John Dewey, a philosopher and educational reformer once said:

If we teach today as we taught yesterday, we rob our children of tomorrow.

Back in 2003 a new phrase started to appear in educational literature. That phrase, "21st Century Learning" has since come to represent an educational movement, the aim of which is to prepare students for success now and into the future. "Next Generation Learning" and "Digital Age Learning" are other flavours of the same idea.

It is generally accepted by the educational community that there is a need to incorporate 21st Century Learning into schools. The International Society for Technology Education has produced some "New Educational Technology Standards", the MOE has its own "iN2015 MASTERPLAN" and the UK has its "Harnessing Technology for Next Generation Learning" strategy. They all repeat the same thing ... that learning needs to focus on high-order thinking skills and digital citizenship within a global society. *Collaboration, digital literacy, critical thinking, innovation and problem-solving are some of the components that need to be incorporated into a student's learning.* It is thought that these skills will increase our students' chances of success in the world of the future, in so far as we can see that future.

As a school we should be providing our students with the tools and environment that will allow them to engage in this 21st Century Learning - the students of today are digital natives and, to some extent, inhabit a different world to us digital immigrants. Our students, your sons and daughters, have grown up immersed in a technology-rich and information-rich environment where they are connected at all times and in all places; they have never known a world without mobile phones, portable laptops, Bluetooth, GPS or handheld gaming devices. We must take great care **not** to ignore the effect of these tools and the perspective of these digital learners in our classrooms – conventional styles of learning no longer match the everyday experiences of our students.

ACS provides an Information Technology environment and a range of digital tools. However, from what I know of the past, the focus has always been on providing the servers, the infrastructure, the spam filters and firewalls - mainly because vendors were in charge, and that's what vendors do.

There has been little thought given to the needs of the students or teachers – there has been too much attention paid to the Technology part of the Information Technology and too little to the Information part. My job is to try to redress that balance.

Our students need to be **digitally** literate – they have to be equipped with an Information Literacy **and** a Technology Literacy.

As well as being a skilled user of technology tools they must become organised investigators of information, creative and critical thinkers who can analyse and synthesise and make sense of a confusing world. They need to be effective communicators and responsible information users who are able to assess the credibility and validity of a seemingly non-stop wave of information. The type of person likely to be successful in the future will be an enhanced learner –someone who has learnt how to learn.

Alvin Toffler – an American futurist wrote - *The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn*.

Our current year 1 students will most likely attend a higher educational institution sometime after 2018 and may not enter employment until 2022 and with technology advancing at such a rapid rate it is very difficult to predict what lies 10 years ahead – but **that is the challenge** – to design and prepare learning experiences that will shape our students to be successful in **this** future.

We need to try to get our students to understand that Digital literacy is as much about the thinking as it is about tools they use.

In the short time that I have been at ACS I have identified where change is needed to turn these ideas into a reality and I have started to make plans for this change – these plans cover all areas of IT in school, many of them are technically complex – and naturally costly –– but I will spare you those details.

I just want to outline **two** components of my plan that I believe will start to transform the way digital tools and new technologies can help students master the key concepts and skills embedded in the curriculum.

1. Firstly we have created a team consisting of teachers, one from each faculty, the librarian and myself. The teachers are all interested in employing new technologies in the classroom and the group will, to some extent, act as a steering group to direct the integration of new technologies throughout the school.

   The group will have a remit to carry out research and study best practice for use of IT in the classroom, design new ‘technology based’ learning activities, trial new devices, define the shape of IT-related Professional Development, influence the design of new classrooms and cascade training to the teachers in their faculties.

   The aim is shift the emphasis from purely technology driven developments to those driven by teaching and learning which will have a direct impact on the learning of the students in the classroom on a daily basis.

2. Secondly, the addition of a data centre in the new library building has given us the opportunity to expand and upgrade or core network infrastructure. Over the next 6 months we are planning to put in new fibre optic cabling and upgrade our core and edge switches and improve our wireless network provision. These changes will give us a faster, more reliable and robust network that will be able to deliver the bandwidth intensive applications, not just of now, but of 5-10 years’ time.

   Increasing our storage will allow us to give students space on the network to save their work and this will also be available from outside the network. This is just the first step on the path that will see our students able to access a range of network resources from home.

   We will continue to be committed to supporting the devices that your children bring in and this will require an expansion of our wireless facilities as more and more devices appear: laptops, tablets, ipads and smartphones – all of which have a role to play in enhancing the learning experience.

