

TOTAL ENGAGEMENT THROUGH STUDENT-CENTRED INTRANETS

The Great Divide

The use of information and communication technologies (ICTs) in the classroom has seen a very slow evolution in comparison to its application in the real world. While we have seen the take-up of certain technologies such as Internet browsing, Microsoft Word and PowerPoint in some areas of schooling, the "ICT revolution" generally across school education has not occurred.

The strange thing is that this very slow take-up is in stark contrast to the hundreds of millions of dollars invested by Australian governments and school authorities in computers and communications services every year. If the advantages of technology to the classroom are as clearly obvious as vendors will have us believe, why has systemic school education taken so long to absorb ICTs into teaching and learning? Why are there still so many classrooms that can be described as a *"technology desert"*?

Clearly, independent schools are far more successful at introducing whole-school technology solutions, not necessarily because they have access to more funds, but more because they work in an environment that mostly exists within its own school boundary fence. These schools can make their own technology plans and implement them under their own total control. In the public school system, even if a school was able to fund a solution completely by themselves, they are still constricted by State requirements, directions and structures. As well as this, a continual change of staff in the public system also makes any new solution a challenge to sustain. So rather than being forced to learn and apply something new, only to be disappointed when a *"technology project"* ends up with an end-date, it is easier for many teachers to stick to what they know and *have to do*. The system makes it all too hard. As long as technology is viewed as an "add-on" by teachers, they will always also view it as an "option" that they don't *have* to take up.

So first thing we must do is to change that mindset. To do that, we need all school systems, schools and teachers to understand WHY change is required. There is no point telling anyone "what" to change to if they first cannot understand "why". Most advocates of school education know that the "future" will involve more use of technology, but they don't know *why* it HAS to. Jordan Baker recently reported

well in an article titled "**Wonky teens lost in their school daze**" in the Sydney Morning Herald¹ on October 7, 2005 where he said:

"Mr Andrew Fuller's study of more than 600 students showed only a third of those in years 5 and 9 found school interesting. More than a fifth never, or only occasionally, felt welcome, valued or respected. The fall-off happens around grade four. This is where their brains change - and schools keep bubbling along with the same structure they have been using. They don't grab them in a different way. Some students were lost at this point and never returned", Mr Fuller said. "Schools needed to focus more on developing the skills for success in the future, such as social interaction and problem solving, and set projects that allowed students to blend different types of disciplines."

Most children today have computers at home connected to the Internet. What is it they use their computers for? Is it for "drill and practice" using the *Mathemagic Computer Tutor*? Is it to research a famous artist and take hand-written notes for tomorrow's essay? No. The main reasons that students use their Internet-enabled computer are to communicate and create. They are "talking" on *MSN* and *Yahoo Messenger*, they are "discussing" on various Forums, they are "recounting" with their Blogs on *MSN Spaces*² and they are compiling playlists in *iTunes* for their MP3 player. More progressive students are publishing complete websites and producing edited movies and animations. Today's children see their computer as a tool to generate their own output more so than input. So why is it that many schools still see the computer as little more than a glorified text book? Clearly, many teachers are overwhelmed and confused by their "changing" role – and *their changing clientele*.

The Rules of Engagement

Why do many children "create" more work samples at home than they do at school? And if they didn't learn how to publish digitally at school, where and how did they learn it? Clearly, it's a classic case of "engagement". Something has compelled the child to inquire and take control of their own education. They know what they want to produce, but they have to teach themselves how to produce it. They see the products of their peers and want to emulate the processes with their own ideas. *Schools and teachers aren't even in the picture.*

So how can schools become more relevant to the students of the 21st century? If we look at how children have been teaching themselves through the application of ICT, we can clearly see a lack of structure. The learning process has been ad-hoc and may also be flawed. In many cases, the end-product may "look" flashy, but as a work sample, it may lack substance and a sense of direction.

