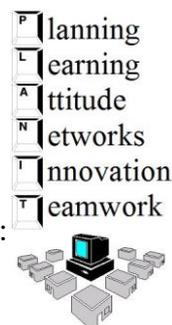


# Technology Vision



The vision of a Catholic School should be to integrate technology throughout the school to:

- reiterate and enhance Catholic faith and values
- enhance student learning and productivity;
- enhance instruction and increase teacher efficiency and effectiveness;
- refine and improve the productivity of the education system and
- improve communication and provide greater access to information.

## Beliefs

The following beliefs have been used to develop this Technology Plan:

- Technology is not value free. As a Catholic school, all moral and ethical choices must be based upon the gospel values of Jesus Christ and the teachings of the Church.
- All personnel must abide by all copyright and software license agreements.
- Student productivity and the ability to learn can be improved through the proper use of technology.
- Technology can improve students' ability and capacity to access, create and communicate information and ideas.
- All students should have equal opportunities to develop knowledge and skills through the use of technologies.
- To have teachers successfully use technology, the following is needed:
  - technical support
  - access to adequate hardware
  - access to appropriate software
  - long-term, sustained staff development and in-service
- Teachers should routinely integrate technology into their instruction. Successful implementation of technology in education will require planning and long term budgeting.
- Proper use of technology can improve the efficiency and effectiveness of the school.

In May of 1989, John Paul II gave an address on *The Church Must Learn To Cope With The Computer Culture*.

### **John Paul II...**

*Surely we must be grateful for the new technology that enables us to store information in vast man-made artificial memories, thus providing wide and instant access to the knowledge which is our human heritage. Young people especially are rapidly adapting to the computer culture and its "language". This is surely a cause for satisfaction. Let us "trust" the young. They have had the advantage of growing up with the new developments, and it will be their duty to employ these instruments for a wider and more intense dialogue among all the diverse races and classes who share this shrinking globe. It falls to them (and to everyone) to search out ways in which the new systems of data conversation and exchange can be used to assist in promoting greater universal justice, greater respect for human rights, a healthy development for all individuals and peoples, and the freedoms essential for a fully human life.*

*Whether we are young or old, let us rise to the challenge of new discoveries and technologies by bringing to them a moral vision rooted in faith, in our respect for the human person, and our commitment to transform the world in accordance with God's plan. ...Let us pray for wisdom in using the potential of the "computer age" to serve man's human and transcendent calling, and thus give glory to God from whom all good things come.*

**John Paul II, Vatican City**

# College Technology Plan



## “TECHNOLOGY MISSION STATEMENT”

*As partners in Catholic Education, we commit ourselves to utilising Information Communication Technologies (ICT) to expand learning opportunities. The school will provide an environment that supports connectivity to all available technology resources and promotes Catholic values.*

School computers and network facilities will be maintained and upgraded to create a technology Enhanced Learning Environment that ensures optimal student and staff access for the purpose of achieving and enhancing student outcomes, teacher professional development, school management and communication.

### **Objective : Technology-enhanced Learning Environment**

#### **The School Network (LAN) BCE WAN**

In our school’s networked environment students have the ability to access up to date information in a rapidly changing world. Additionally, the networked infrastructure benefits the classroom by involving students in the technologies they will encounter in the workplace and in higher education.

The continued use of the College Portal, Student Portal, Student email, LMS and Google domain will provide:

- a virtual publishing space for staff and students,
- a portal to selected Internet sites, reflecting the values and priorities of our Catholic School,
- a mechanism for communication between all members of the school community
- a means of archiving and accessing appropriate school based information.
- provide students 24/7 intranet access to the resources they require for their studies

#### **The internet**

Through the use of the internet, the world’s cumulative knowledge becomes available to every classroom and every student. The impact on the classroom is the depth and breadth of resources and information available on-line for teachers and students.

The purpose of the internet is to provide:

1. access to world-wide informational resources
2. communication with other cultures
3. communication with other schools, teachers and students
4. community access to the school web page and resources
5. provide teachers with access to teaching resources and collaboration tools on-line

The infrastructure outlined in the technology plan will provide the resources to access on-line services and information resources of the local school, as well as data from the internet via ‘cloud based’ information storage.