   In the longer term our aim is to use Virtual Desktops to give students a seamless experience of the school network allowing them access to a wide range of digital tools and information resources through a common interface whether they are in school or at home.

So far I have mentioned nothing about communications, something that is very important for the administration and smooth running of a large school. Since I arrived in May the major project that has kept busy has been improving our Management Information System, iSAMS. We have expanded its use, added new functionality and improved the quality of the data we store – although we still have a lot to do, progress has been made, most recently adding SMS to our communication methods.

Over the next couple of months we are going to be expanding its use even further with the regular addition of the daily bulletin, news items and a more regularly updated yearly calendar. We will be developing an intranet site with specific areas related to academic studies, house activities and sports events.

As a parent or guardian, all of this will be available to you through the **parent portal** along with information about timetables, emails, reports and attendance related to your son or daughter and we hope you will use it to keep up-to-date with school news and events. I know many of you access the parent portal already, but if you don’t or this is the first you have heard about it please get in touch with me so we can arrange access.

There is no doubt about the broad future of IT: it is going to be mobile, always on and always connected, it is going to be location aware and context sensitive and gesture controlled. The latest research suggests that both mobile and cloud computing are here to stay. New innovations such as Game Based Learning, Open Content initiatives where universities make their course content freely available and the formulation of personal learning environments are all in the pipeline – and at ACS we are in the process of building an infrastructure and developing the staff so we can exploit these technologies as they arrive.

PARENT PORTAL

Technology continues to profoundly affect the way we work, collaborate, communicate, and succeed.

People expect to be able to work, learn, and study whenever and wherever they want to.

- refer

to student-designed learning approaches that encompass different types of content — videos, apps, games, social media tools, and more — chosen by a student to match his or her personal learning style and pace

Provide the technology to support our students and staff as we move towards 21st Century Learning

Equip stuudent it he skills to not to survive - but to flourish – givers not takers – not just the skills with specific hardware and software – but the skills of learning technology quickly – picking up new devicse gadgets learning how to use these devices to business use? Transfer of skills – rapid change in technology means lhaving to learn stuff all therime

How to deal with emerging and future technologies

Teact the teachers – givettime to r and d

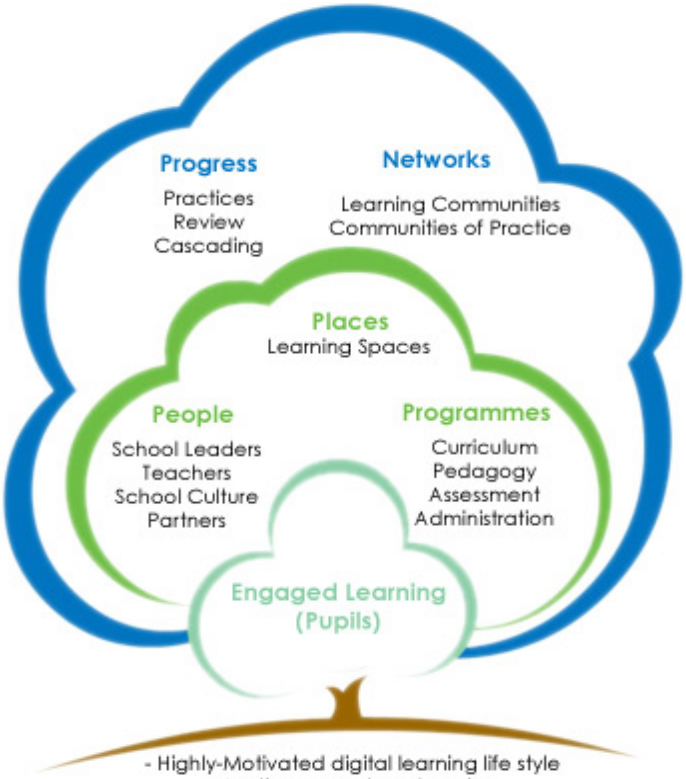
Improve literacy, research skills evaluation, synthesis – sift through the wide range of information sources available –

eACSi

isams – keep your children safer, you better informed and more uptodate – parent portal – student portal - intranet

dropbox – carbonite

FUTURE SCHOOLS @SINGAPORE



- Highly-Motivated digital learning life style
- Anytime, anywhere learning
- Enhanced knowledge construction and skills development
- Enhanced collaboration at local, national and government levels
- Enhanced participation by all education stakeholders