

Project Based Multimedia Learning using a Student-Centred Intranet – *Stuart Hasic*

Introduction:

Technology has truly found a home in our nation's schools. Computers can be found in classrooms, in libraries in computer labs and in other common areas around each campus. They are connected to the Internet, they are connected to each other. They are connected to powerful file servers offering the best of educational software and reference material. *But what has the introduction of all this technology really meant for our students?*

Has it improved educational outcomes? Is learning really easier? After all this time, has the technology been integrated into the curriculum? In the vast majority of schools, the answer to all of these questions is a resounding "No".

But how can this be? Schools and governments spend vast amounts of money on computers and computer-related technologies. Everyone is aware of the power of the computer, the value of being able to communicate with others via the internet - the vast stores of information on the web and in multiple CD-based encyclopaedia. Surely these wonderful and amazing resources must all be improving teaching and learning in schools? *Surely?*

Passive Learning Vs Active Learning:

Computers and computer software are developed by *computer* experts. They have been developed to make manual tasks easier and

quicker. They are the perfect automation tool. They took the typewriter and developed it into the word-processor. Now documents can now be saved, recalled and edited. They took the card-file system and developed it into the database management system. Information can be now stored, searched, linked and updated. Automation is good. *But how on earth do you automate learning?*

What the technology and so-called educational software developers have done is propagated the automation model and produced huge databases of information, electronic books and even on-line videos of real teachers presenting lessons with interactive "games" on the computer to keep a student's attention. The basis of most Learning Management Systems involves "drill & kill" exercises and the undertaking of on-line tests by all students. Tests are typically multiple choice and results are automatically recorded as soon as the test is submitted electronically. Some of these systems even allow for real-time access of student performance in these tests by their parents across the Internet. Homework is assigned automatically from a scheduled database of tasks and tracking and monitoring is systematic. We've already seen the teacher's role change from the lecturing and all-knowing "*Sage on the Stage*" to the facilitating "*Guide on the Side*". If educational technology enhancements continue down the development path of automation, the teacher's role will change again to be the absent "*Bore Out the Door!*".

But how is this learning automation affecting our students? We've seen the development of the software category phenomenon known as "*Edutainment*" – yes, a combination of "*Educational*" software with built-in "*Entertainment*", to keep the children interested while they learn. The problem is, Edutainment titles typically have a balance of educational content to entertainment content which is directly proportional to the number of letters from each word in the conjoined title – *EDU* vs *TAINMENT*.

One small but carefully controlled study of the effects of the Reader Rabbit program was particularly damning, reporting that it caused students to suffer a 50% drop in creativity. After forty-nine elementary school students used this program for a period of nine months, they were no longer able to answer open-ended questions and showed a markedly diminished ability to brainstorm with fluency and originality.

With the Internet, CD-based encyclopaedia and resources, students have enormous amounts of information at their fingertips. Their access to information is literally light-years ahead of the single library of books their teachers had access to when they went to school.

You'd think that having more and relevant information on hand would help with the learning process, but all it really does is reinforce to the student that their role is to be *consumers* of information. This is also known as *passive learning*. The problem with this is that passive learning develops passive students - *and passive teachers*.

Certainly students need to be consumers, but for technology to really assist the learning process, students need to be authors of information as well. And that's where the technology fits in exceptionally well. If only the educational software developers could see it. When students become the authors of information, they demonstrate the facets of *active learning*. Instead of automating, they are *informating*. They are constructing the flow of converting information to knowledge to wisdom.

It is high-time we moved away from the computer being the "reward" for the student that finished their maths stencil early. We need to move away from the PC's main role being the babysitter. We need to move away from "*click on the rock and watch the rabbit wiggle his ears!*" We need to move toward using the PC as a tool to produce work. We need to move toward having students mimic what businesses do with PCs – they should be the producers of resources and information, not just the consumers.

What is Project-Based Multimedia Learning?

