Aggus & Franklin
Technology Consulting

Consultant Casebook - Glenlyon-Norfolk School

By Peter Aggus

Recently, the Board of Governors at Victoria's Glenlyon-Norfolk School decided that the time had come to review the application of technology. TMC was invited to perform that review and, subsequently, to implement the first phase of the recommendations. In this article, we look at the way the review was carried out and what it showed of how the application of technology is set to fundamentally change the face of education.

Background

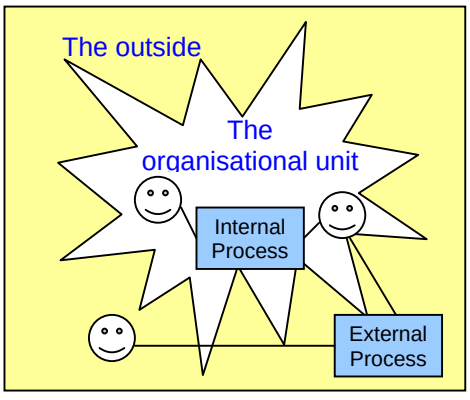
Glenlyon-Norfolk School's Board of Governors had already carried out a broad spectrum review of the school's administration before ***TMC*** was brought in. That earlier review had clearly established that there were significant opportunities for more efficient administration by, for example, combining databases and linking systems to avoid re-keying vast amounts of data. It had also posed the observation that there were many opportunities to incorporate technology into the academic business of the school. It finally pointed out the serious problems caused by an antiquated telephone system.

The project proposed by ***TMC*** included a full needs-analysis of everything from the user viewpoint right through to the installation of the technology. This was a fully structured approach to every aspect of the technology needs of the school.

The Structured Approach

With a conventional segmented approach to building projects, there is often no overall design. Departments frequently compete for doing tasks and "internal politics" often rule more than business sense. A structured approach starts at a much more fundamental level than the technology by establishing what is actually ***achieved*** rather than the easier way of establishing what is done.

The aim is to build a ***process model*** which defines every aspect of work done within the unit being studied. Processes which are influenced by events ***outside*** the unit are defined as ***external*** processes, while the rest are defined as ***internal*** processes.



In the next stage of the design, these two types of process spawn two completely different design techniques. The ***external*** processes define an interface with the ***client***; in the school's case, that means parents, suppliers etc. The ***internal*** processes define what is achieved within the school; creating the design for the technology support systems used and defining how they interface with the staff and pupils.

External Processes

For these processes, ***TMC*** looked at the ***clients***:

- The parents (who pay the fees)
- The suppliers (who provide the goods required by the school)
- The ministry (who regulate the education process)

Within each category are many subdivisions, each of which needed to be handled differently in some way. For example – parents might be:

- prospects, seeking marketing style information about the school, its fees, its requirements etc
- parents of pupils, seeking to discuss some issue with their child's teacher
- seeking information about some project or field trip
- wishing to report a sick absence

Internal Processes

There are many internal processes, from basic communications to inventory ordering and tracking attendance registers.

Several of these internal processes relate to an external process – such as the attendance register providing the input to the ministry attendance reporting system, or the inventory control and ordering processes relating to the purchase ordering and delivery control processes.

There are also database systems needed to manage student records throughout the school life of each child. These databases relate to financial and academic records, and follow the child from class to class over the years.

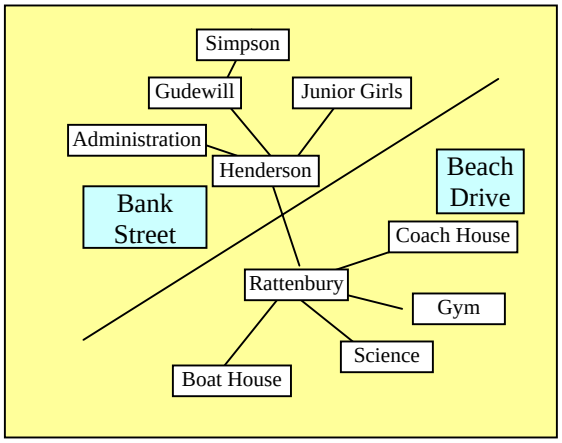
Eventually, the internal database records become historic as the student graduates, only to become parent prospects

through the alumni process.