#### **Confidentiality and cyber-safety**

Students will be made aware that material that they post on Internet sites (including Facebook and other social media sites) is **public**. The content of public posts may have personal implications for Students if, for example, potential employers access that material. The content of posts also reflects

on our educational institution and community as a whole. Once information is on the internet it may not be possible to remove it. **These issues are included in the Life Skills sessions.**

### **Copyright**

Just because something is on the Internet it is not necessarily available for free-copying or downloading material from the Internet may be a breach of copyright or other intellectual property rights. Students and Staff must not use St Patrick's College technology resources to copy, download, store or transmit any such material that may include text, music files, movies, videos or any other form of media that contravenes any law or ethical use. **Modules on Ethical use of information and copyright are included in the subject matter in Life Skills sessions.**

### **Computers/Devices**

Consideration has been given to each of the workstations/laptops/devices so that they:

- Have a standard suite of software/Apps available
- Are not used as personal data storage.
- Have only licensed software installed.
- Are regularly checked to ensure proper operation.
- Are used in classes in a way to minimise occupational health and safety concerns.
- Have adequate records kept to record maintenance, faults and upgrades etc.
- Are of appropriate specifications for required tasks
- Portable devices are individually allocated to all student years 7 -12.

<b><i>Objective: Professional Development</i></b>
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### **Administrator/teacher/staff development is ongoing and systematic.**

- Administrators, teachers and staff members will be provided with technology training that encourages them to progress from functional users of technology to those with proficient levels of knowledge.
- Training workshops and in-services will be aimed at and developed directly from curriculum objectives and requirements.
- Staff members will be made aware and kept abreast of the various support staff and resources available to them.
- Training, in-services, and workshops will be supplemented with lesson modelling, examples of classroom activities, and classroom management techniques.
- Training will be accomplished by, day workshops, regional and cluster facilities and individual study and research that are shared with peers. Information sessions/notices for both students and staff will be delivered to keep them up to date with pending changes.

<b><i>Objective: Integration Of Technology And Learning</i></b>
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Through the integration of technology skills, curricula can be enriched and students develop the technology skills which will enable them to access, analyse, and communicate information effectively. The integration of ICT into the school's curriculum will be seamless and continuous throughout the continuum.

### **Integration of ICT in Teaching and Learning to expand learning opportunities, with an emphasis on the following:**

- the major social and ethical issues in the field of information technology
- Information discernment skills to enable effective use of the varied information sources
- effective reading, writing, and communication skills,

- better understanding of digital communication/digital citizenship

Using technology to improve student achievement is a complex task - we need to work together to accomplish it, planning, facilitating, teaching and learning with technology tools, where applicable.

- Teachers collaborate with other instructional staff to develop curriculum materials and specific lesson plans that integrate technology
- Show innovation with the integration of technology in all curriculum areas looking at results not just 'gimmick' or 'novelty' value
- Facilitate 'whole' school participation in technology programs and activities
- Staff development in the areas of technology resources and use including, IWB, LMS and file management skills will lead this development. College Portals, BCE MySite, Google Chrome and Web 2 tools will be at the forefront.
- Teachers will collaborate with the school library to provide leadership in the school's use of instructional technology resources to enhance learning, this will include: Clickview and subscribed information sources.

### **Objective : *Technology Leadership, Policy Development, and Accountability***

As technology continues to be implemented in our school the Principal and others in Leadership positions will provide leadership and support and initiate mechanisms to ensure that ICT is used effectively within the school. An ICT Team: Principal – ICT Co-ordinator – IT Tech – Business Manager – APA – Teacher Librarian, meet regularly and ensure goals and projects are following the right direction. School renewal has also been part of the ICT Team role. The APRE also needs to be kept informed so as to maintain the academic and ethical aspects of the emerging technologies.