Project-Based Multimedia Learning is an extension of the tried and proven teaching practice of *Project-based Learning*. Teachers have been using project-based learning for decades to provide students with extended-time learning activities that often cover real-world situations. Students might be requested to create a display book that shows their understanding of the subject matter in a variety of reports, or prepare a performance collaboratively. Research is undertaken in a variety of ways and links are established across key-learning areas. Tasks are typically rich in content and learning value and the teacher promotes independent thinking and facilitates the learning by providing general direction to students. In all, the students are more responsible for their own learning and student responses and performance are usually of a higher quality, depending on the project. With Project-Based Learning, students acquire new knowledge and skills in the course of designing, planning and producing a product or performance.

Project-Based Multimedia Learning extends this exact same concept by making the end-product a multimedia or computer-based presentation. Students might make a website or a PowerPoint

presentation which includes relevant sounds, narration and images. A group of students might write a script, screenplay, act, shoot and edit a video which relates to the project requirements. They might create an E-book that covers subject matter studied in class, to present to a younger class at the school.

When you produce a multimedia product, it engages students who normally tune out and the work they do tends to be more complex. Furthermore, sharing their final product with their peers, parents and others instils pride. And the most important aspect is that presentations will include evidence that students have mastered key concepts and processes that teachers need to teach:

- Core curriculum
- Real-world connection
- Extended time-frame
- Student decision-making
- Collaboration
- Assessment
- Technology

What teachers promote and develop when they apply Project-based Multimedia Learning:

- Planning and organisational skills
- Research and technical skills
- Synthesis & analysis of complex content & data
- How to present information in compelling ways
- An understanding of how academic subject matter applies to the real world

Because the students will be motivated, teachers have the freedom to support individual students that require additional support. One of the more advantageous by-products of Project-based Multimedia Learning is *Peer Tutoring*. Teachers cannot be the class experts in all computer applications, but your students will readily put up their hands to help out. You'll develop a team of photo-experts, sound-experts, website-experts, PowerPoint-experts, camera-experts, scanner-experts and video-editing-experts. They'll dutifully assist other students with their continually developing skills and ultimately, they'll help the teacher manage the whole gamut of multimedia projects. The absolute amazement of their parents is another great by-product.

Making Real-World Connections:

A multimedia project with a real-world connection can hardly go wrong, but multimedia only makes sense when it's part of a context. We don't just combine random media elements, we make multimedia to communicate something and Real-World connections make students see a reason for doing a project. The technology just makes it easier than ever before – for example:

- Involve some expression of students' lives and identities
- Connect through authentic interactions with people and institutions within and outside school
- Connect through a task that helps them imagine or achieve a future goal

Some Examples of Real-World Projects:

- Student Interests: *How is maths involved in their favourite hobby or sport? eg. Maths in Cricket*
- Adult Work & Life Skills: *Research a car to buy – features, comparisons, pricing, financing, insurance*
- Relating to clients: *Develop multimedia resources for younger students*
- Significant issues: *Racism, poverty, terrorism, drug abuse, immigration*
- Improving the Real World: *Make a presentation for the local council about combating graffiti, litter, violence etc.*
- Student Experiences: *Develop resources for the school library to highlight different cultures from their own backgrounds*
- Building a Portfolio: *As students create their body of work, they realise how they can use it*

Through *Project-Based Multimedia Learning*, we are producing a generation of authors using the tools of today. The next step is providing students with a scaffold on which to hang their work, as well as the all-important audience.

Authors and Intranets:

An intrANet is an internal computer network that uses the same tools and protocols as the IntERnet. Many schools have already established an intranet to make available useful information via webpages that are stored on a local server. The content of typical school intranets include: *school policies, newsletters, staff lists, calendars and timetables, library info, sports details, links to useful internet sites, Principal's page, faculty info and class pages with some*

examples of good student work. There are many great sites on the internet with good instructions for setting up (*hardware-wise*) a school intranet.