Although a child might have an inquiring mind, a teacher can still teach that child HOW to inquire and report regardless of the medium being applied. Teaching students facts and how to memorise information is not the most important skill in today's world. You'll probably bore students and they often won't believe you anyway. They may hear you and even regurgitate the facts, if that is what you're asking them to do. But will they learn it? Probably not.

There is a theory that states: "*Tell me and I'll forget, show me and I'll remember, involve me and I'll understand.*" The last part of this statement is the crux of

¹ <http://tinyurl.com/e3arr>

² <http://www.msnspace.com>

inquiry-based learning. These days, facts change, and information is easily available – what we need to teach students is an understanding of how to find, make sense of, and use relevant information for specific purposes. Students need to work out discrepancies in previously held ideas and new observations they are making about their world and environment. Almost every Key Learning Area taught in school can benefit from Inquiry-based Learning, and students can then take that structure and apply it to their own learning needs and desires.

Inquiry-based Learning

Adapted from the New Zealand Living Heritage website³

A definition: Inquiry learning is a process where students formulate investigative questions, carry out research using a series of structured investigations to obtain factual information, build knowledge that answers the original question, then evaluate and report on their findings. During the process, students are encouraged to observe carefully, think critically and analyse their discoveries; explore possibilities, construct their own interpretations, and debate and defend their conclusions. Because students have ownership over the process their learning becomes a rich and meaningful experience.

There are several steps to the process:

- **Plan:** *identify the focus of inquiry and methods of research*
- **Explore:** *ask further questions and conduct the research*
- **Use and choose:** *organise the information, and evaluate discoveries*
- **Create:** *present the material clearly in a range of formats*
- **Share:** *make the work available to a wider audience*
- **Review:** *assess the process and skills used.*

Step 1 - Plan

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> ● To decide on the topic and scope of the study ● To list some research questions 	<ul style="list-style-type: none"> ● What is our topic? ● Who is taking part? ● When will we do it? ● When will it be finished? ● What do we want to achieve? ● Who is our audience? ● What are some key words? ● What information do we already have? ● What information do we need? ● What questions should we ask? 	<ul style="list-style-type: none"> ● Questioning ● Communication ● Decision-making ● Cooperation ● Teamwork ● Planning ● Time-management ● Problem-solving 	<ul style="list-style-type: none"> ● Brainstorm ideas ● Class discussion ● List main ideas ● Make a timeline ● Set goals ● Use graphic organisers ● Write open-ended questions ● Assign tasks to individuals or groups

³ <http://www.livingheritage.org.nz/started/inquirylearn.shtml>

Step 2 - Explore

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> To gather information and resources from a number of sources 	<ul style="list-style-type: none"> Which questions am I answering? Who can I ask for help? How much information do I need? What level of information do I need? Where can I explore for information? Who can I ask about the topic? Will we use photos or recordings? Who is the audience? Will we need special equipment or skills? 	<ul style="list-style-type: none"> Problem-solving Questioning Listening Decision-making Observation Listening Lateral thinking Investigating Communication Researching Database-searching 	<ul style="list-style-type: none"> Visit school library and information centre Interview a local identity or expert Talk to organisations and groups Take photos Ask relevant authorities Search the Internet and computer resources Gather information in a variety of formats Keep a logbook

Step 3 - Use and Choose

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> To use the information and choose what to record 	<ul style="list-style-type: none"> How can I organise the material? Do I need permission to use it? Do I understand the information? What does it say about the topic? How can I put it in my own words? Does it answer my question? Do I need more information? Which information is not needed? 	<ul style="list-style-type: none"> Reading Mind-mapping Interpretation Decision-making Note-taking Evaluation Critical thinking Assessment Problem-solving Prioritising Researching Judgement Skimming and scanning Using indexes, glossaries, etc. 	<ul style="list-style-type: none"> Use the information to answer questions Read and interpret it Select material to use Have group discussions Share information Organise it, e.g. in files or categories Investigate copyright laws Analyse & compare information from many sources

