College Technology Plan
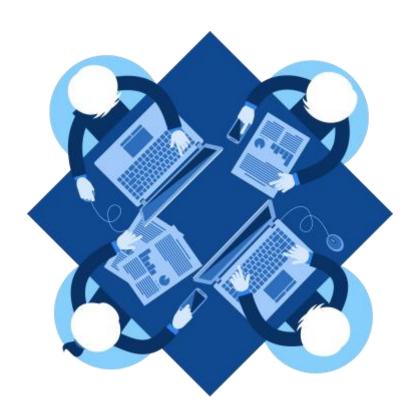
Technology Vision

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
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 Student Portal and Student email 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 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 Portal
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, from any workstation in the school, on-line services and information resources of the local school, as well as data from the internet via 'cloud based' information storage. This also includes the College issued Computer device.

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 to be included in the Life Skills sessions and general classroom instruction.

Copyright
Just because something is on the Internet it is not necessarily available free - copying or downloading material from the Internet may be a breach of copyright or other intellectual property rights. Students 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**.** Modules on Ethical use of information and copyright will be included in the subject matter in classroom sessions.

Computers
Consideration has been given to each of the workstations/laptops so that they:
- Have a standard suite of software available
- Are not used as data storage machines to minimise maintenance costs.
- Have only licensed software installed.
- Are regularly checked to ensure proper operation.
- Have adequate records kept to record maintenance, faults and upgrades etc.
- Are of appropriate specifications for required tasks
- Portable devices are allocated to all students.

Objective: Professional Development

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.

Objective: Integration Of Technology And Learning

Through the integration of technology, skills and curricula are 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, BCE Portals, Office applications such as Teams and file management skills will lead this development.
- 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: Deputy Principal – Learning and Pedagogy – IT Tech – Business Manager – Teacher Librarian – Teacher representative, meet regularly and ensure goals and projects are following the right direction.

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 have access to the most appropriate technologies to improve student learning outcomes and competencies. The College undertakes to ensure that all ICT resources 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
- Monitor any BCE or Government policy in relation to ICT funding
- *Sustainability* of any project or direction will be paramount

Technical Infrastructure for St Patrick's College

The school environment should support the use of information and communication technologies in classrooms, libraries and other teaching/learning spaces, admin and support staff offices, coordinators and school leadership. There is also provision of infrastructure for staffrooms, meeting rooms and auditoriums/halls. Some of this infrastructure is driven directly by BCE.

When planning for any additional infrastructures consider the following.
* Building a network (cabling/WAPs) 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, there should be restricted/monitored use of networked printers and photocopiers. Increasingly, students will 'publish' on the BCE Portal or submit electronically using applications such as Teams rather than on paper.
* School networks should not be created that are beyond the financial capacity of the school to continue to support.

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. $150,000 plus is allocated each year. A model based on the continuing roll out of a Chromebook platform to Years 7 to 9 and a Windows device for 10 to 12, has been created. Fee structures have been modified to ensure a sustainable growth. Machines are replaced (ideally) every 3 years but the expansion of college network means some are recycled and reallocated to other areas. Replacement is usually done in the January of the nominated year. Servers and printers are also part of a replacement cycle

All students years 7 – 12 have individual Computer allocated working on a 3 year cycle of replacement. The device allocated in year 7 will be replaced in year 10 with a Windows device, the returned devices will be evaluated to ascertain if they will be kept as spares or disposed. The same will be done at the end of year 12. The extra devices will be kept as replacements for lost or broken devices and to keep a small supply for loan from the Library.

Attention will also be given to other computer infrastructure such as CAD and FTV labs. The future of computer labs will change as we move forward but high-end applications such as CAD and FTV will always challenge any laptop or wireless solution.

The running of the wireless network is the responsibility of BCE. An Enterprise CISCO wireless network with a wireless access point (WAP) now in every learning space is installed at the College. The financial cost of upgrades is the responsibility of the College.

Technical Discussion

We currently have 2 multipurpose computer 'labs' that cater for, CAD and Film TV. These subjects can put 'demands' on system specifications and are monitored for 'efficiency'.

Our wireless infrastructure supports increased numbers. Current infrastructure (cabling) supports network connection in 95% + of classrooms. Wireless infrastructure does service 100% of the campus. The importance of wired infrastructure has greatly diminished.