Usually only one or two teachers manage the whole intranet site. Documents are submitted by other staff to the "Webmaster" so they can be placed on the school's intranet. The teachers are locked into the automation paradigm we've already discussed.

Let's think differently about school intranets. *Why restrict the school's intranet to just one or two webmasters? How can we use the intranet more with our students? How do you integrate the intranet into the curriculum? How can we informate with our intranet?* The answers to these questions lie within a *Student-Centred Intranet*.

This is an intranet that's based on student content, where all students publish their own work. The students are encouraged to add to and update their webpages which relate to their work in class. Students are given the responsibility for what gets published and the intranet becomes an additional new medium for student output.

When students discover the webpage medium, they will also discover the enormous advantages this medium offers including the extended life of their work. Instead of a five-page project that is seen only by their teacher and maybe their parents, which then gets left in some drawer somewhere, their work suddenly gains extended life - *and an audience*. The knowledge that multiple people can view their work will build the desire in the student to produce higher quality content and presentation, and a project need never be complete. It can always be added to and updated as new information is found.

Other advantages include increased information skills, development of website design skills, a sense of ownership and trust, sharing of ideas and skills among students and importantly, the integration of various technologies. Websites allow students to link all of their other technology applications they use such as digital photos and scanning, word processing, PowerPoint, HyperStudio, video, sound, animation and internet links all into the one easy to navigate medium. It's not inconceivable that kinder or first grade students could author webpages.

Student-Centred Intranets:

I know what you're thinking. *"We're just teachers. How can we teach website design when we can't do it ourselves?"*. Sure. But how hard is it really? Tools like FrontPage, Dreamweaver and even

Mozilla's Composer (*free*) make website design as easy as word processing.

"How do you monitor what gets published?". All schools should have publishing guidelines that are linked to the school's discipline policy. The guidelines should stipulate what's acceptable and what isn't, and the discipline policy should outline the repercussions for publishing unacceptable material. Put the responsibility back onto the students.

"What's the structure of this student-centred intranet look like? - it sounds huge!". It sounds huge, because it is huge! Imagine EVERY student in your school having a webpage. *Who's going to set that up?* Obviously setting up the structure is a manual task that in large schools is going to take a very long time. This is a task that could do with being automated. Fortunately, it has been automated - *"Stu's EduWeb"* is all you need.

What is Stu's EduWeb?

Every school recognises that a school intranet would be a valuable resource to have. Many schools already have vast networks and large numbers of computers but how effectively are they really being used?

Schools that tried have found the reality is that intranets are not simple to setup. For a start, creating and maintaining all the web pages needed is a very time consuming task - and many schools get bogged down developing pages that concentrate on the administrative aspects of school such as timetables and getting policies on-line.

While these are clearly important aspects, they do nothing to assist students' learning. It's a simple case of automating for the sake of automating. Instead of automating, we should be informing in schools.

To do this, intranet development in schools should be driven and owned by the students and that's where ***Stu's EduWeb*** comes in. It does the automating so the students can get on with the informing.

What Does Stu's EduWeb Do?

In a nutshell, EduWeb takes all the legwork out of developing a *student-centred* intranet. In a typical school intranet, students submit work to a teacher in various forms - *paper, MS Word, Publisher and so on* - the teacher then massages the work to make it fit into the school's website or intranet and uploads several updated pages to the webserver.

It's a huge task for someone who probably already has a full teaching load. In the end, many intranets and school websites pass their use-by dates, too time consuming and difficult to keep alive.