Step 4 - Create

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> To create original work To present the material clearly and appropriately in a range of formats 	<ul style="list-style-type: none"> How shall I arrange my material? Who's my audience? Can the information be easily understood? Do I need to make acknowledgments? Have I worked within the copyright laws? Have I used my own words? 	<ul style="list-style-type: none"> Writing Logical thinking Proof-reading Decision-making Communication Problem-solving Using dictionaries and spell-checkers Layout, Design and artwork 	<ul style="list-style-type: none"> Choose the format for recording the information Summarise the information into own words Scan pictures and documents Draw pictures Produce creative writing Transcribe and edit recordings

Aims	Questions	Skills	Possible Activities
	<ul style="list-style-type: none"> • How much material is needed? 		<ul style="list-style-type: none"> • Plan layout and style • Refer to a school copyright policy • Shoot/edit video

Step 5 - Share

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> • To convert the finished work into a digital format • To publish the work on the school's Student-Centred Intranet (<i>EduWeb</i>) 	<ul style="list-style-type: none"> • How will I display the information? • How will I make sure people see and use it? • How can I make it appealing? • Are all the necessary references obvious? • Which format will I use? • What do I want the end product to look like? • Do I need help to put it together? • Which computer skills will I use? • Do I need to copyright my work? • Have I made all the necessary acknowledgments? 	<ul style="list-style-type: none"> • Decision-making • Consultation • Teamwork • Presentation • Computer/ICT • Web page design • Word Processing/ Presentation/Video & Audio 	<ul style="list-style-type: none"> • Use EduWeb templates and instructions to create web pages • Attach copyright notes and acknowledgments to all finished work • Link the finished work to your EduWeb page • Insert self-evaluation comments and record log entries and comments from students and other participants • Promote your work to as many people as you can (<i>parents?</i>) • Actively look through other students' work

Step 6 - Review

Aims	Questions	Skills	Possible Activities
<ul style="list-style-type: none"> • To assess the process, the skills of the students, and the work • To decide if the project needs more work 	<ul style="list-style-type: none"> • Did I achieve what I wanted to? • Did I use a range of resources? • What would I do differently next time? • What do other people think of the project? • Do I need to make additions? • Did I answer my questions? • What have I learnt from this project? • What do I need to learn now? • Was it worthwhile and enjoyable? • Do I need to thank anyone for their help? 	<ul style="list-style-type: none"> • Judgement • Critical thinking • Questioning • Problem-solving • Listening • Evaluating 	<ul style="list-style-type: none"> • Write a Reflection Statement answering these questions • Ask people for their opinion • Have a launch, or awards to acknowledge work well done • Promote the project through an article in the school newsletter • Burn a CD for each student so they can take their work home at the end of the year • Build on lessons learned for future projects

It is this well-defined structure that today's ad-hoc ICT-based learners are missing. It is the structure that can turn a "*great-looking*" work sample into a "*great*" work sample. The inquiry begins with gathering information through applying the human senses — *seeing, hearing, touching, tasting, and smelling*. Inquiry encourages children to question, conduct research for genuine reasons, and make discoveries on their own. The practice transforms the teacher into a learner with students, and students become teachers with us.

In an inquiry-based classroom, students aren't waiting for the teacher or someone else to provide an answer — instead, they are actively seeking their own solutions, designing investigations, and asking new questions. Students quickly see the cycle of learning - **and that learning has cycles**. Students learn to think and how to problem solve. They learn that there is no one place or one resource for answers, but that many tools are useful for exploring problems. Students that are actively involved in making observations, collecting and analysing information, synthesising that information, and drawing conclusions are developing those valuable problem-solving skills. These skills will apply to future "*just in time*" situations that students will encounter both at school and at work.

Engagement through Student-Centred Intranets - EduWeb

Only when we understand WHY change is required and what learning structure will support that change, is it time to consider the ICT requirements. The ultimate aim is to digitally produce student work and showcase or share that work among an audience. That's where the *Student-Centred Intranet* concept comes into play, and in particular, one solution called **Stu's EduWeb** that is highlighted in this paper.