### **Objective : *Effective Use of Technology and Funding Resources***

Our College will encourage the efficient use of resources in a manner that ensures that every student and teacher has access to the most appropriate technologies to improve student learning outcomes/competencies. The College undertakes to ensure that all ICT are used to their maximum potential and that adequate provision is made for:

- the replacement of depreciated or outdated technology,
- the purchase of new technologies and software for specific purpose not 'novelty'
- The professional development of teachers
- Maintenance of equipment infrastructure
- Ensure the budget cycle is maintained and regularly reviewed
- Device choice meets both Funding and function requirements
- Monitor Government policy in relation to ICT funding
- ***Sustainability*** of any project or direction will be paramount

# ICT and the National Curriculum

*www.acara.edu.au January 2013 (extract)*



## **Information and communication technology (ICT) capability**

### **Introduction**

In the Australian Curriculum, students develop ICT capability as they learn to use ICT effectively and appropriately to access, create and communicate information and ideas, solve problems and work collaboratively in all learning areas at school, and in their lives beyond school. The capability involves students in learning to make the most of the digital technologies available to them, adapting to new ways of doing things as technologies evolve and limiting the risks to themselves and others in a digital environment. The *Melbourne Declaration on the Educational Goals for Young Australians* (MCEETYA 2008) recognises that in a digital age, and with rapid and continuing changes in the ways that people share, use, develop and communicate with ICT, young people need to be highly skilled in its use. To participate in a knowledge-based economy and to be empowered within a technologically sophisticated society now and into the future, students need the knowledge, skills and confidence to make ICT work for them at school, at home, at work and in their communities.

Information and communication technologies are fast and automated, interactive and multimodal, and they support the rapid communication and representation of knowledge to many audiences and its adaptation in different contexts. They transform the ways that students think and learn and give them greater control over how, where and when they learn.

### **Scope of ICT capability**

The nature and scope of ICT capability is not fixed, but is responsive to ongoing technological developments. This is evident in the emergence of advanced internet technology over the past few years and the resulting changes in the ways that students construct knowledge and interact with others.

Students develop capability in using ICT for tasks associated with information access and management, information creation and presentation, problem solving, decision making, communication, creative expression, and empirical reasoning. This includes conducting research, creating multimedia information products, analysing data, designing solutions to problems, controlling processes and devices, and supporting computation while working independently and in collaboration with others.

Students develop knowledge, skills and dispositions around ICT and its use, and the ability to transfer these across environments and applications. They learn to use ICT with confidence, care and consideration, understanding its possibilities, limitations and impact on individuals, groups and communities.

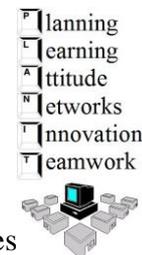
For a description of the organising elements for ICT capability, go to Organising elements.

### **ICT capability across the curriculum**

ICT capability supports and enhances student learning across all areas of the curriculum. Students develop and apply ICT knowledge, skills and appropriate social and ethical protocols and practices to investigate, create and communicate, as well as developing their ability to manage and operate ICT to meet their learning needs.

Learning areas provide the content and contexts within which students develop and apply the knowledge, skills, behaviours and dispositions that comprise ICT capability.

# Technical Infrastructure for St Patrick's College



The school environment should support the use of information and communication technologies classrooms, libraries and other teaching/learning spaces, admin and support staff offices, coordinators and school executive offices. Consideration is also be given to the provision of infrastructure for staffrooms, meeting rooms and auditoriums/halls.

When planning for any additional infrastructures consider the following.

- \* Building a network (cabling) with access points in each room and capacity for growth as equipment is added and network bandwidth needs increase over time.
- \* Continual monitoring and adjustment of wireless infrastructure.
- \* Where there is any possibility for refurbishment, renovation or new buildings, data networks, video networks, and voice networks should be considered and incorporated into the architectural design brief.
- \* Local Area Network servers are needed for the administration of the school network and storage of some data files. The servers need to be located in a secure and accessible place.
- \* Regular monitoring and reporting on appropriate use of resources and storage by both Students and Staff.
- \* To reduce recurrent costs, consideration should be given to the restricted use of networked printers, scanners and photocopiers. Increasingly, students will 'publish' on the network LMS or submit electronically rather than on paper.
- \* School networks and device choice should be decided taking into account the financial capacity of the school to continue to support the program.