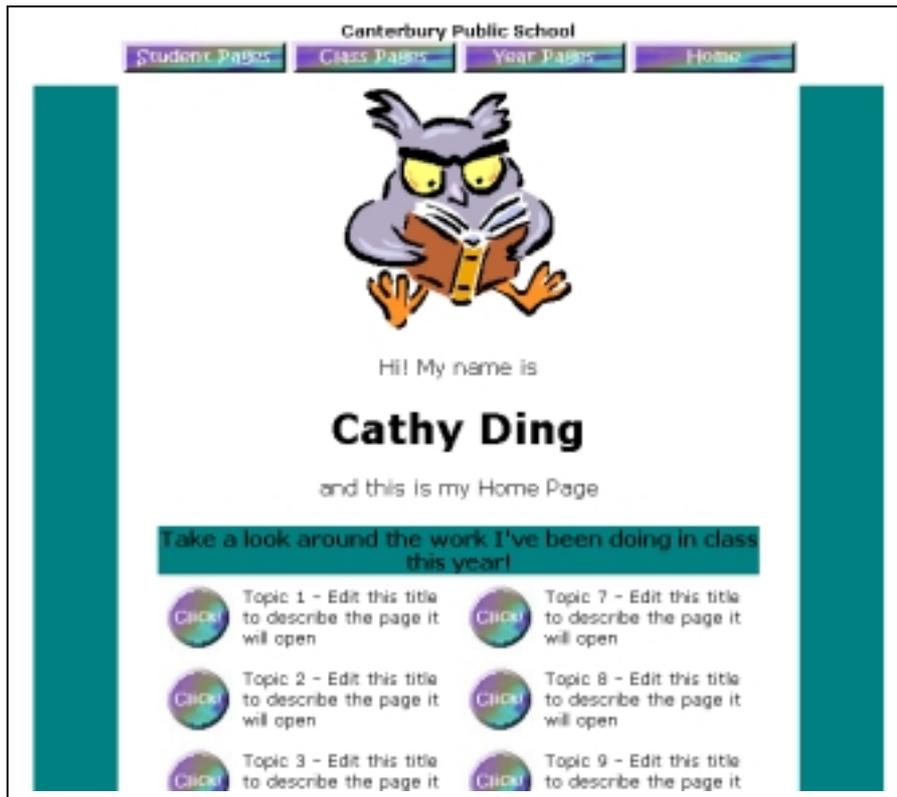
EduWeb turns the typical school intranet process on its head. EduWeb hands the school's intranet to its rightful owners - *the students*.



(a typical class webpage created by EduWeb)

Yeah, right.

Ok, you can't just let the students do their own thing with your school intranet or you're liable to end up with hundreds of web pages about *rap music* or *Dragonball Z!* You do need to monitor their pages to ensure they adhere to the school's website publishing guidelines.



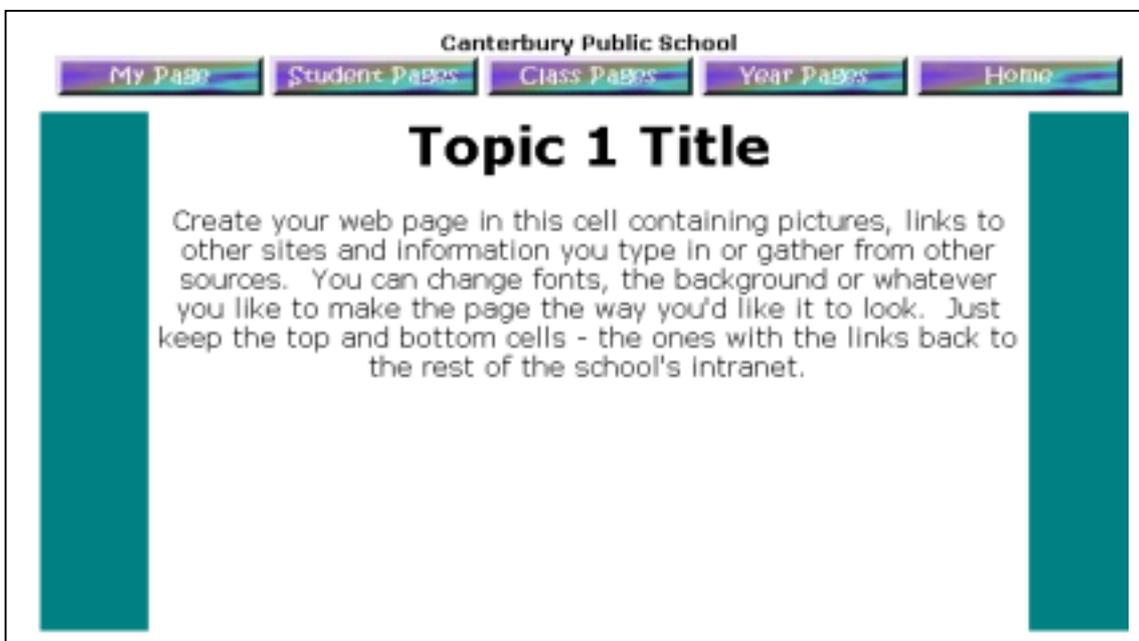
(a typical class webpage created by EduWeb)