EduWeb provides schools and students with an electronic gallery from which to hang all of their work produced through the use of ICTs. *Why is it that one of the most commonly used functions in word processors is the "Print" function?* As soon as any document has been committed to paper, it's a dead document. Whilst ever it's in electronic form, it's alive, it's dynamic and it can be reviewed and updated.

Imagine now your school's computer system. You open your Internet browser, and instead of *Google* or *Yahoo*, you have your school's Intranet displayed. And right in the middle, just one click away is the gateway to a whole world of student work. Every student with their own intranet website, every website full of *great* work samples directly related to work undertaken in class, in all Key Learning Areas. That's what EduWeb can be. EduWeb is the catalyst that makes Inquiry-based learning *totally engaging* – and you can apply it from Kindergarten through to senior high school. At present, EduWeb is used by more than 600 schools.

Just about all pieces of student work made on computer can be hung onto their EduWeb website. Documents, Powerpoint slideshows, audio, videos, animations, music and Hyperstudio stacks – all viewable via the browser.

For more comprehensive details about Stu's EduWeb, please visit the website⁴. It is available free of charge to NSW Public Schools.

⁴ <http://stuhasic.com/eduweb>

Some EduWeb screenshots can be found on the following pages, with details about sample projects and how schools can develop their own EduWeb templates.

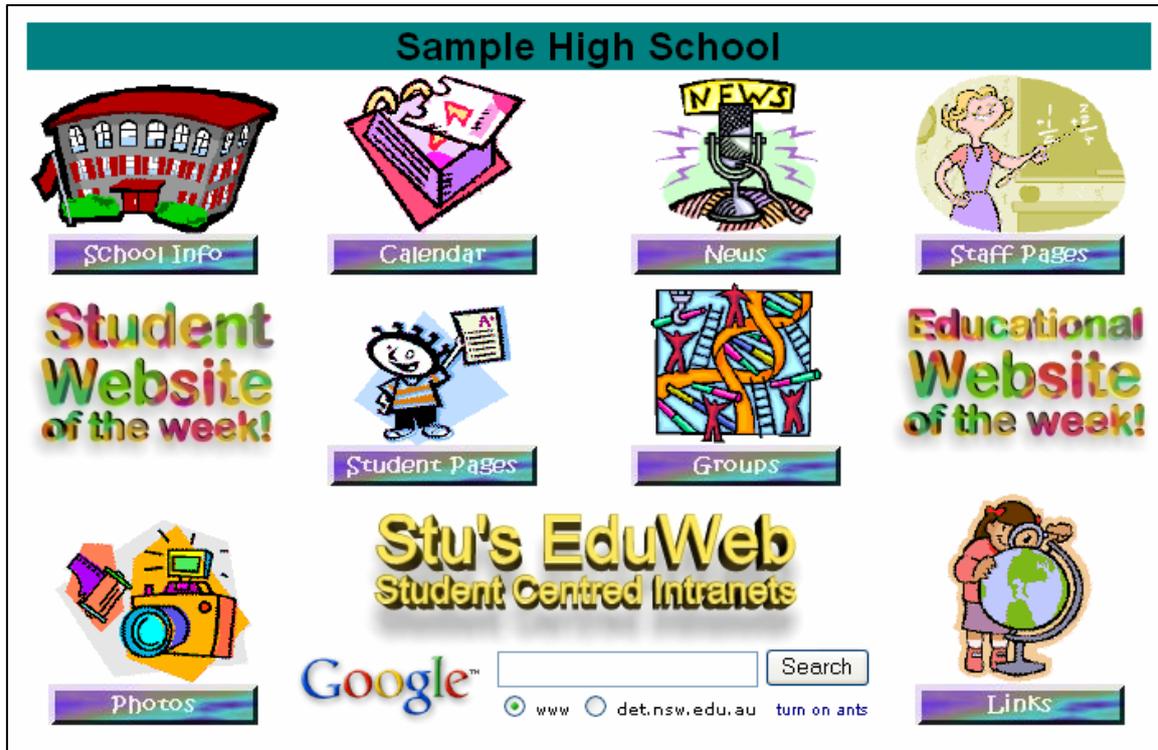


Figure 1 – The EduWeb front page – there's much more to EduWeb than Student work...

