youtube channel?

Is the curriculum online?
SCHOOL DESIGN FEATURES

• The way that teachers and students are grouped together.
• The way that learning opportunities are designed
• The spaces available for teaching and learning.
• Resources available for teaching and learning.
20C SCHOOL DESIGN FEATURES

The way that teachers and students are grouped together

- One teacher
- One class
- One classroom
- One subject
Age grouping of students may make it easier for teachers and administrators for creating the timetable.

We all know that there isn’t such a thing as a year 8 students, there are ranges of knowledge and so called abilities even in a streamed classroom.

Now we know how the brain works, by making connections to what it already knows, the need for language to learn, that is talking as well as writing, why do we insist on one class, one year level?
When you think about it, in this classroom students can only talk to the person sitting beside them.

The focus for students attention is the front of the room where a teacher will be doing all the talking.

Students may answer question if asked. Many won't try to.
Just how important is the learning environment. There is a lot of talk about how the teacher is the one thing that makes the difference; that sounds like a blame game to me.

Our analysis shows that the learning environment has the potential to drive innovation for student learning in our 21st century.

WHY?
The open spaces have the potential to democratise the power relationships in the classroom.

Students can create their own space, usually in groups, sometimes individually.

This encourages the teacher to move amongst their spaces, intervening to provide assistance, discuss ideas, not constrained by rows or corners.

The open learning environment creates accountability for students; they are responsible.

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21C SCHOOL DESIGN FEATURES
The spaces available for teaching and learning

open up the learning environment

- Take down the walls to create space that can take more that one “class”
- Allow students to make choices about where in the learning space they will learn.
- Ensure that more than one teacher is available in the learning environment.
Disciplinary subjects.

Textbooks, lectures,

Answering the teachers questions (or guessing the answer), mind you the teacher already knows the answer. And then there is the wait time.

Not much choice, maybe a project.
Right from the start, the ASMS teachers worked with the Flinders University scientists to design learning programs based in the new sciences, which of course are interdisciplinary.

The Central Studies program is a two year program that melds the disciplines of the sciences with English and Humanities.

These interdisciplinary studies such as Nanotechnology, Biodiversity, Biotechnology, are designed to engage young people in deep learning of the big concepts of science and mathematics, and prepare them for Yr12.

The CS are based on a fertile question, littered with collaborative learning opportunities, online tools for learning, design pracs, presentations.

All students do a full semester 200 minute a week STEM related inquiry project of their choice for a semester.
The brain is not an empty vessel in which to pour knowledge.

For learning to happen the brain has to have some idea of what the concept is.

To learn new knowledge, people need to able to connect with what their brain knows.

Using language (talking and writing) is helpful. Doing things is helpful.
What I am sure of is that hierarchal power structures are not that efficient at getting people to change. They are necessary to make sure that the rolls are marked.

Headley Beare said, Can we move away from the 20th century idea of the machine like organisation of the school to a 21st century “imaginary” that envisages the school as a network based on a living system.

Can we visualise the organisation (school) as a web of relationships rather than lines of authority and power,

as a connected and organic system that learns and adapts;

We need to think differently about power relations in schools.
So we have had a go at it. (designed after the hydra)

The organisation, that is, the students, staff which is the school, learns through the collegial work of the teams that surround the learning and innovation space.

As a result of this learning, the school contributes leadership (contributive leadership) to the wider context of the educational community through the knowledge it creates and shares with others outside of the school.
The ideas generated by the collegial teamwork flow throughout the organisation, the learning and innovation space, and to the wider context beyond the school.

The teams are formed because of the work that needs to be done and the learning that is required to support that learning.

Leadership arises from the expertise and knowledge of the individuals rather than their role or position.

The work of the teams in interdependent rather than guided by strict roles and functions.

This exemplifies the dynamic and flexible way that people work and learning together, enabling the organisation to respond to change, resulting in 21C learning and innovation.
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