But by giving the students perceived ownership of the intranet, you will instil many positive values and provide them with the opportunity to responsibly manage an important school educational resource. And the pride that is evident in students that have published websites is reflected in higher quality content and presentation.

And while we're on the advantages, there's the extra life their work suddenly gains. Paper publishing is a dead-end for students and the students know it, so they never bother to try and produce the best they can produce. With a student-centred intranet, their work remains available on-line at the school for all to access for as long as the student wants to leave it there. They can even update or add to it - even though the project has supposedly been completed and handed in. Students will research using the Internet more and gain better information skills. And what about the importance of personal expression? I could go on - and on.

How does EduWeb do all this?

EduWeb includes an import routine that quickly and simply imports all your student's names, grades and classes from your school administration system, so for a start, there's no typing in of any student names. The program imports the data and builds the base intranet pages (*hundreds or even thousands of them*) in a just a minute or two. A structured folder arrangement is automatically created with index pages that allow you to drill down through grade/scholastic year and class through to each individual student and each of their individual project pages. What's more, with EduWeb, you can create a new intranet structure for each new year while maintaining the previous years' intranets.



(a blank student project webpage created by EduWeb)

The base index web pages are neat and professionally presented (*a choice of four different colour-schemes and three different default fonts*) while the project pages can be totally tailored by the students, all the time maintaining the structure's integrity. There are also special Teacher pages so teachers can give their students instructions or work tasks. Your students can view the intranet using Internet Explorer or Mozilla and then edit their pages simply from the browser by launching FrontPage or Mozilla Composer. Save the changes and the updated page is immediately available!

EduWeb does much more than just the Student pages for all students – it also builds an entire school intranet with News, Calendar, Policies, Photo Galleries, Staff Pages, Links and much more.

Some Feedback from Schools that use EduWeb:

*The whole school's been swept up in EduWeb fever - the students are even asking if they can do it at lunch time! (and this is a trying, PSFP school with some pretty disadvantaged children, most of whom have no access to a computer outside school). The staff are also taking it on board which is great to see. Even the reluctant ones are making the effort as they can see the benefits and are being carried away with the general enthusiasm. (I think they're also worried the students will eventually learn more than they will & they're not too pleased about being left behind!). We've created a user on the network called News Reporter which has a password. This is for the News Reporters (of which there are 3) so they can do the editing of submitted articles (with me overseeing of course!). There's one well researched article up there already (complete with student quotes!) and I'm sure there are plenty more on the way now I've announced this aspect of EduWeb. **Justine Abell - Irrawang PS***