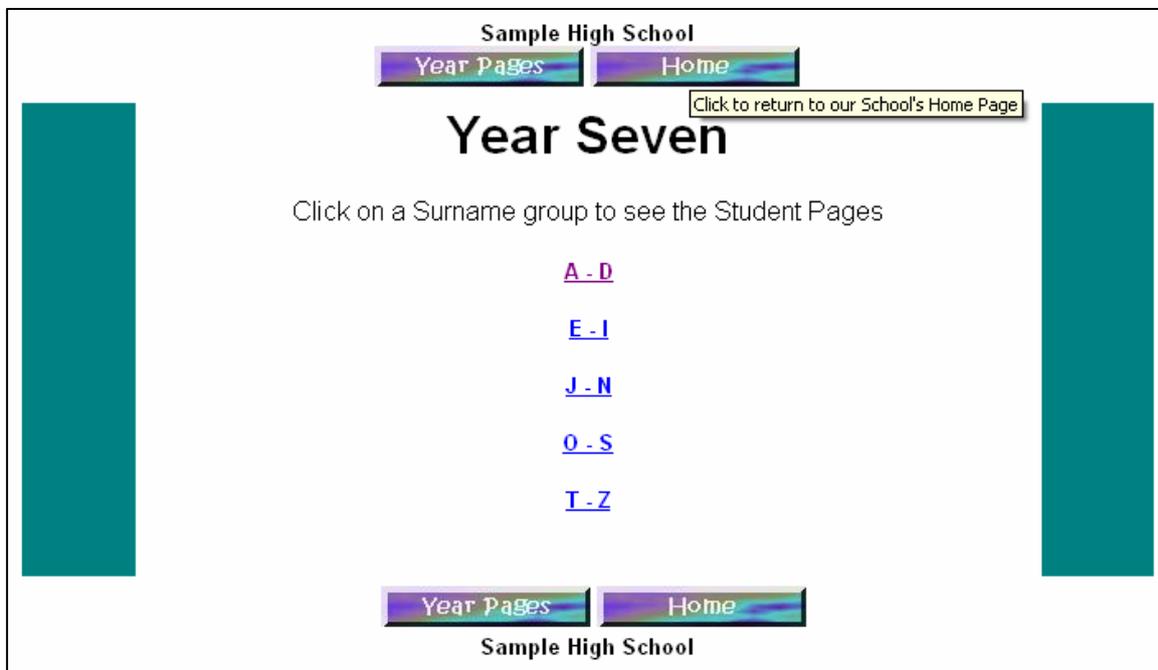


Figure 2 – Student Pages can be grouped by Class Name or Surname, recreated each year.

Sample High School

[Class Pages](#) [Year Pages](#) [Home](#)

Class J - N

Teacher: **Teacher's Name**


Teacher's News

Click on a Student's name to view their homepage
WARNING: Do **NOT** edit ANY webpages other than your own!

Jayden Johns	Benjamin Jurd	Corey Kelly	Matthew Lawrence	Joshua Lees
Matthew Little	Anthony Lo Stocco	Mitchell Longbottom	Robert Longbottom	Aaron Lowman
Ashleigh Lyons	Michael Mandrak	Samuel Matakaiongo	Alinta Mongta	Courtney Murray
Susie Nawakai	Leon Ngan			

[Class Pages](#) [Year Pages](#) [Home](#)

Sample High School

Figure 3 – A sample class grouping

Sample High School

[Student Pages](#) [Class Pages](#) [Year Pages](#) [Home](#)

Hi! My name is

Matthew Lawrence

and this is my Home Page

View my: [Work folder](#) / [PowerPoints folder](#) / [Images folder](#)



Take a look around the work I've been doing in school this year!