Voice Telecommunications

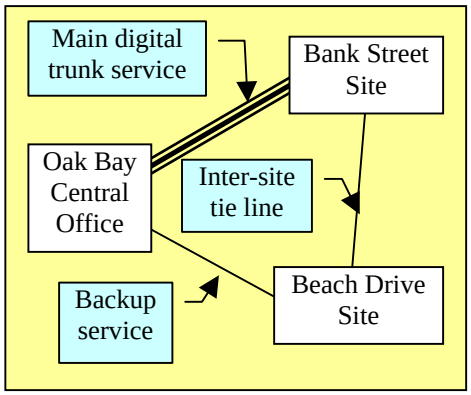
A key aspect in the external process list was the need to streamline the interface between the parents and the school. This presently means, in the main, telephone calls – although the longer term vision considered the use of fax and e-mail.

The provision of a modern phone system is not a difficult issue, indeed any of the system vendors will gladly install a state-of-the-art system at a competitive price. The more fundamental issue, however, is ***what such a system is required to do***.



A whole series of conflicting requirements exist. Parents want to be able to talk directly to teachers – teachers, in turn, do not want to be disturbed when they are teaching – school administration takes messages – teachers call back – parent is not available – message tag. This does not even address whether the teacher was really the best person to deal with the call in the first place.

TMC designed, competitively tendered, and implemented a fully featured telephone system to serve the needs of both campuses. The external image presented was of a single coherent school, rather than the physical reality of four separate campuses spread over two sites. Telephones were provided where there was a need for communications – including several classrooms. However, inbound communication paths were designed so calls were not routed to classrooms when a class was in session, although these phones were available for normal use when the teacher was doing administration work. The classroom phones doubled as an emergency PA system when needed.



Voicemail and auto-attendant systems were integrated into the call handling system so as to allow inbound messaging and outbound dissemination of information – like "pickup details" for away trips. The needs of the ***external client***, such as the parents, were met – not simply the needs of the school.

Ultimate plans envision the provision of voicemail and e-mail for every student – thus eliminating time-wasting message taking when a parent needs to pass information to a child. This process will integrate with the data network, such that teachers will be aware when messages are left for kids in their class – then they will be able to call the kid's attention to the waiting message when the class is dismissed.

Data Systems

In the initial phase of the project, a new computer network was installed to serve the needs of the administration office.

Cabling was installed to permit the construction, over time, of a school-wide Local Area Network. Every classroom and office was provided with a LAN outlet from one of a series of fibre-linked wiring closets. The data and telephone networks shared a common structure for maximum flexibility.

Security was included in the design to ensure that only authorised terminals operated by authorised users can participate in the administrative domain activities.

Off-site Wide Area Network links are planned to the Internet. These will be linked via a ***firewall proxy server*** to carefully monitor and control external communications in both directions. The design calls for the ability to limit access to web sites, based on teacher-defined parameters – with the aim of teaching students the valuable skills of research whilst not exposing them to the darker side of internet-based information.

Data Systems in the Classroom

The project vision allows for the introduction, at some future appropriate time, of desktop workstations on a per-student basis. Possibly each student will have a personal laptop workbook computer, or perhaps each desk will have an integrated terminal.

The phase 1 design is not concerned with ***how*** such evolution might occur – it is sufficient that the vision and the installed LAN ***allows*** for it.

Conclusion

TMC created a descriptive phrase which was applied to the vision created and implemented by this project:

"Teaching ***with*** technology – not just teaching technology"

This sums up the aims and achievements of the work done. A radically updated technology platform has been designed to become as much of a core component in the infrastructure as the electrical supply network or the library.

As the vision progresses over the next several years, students will employ modern technology – not as a subject in its own right, but as a ***tool*** to do work. At that time, the technology will have come of age and will be as much a part of the education process as pencils, paper and books are today.

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