*The use of technology to enhance student learning has long been a priority at Leura Public School. During 2002, 60 students from Stage 2 and Stage 3 were involved in a project which aimed to produce a web-based digital portfolio. The trial of digital portfolios has proven to be an exciting development in our curriculum not only allowing accomplishments to be demonstrated but also enabling students to take increased responsibility for the work they have done. The EduWeb was used as the framework for the digital portfolios which are stored on the school's Intranet and are linked to the KidMap assessment and reporting database. Student work is publicly displayed within the school promoting ownership and enabling staff to readily utilise portfolios for assessment purposes. The project was evaluated by formally consulting all stakeholders. Feedback has overwhelmingly indicated that the project is worthwhile and should be continued and expanded in 2003. The project, while providing a means to enhance and develop technology skills in students, has also been shown to improve students' confidence, the quality of their work and their engagement with learning tasks. **Wayne Newman, Leura Public School***

*This is the second year I've been using EduWeb as our student-centred intranet. It's fantastic. We've added and added to it to meet our school needs, yet have maintained the core element of a place for students to publish. This year all work done by Year 5 & 6 is published on the intranet, and not printed. We've gone with the option to create individual folders for all students and they use these as their storage area for all work saved. These folders are accessed through the "My Work Folder" shortcut. Published work has taken the form of slide shows, word documents and FrontPage pages. The students from year 2 up have been using the intranet and finding great delight in publishing their work in this way. Unfortunately our school is not classroom networked so only what's done with me in the computer lab (1 hour a week) is included. Wait till we're networked!!! The staff have embraced its use and I've created home pages for all staff, many with linked pages. These are accessed mainly through a staff photo and hot spots for the links. - **Brian Marsland, Kings Park Public School***

At BHPS we have been using EduWeb this year for our Digital Portfolio project. EduWeb has allowed each student to almost instantly have their own website and create pages and links to all sorts of work. Students have added images, sound files, video clips and linked to PowerPoint presentations they have made, all in only 12 weeks of the program. I have been amazed at their enthusiasm and willingness to try new things. Many times I have been asked, "Is it possible to...". Perhaps

however the greatest advantage in using EduWeb is that it so easily promotes co-operative learning and peer-tutoring. Everyone can be an expert - I now have expert graphics consultants, sound people and background specialists! The kids love it and the teachers are learning heaps too! - **Joann Sayers, Bellevue Hill Public School**

First, thankyou for a wonderful package. "Login to EduWeb" has made the process of opening and saving really consistent - and that is great. We have only been going for half a term and Year 1 are already independent with logging in. I only had to help 2 children in a class, some others no doubt needed help which was provided by their classmates. I have made individual instructions for the Kinders, with instructions to open a file on the back. After four weekly lessons many Kinder children log themselves in also. The big time saver for me during lessons is that previously I used to spend a good part of the lesson helping each child save their new file with the correct name in the correct place. Now I can spend all that extra time helping them learn! The other big bonus is publishing their work. Now it is so much easier to do. We had an Intranet that took literally weeks of my (holiday) time each year setting up all those links for over 400 students. In previous years, there never was enough time to publish the work done and most webpages just had lots of clipart and little else. I look forward to making use of all the additional features of EduWeb. Thankyou. **Julie Frankham - Raymond Terrace PS**

System Requirements

Students' EduWeb is a Windows application, so it needs Windows 95/98/NT/ME/2000 or XP to run. But the EduWeb (*intranet*) it creates is completely platform independent. The created EduWeb can be stored on a standalone PC or Apple iMac, on a Novell Netware, Windows NT or AppleShare server running from a simple folder structure, or on a professional webserver like Apache, IntraNetware or IIS using HTTP.

As the pages created by EduWeb are simple HTML pages, any webpage editing tool can be used such as FrontPage, DreamWeaver, or Mozilla Composer.

EduWeb is a product that is already truly making a difference in schools and goes some way to justifying the large amounts of money and time being spent in schools on technology and infrastructure.

Stu's EduWeb is designed & developed by Stuart Hasic © 2001-2004

I welcome your comments, suggestions and questions. Please send your e-mail to me at **Stuart.Hasic@det.nsw.edu.au** – further information and resources at **<http://stuhasic.com>**

EduWeb website - **<http://stuhasic.com/eduweb>**