 English	 Science
 History	 Geography
 PDHPE	 LOTE
 Visual Arts	 Music
 TAS	 My Personal Choice

Figure 4 – A High School student's EduWeb website – All subject names can be customised. It is possible to set anywhere between 2 and 12 projects for each subject area

Sample High School

[My Page](#) | [Student Pages](#) | [Class Pages](#) | [Year Pages](#) | [Home](#)

Fauvism

Task:	Investigate a famous artist from the 19th century and produce a Photo Story or PowerPoint slideshow with either text or narration which describes the artist and his/her work. Link the presentation below.
Key Criteria:	<ul style="list-style-type: none"> Select an artist Show the years of major works and describe four pieces Include a bibliography
Useful Resources:	<ul style="list-style-type: none"> http://en.wikipedia.org/wiki/Fauvism http://www.ibiblio.org/wm/paint/qlo/fauvism http://www.artcyclopedia.com/history/fauvism.html

Presentation: [Here is my Vincent Van Gogh Presentation](#)

Figure 5 – A student’s EduWeb project for Visual Arts – Template created and distributed to students

My Sample School

[Student Pages](#) | [Class Pages](#) | [Year Pages](#) | [Home](#)

Hi my name is

Robby Bushell

and this is my front page

Take a look around the work I've been doing in class this year!

 ALL ABOUT ME	 RAINFOREST RICH TASK
 letter from the goldfields	 maths-number & graphs
 Rich task	 HEBREW
 Reading	 MATHS-2D SHAPES
 my art	 LEARNING CONTRACT
 rainforest discussion	 STUDENT CHOICE

Figure 6 – A Primary School student’s EduWeb website – 12 Topic pages for the year. This one has been customised by the student – it’s all just HTML, edited with MS FrontPage or Dreamweaver etc.

Letter From The Goldfields

Task: You are a miner who has traveled to an Australian goldfield. Write a letter to your family at home recounting your journey to the goldfields and what life has been like for you since you arrived. Think carefully about what you have seen and the hardships you have faced and don't forget to include all necessary punctuation and paragraphs.



*137 Tent, Brown Street,
Bathurst,
New South Wales.*

2nd of November 1878,

*Dear Mother and Father,
How are you? Are you well? And how are pops and grandma, are they well and how about James and Mia?*

Now I will tell you about my journey to Bathurst .The journey was very bad , we did not have a lot of food and water because a person named John ate all the food and drank all the water .So then we had to stop off again to get more food and water witch was very boring because it took two hours of waiting.

Then we continued walking to Bathurst. It was hard but we got there after a long and annoying walk for two whole weeks.

As soon as I got there, I had to mark my area with four stakes so no one could get the area that I wanted to dig in. I then had to send a letter to the government to get my license for thirty shillings .Then I met a person ,his name is Charlie I met him on the way to Bathurst.

Figure 7 – A primary student's real work sample (part).
The "Task" was distributed as an EduWeb Template

The EduWeb Templates Toolkit

The **EduWeb Templates Toolkit** is used by schools to help with the process of creating and distributing EduWeb student topic templates to students. A Step-by-Step guide titled *"How to Create and Distribute EduWeb Templates"* is included in the toolkit and there are blank templates which combined, guide schools through this easy process. The Toolkit is very simple to follow and provides an excellent starting point for teachers who would like to create (and hopefully share) their own EduWeb templates. The toolkit is a free download from the EduWeb website. It is hoped a central repository of templates can be made available and updated via the EduWeb website.

Once templates have been made, they can be quickly distributed to all students in a particular grade, class or custom grouping. This is achieved using this **EduWeb Topics Utility** which is included in the EduWeb system. A screenshot of the Topics Utility is on the next page.