Adequate security/firewalls, through the use of login procedures and secure network procedures should be used to protect data and operations critical to the operation of the school or that could result in breaches of confidentiality

## Future ICT development

Budget of approx. \$50,000 plus was previously allocated each year. A new funding model based on the roll out of a 'Chromebook' platform is being developed. Machines are replaced (ideally) every 3-4 years but the expansion of college network means many are recycled and reallocated to other areas. Replacement is usually done in the January of the nominated year. Servers and printers are part of the replacement cycle, as required.

All students 8 – 12 now have an individual device and in 2015 the Year 7 cohort will be issued with a device. The device currently considered the 'most efficient' is the Chromebook. At this point the intention is to continue a Chromebook roll out eventually reaching the point, in 2018, when all students will be using individual Chromebook devices.

During the transition attention will still be given to other computer infrastructure such as CAD and FTV labs with constant improvement to the Wireless solution to continue adequate connectivity for all wireless devices. The future of computer labs will change as we move forward but applications such as CAD and FTV may challenge any laptop or wireless solution.

## Technical Discussion

We currently have 3 multipurpose computer 'labs' that cater for, CAD, Multimedia, Film TV, IPT. These subjects put some 'demands' on system specifications and are monitored for 'efficiency'. With the increase in individual laptops the 'Lab' in ER26 has been 'decommissioned'.

Our wireless infrastructure is supporting increased numbers of users and at any given time during the day (Term 1 2014) in excess of 300 devices are connected. Current infrastructure (cabling) supports network connection in 95% + of classrooms. Wireless infrastructure covers 100% of the campus.

The introduction of the 1:1 laptops means a close eye has been kept on the growth of our wireless needs. The Aruba wireless network infrastructure has been in place since 2012. This gives the college wireless 'saturation' with wireless N technology. The system has scope for future expansion at sustainable costs. The BCE Cisco wireless has also been implemented at a base level and if suitable and sustainable may be expanded.

Network storage is closely monitored by ICT Staff for appropriateness and copyright issues. Current back up strategies meet needs. The particular area of digital video as assessment is the key area of concern in regard to increased storage space usage and needs. FTV and CAD classes sometimes push storage needs. The education of both Staff and Students of the importance of efficient housekeeping and archiving is a process now in place as part of PD of staff. A policy of use of a single compressed video standard is desirable. The move to 'cloud based' storage will reduce our hardware storage dependency, providing both economic savings and efficiency of use.

### **Technical Points**

- Environmental, ergonomic and safety issues are considered with increased IT usage.
- Continued limited 'lab' use will continue and review annually.
- Ensure computer configuration Hardware/Software meet the needs of specific subjects.
- Maintain current upgrade cycle, 3-5 years. Review upgrades based on technology advances (ie; do not upgrade just because of cycle) base upgrade on technical need and reliability.
- Continue to incorporate and improve an efficient redeployment and recycle process of 'obsolete' equipment.
- Monitor maintenance procedures for Laptop appliances. Charging, security, storage, etc.
- Continue to investigate and explore usage of interactive technologies, whiteboards, classroom management software, LMS etc.
- Continue storage housekeeping to maintain responsible and functional data. Move most Curriculum and Administration data to BCE Portal by 2015.
- Staff and Student files will move to the BCE Portal by 2015 reducing local server requirements
- Monitor and evaluate specific arrangements for 1:1 Device support.
- Maintain strong professional relationship with service providers to enhance ICT expansion, integration and efficiency.
- Maintain a strong link and involvement with BCE in IT planning

# Key Factors



## Infrastructure:

The current wired and wireless networks allow scope for expansion. The School has a full-time IT Tech to administer the network. The wireless network is a managed Wireless N solution. Main core switch is Cisco to accommodate the BCE wireless requirements within the college.

## Budget:

An IT budget of 40 to \$50,000 was previously set aside each year for the replacement of equipment on a cyclic basis. Any additional repair/replacement costs during the year was usually met on a needs basis. The current 'device' changes will change budgeting and possibly fee structures. The key goal of the budget is sustainability of an efficient functioning network.

## Professional Development:

The Principal and others in Leadership positions will provide leadership and support and initiate mechanisms to ensure that ICT is used effectively within the school. The ICT Team: Principal – ICT Co-ordinator – IT Tech – Business Manager – APA – Teacher Librarian, will meet regularly and ensure goals and projects are following the right direction.