The use of the 1:1 Student computers means a close eye has been kept on the growth of our wireless needs. The BCE Cisco wireless has been implemented at a saturation level.

Most of the College data storage is now on the BCE portal with only minimal confidential administrative data stored locally. Students use the portal 'cloud storage' (OneDrive). Staff are also expected to use these cloud spaces and continued education in relation to correct storage of curriculum resources and 'Intellectual copyright' will be an ongoing process.

Network storage is monitored by ICT Staff for appropriateness and copyright issues. This maintains sustainable levels of storage on servers. A process of upgrade of server hardware is constant and a planned approach. Current back up strategies meet needs but other avenues are also considered. The particular area of digital video as assessment may be an area of concern in regard to increased storage space usage and needs. At this point we have 'unlimited' space on the Portal for the storage of this material.

The phone system relies on both server and wired infrastructure. The 3CX phone system has proven to be a success financially and operationally. There is a dedicated virtual server and the phone consoles are POE via the current switching infrastructure.

Technical Points

- Environmental, ergonomic and safety issues are considered with increased IT usage.
- Continue current 'lab' setup and reviewed regularly, needs may change.
- Ensure computer configuration Hardware/Software meet the needs of IT specific subjects. Areas such as CAD, FTV.
- Maintain current upgrade cycle, 4-5 years on servers and labs. Review upgrades based on technology advances (ie; do not upgrade just because of cycle) base upgrade on technical need and reliability.
- 3-year replacement cycle on student Computers
- Continue to incorporate and improve an efficient redeployment and recycle process of 'obsolete' equipment.
- Monitor maintenance procedures for Laptop appliances. Charging, security, etc.
- Continue to investigate and expanded usage of interactive technologies, whiteboards, classroom management software, etc.
- Continue storage housekeeping to maintain responsible and functional data. Support this strategy with necessary network support tools.
- Monitor and evaluate specific arrangements for 1:1 LT 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 with cabling into most classrooms and a managed wireless solution. The School has a full-time IT Tech to administer the network. The wireless is a BCE managed CISCO wireless. The main core switch and most key switching hardware is Cisco to accommodate the BCE wireless within the college. This switching configuration also supports our 3CX phone network.

Budget:

An IT budget is set aside each year for the replacement of equipment on a cyclic basis. Any additional repair/replacement costs during the year are usually met on a needs basis. Advice that the Lincs program may no longer provide financial assistance for infrastructure means these costs need to be built into further budgets. Fee structures are modified regularly to include additional ICT costs and changes in Government funding. The key goal of the funding is sustainability of an efficient functioning network.

Professional Development:

Currently some short sessions are run in house for technical issues and staff are encouraged to investigate available PD and suitable training materials to improve their skills.

Integration of Technology:

The integration of technology should serve to guide, expand and enhance learning objectives. It is understood that teachers and students do need to spend time learning the basics of using a computer. Emphasis will also 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. The technology should become an integral part of how the classroom functions, as accessible as all other classroom tools.

The 1:1 program enhances this and will need to be reviewed for suitability of both software and hardware at regular intervals. Teachers and in particular Middle Leaders will investigate if further Apps and collaborative sites that will help with integration.

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 – 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 internet and 'collaborative spaces' for resources and tasks

Success Indicators: The extent to which students
- Locate, discern and apply information appropriately
- Can apply age appropriate skills for computer use.
- Produce 'unique' work with a reduction in plagiarism and correctly referenced
- Present content rich and diverse presentations/assignments
- Use electronic lodgement and 'collaborative spaces' for organisation and study

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 laptops into classrooms in a practical and efficient manner
- Use more electronic methods for task and information distribution, (collaborative spaces such as Teams).

Success Indicators: The extent to which staff
- Participate and contribute in PD activities and information sessions
- Use the computers 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
- Increase use of 'collaborative spaces' for delivery 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 proficiency in 'collaborative spaces' use by students and staff.
- 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

Middle Leaders will take responsibility for the structure of stored resources on the college network and the usage of the new technologies.

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 are reviewed annually by the ICT members, 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 move to a National Curriculum has assisted in 'forcing' some of the changes.