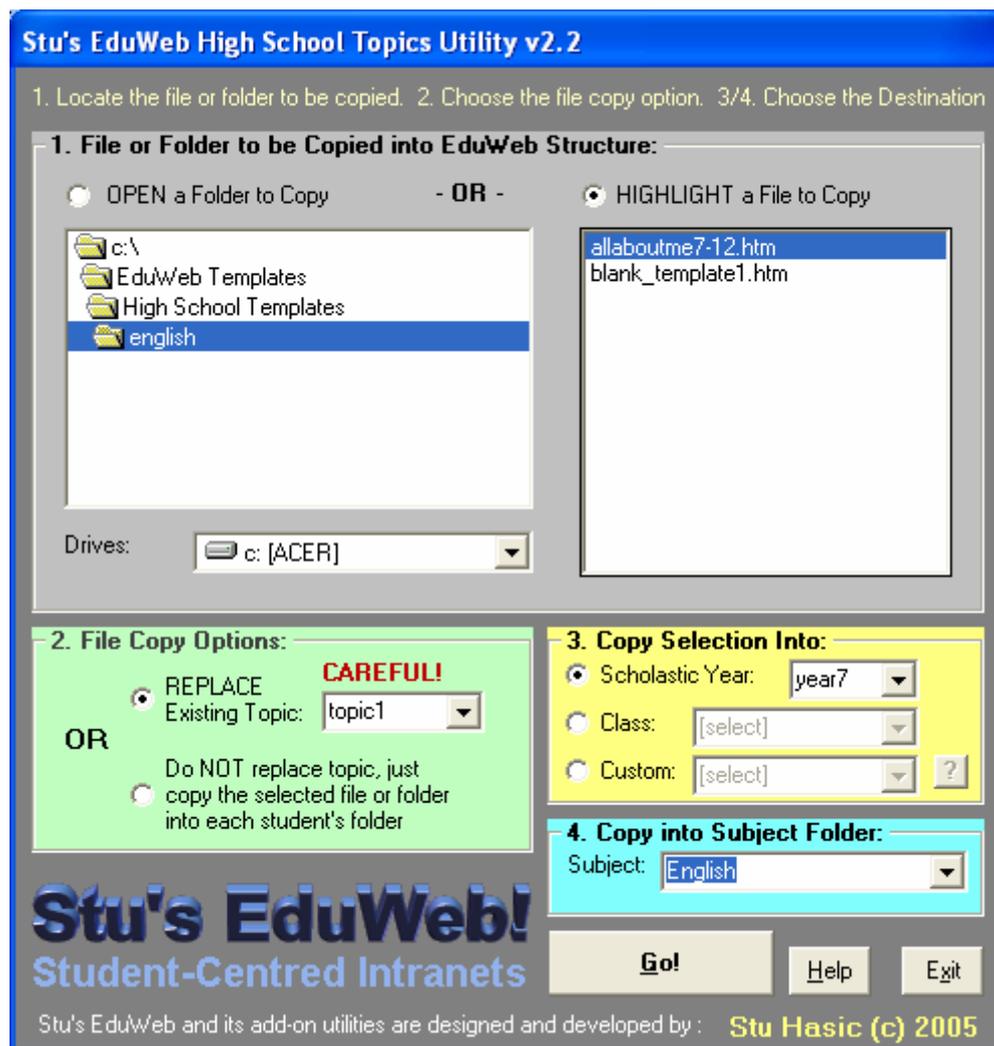


Figure 8 – The EduWeb Topics Utility for High Schools

Is it all worth it?

Of course, many teachers will see this process as taking a lot of time and question its value. But you are spending time supporting thinkers and helping their minds develop so that they can approach new learning creatively and energetically. *Students are learning how to learn.* You are supporting their quest for knowledge and their curiosity about their world.

In traditional schools, students learn not to ask too many questions, instead to listen and repeat the expected answers. Most of our schools focus on teaching a set of basic skills that does not serve the needs of modern society. Our modern society is faster paced, globally networked, technologically oriented, and requires workers who can problem solve and think critically. Memorising facts and information does little to assist the thinking process. Facts change, and information multiplies at an incredibly fast rate — what's needed is an understanding of how to find and make sense of it all. As Jack Welch once said, "*Change before you have to.*"