## Integration of Technology:

The integration of technology should serve to guide, expand and enhance learning objectives. Emphasis will be given to legal and ethical use of digital technologies. This is necessary in order to move to effectively integrating technology. Curriculum integration with the use of technology involves the infusion of technology as a *tool* to enhance the learning in a content area or multidisciplinary setting.

Effective integration of technology is achieved when students are able to select tools to help them obtain information in a timely manner, whether digital or not, analyse and synthesise the information, and present it professionally. This technology should become an integral part of how the classroom functions. The 1:1 program will encourage this and will need to be constantly reviewed for suitability of both software and hardware.



***The goal is to make the computer a teaching partner rather than an object of study.***

*"The instructional goals of computer-using teachers are in art, science, math, language arts, social studies, or other disciplines, not in computers." Geisert & Futrell, 1995*

It's important that teachers have a clear understanding of what technology can and can't do in the classroom.



**On the other side of the coin computers cannot replace teachers.**

*"Contrary to the wisdom of the most fanatical technologists, computers do not think, initiate, or react the way teachers do. Although some people believe that information equals education, teachers know that understanding is not automatic with the acquisition or memorisation of facts. Knowing how to apply information, how to use ideas in new ways, how to evaluate information, and how to extrapolate or go beyond basic information are important aspects of learning." Valmont and Wepner, 2000*

## Outcomes – Immediate - Constant

### Students will:

- gather and use information from a variety of sources
- develop age/class appropriate levels of computer skills.
- Develop skills of discernment in processing information
- Follow moral and ethical principles
- Engage in the use of the Portal, internet and LMS for resources and tasks

### Success Indicators: The extent to which students

- locate, appraise and apply information appropriately
- can apply age appropriate skills for computer use.
- Produce ‘**unique**’ work with a reduction in plagiarism correctly referenced
- Present content rich and diverse presentations/assignments
- Use electronic lodgement and the Portal for organisation and study
- A clearer understanding of the moral and ethical issues faced with technological change

### Staff will:

- develop an increasing awareness of the potential of information technology
- develop comprehensive computer skills
- develop skills and knowledge to enable effective integration into learning programs.
- Collaborate with teaching professionals to create lesson plans that are ‘enriched’ by technology
- Incorporate devices into classrooms in a practical and efficient manner
- Use more electronic methods for task and information distribution.
- Promote moral and ethical use of technology and resources

### Success Indicators: The extent to which staff;

- participate and contribute in PD activities and information sessions
- use the devices in classrooms to assist in personal productivity
- plan and integrate information technology in the learning program in a meaningful, efficient and productive way
- Encourage and develop creative engagement for students
- Share all resources developed individually to improve efficiency and reduce duplication and inconsistency of lesson delivery
- Increase use of digital access of resources and tasks to students

## Goals - Ongoing

- Emphasise the ethical and lawful use of available content
- Continue development of new and creative lesson design in all curriculum areas
- Develop Staff proficiency in Technology use by students and staff, and integration into curriculum
- Have in place some co-curricular tasks that improve the Learning and assessment process in an efficient manner, reducing duplication of tasks for assessments.
- Promote a culture of integration of technology – ‘technology is part of the resource not the lesson itself’
- Avoid the use of technology 'just for the sake of it', look for real benefits and outcomes not novelty.
- Avoid broad remarks like ‘good with computers’ – computers are a tool, how does a student ‘use’ that tool. A familiarity or playing games does not indicate the student is proficient with computers as a tool.

## Responsibilities

The monitoring of these targets, outcomes and goals will be the responsibility of all staff as the document is ‘owned’ by all staff.

HODs will take responsibility for the structure of stored resources and the usage of the new technologies. (LMS, IWBs, Video evidence, etc)

The ICT Committee will be responsible for the formal evaluation of the successes and review of these strategies.

The IT Network Administrator will maintain all Inventory and Technical documents and investigate new technologies for suitability, in consultation with the ICT committee.

This Planning Document and associated documents will be reviewed, usually in line with End Of Year (EOY) purchase preparations, or as required.

The ICT committee evaluations and changing curriculum needs will drive reviews. The National Curriculum will force some of the changes.