Overview

Currently the international approach to online education is diverse, with each country doing its own thing. Today, the technology upon which online learning models are predicated presents an unprecedented opportunity for pioneers in online learning to work collectively.

A few people in agencies in regions such as the UK, the European Community, Canada, the US, Australasia and others, are engaged in the process of exploring how each country can leverage its online infrastructure into improved outcomes for learners.

My fundamental proposition is that we can achieve better online learning outcomes by working collaboratively than by working in isolation.

What is Collaboration?

COLLABORATION is the process of applying shared resources to achieve commonly agreed outcomes within an agreed timeframe. The Internet is a natural enabler of collaboration, be it within a distributed network or the individual domain.

In the context of online learning, collaboration is about building and managing online services and networks together.

Why Collaboration?

Collaboration presents a viable and commanding model for successfully building a richly functional infrastructure within the online learning context.

More importantly, the need for collaboration is based on compelling precedents from other domains, such as transport. Stakeholders in such domains have determined their long-term interests are served most effectively and efficiently by the ability to engage and interact in a global environment.

The challenge we are presented today – and in the important years ahead – is how to work together to overcome commonly experienced problems.

Collaborative solutions to these problems will provide important input into a global online learning infrastructure that leverages standardised elements, while embracing the heterogeneity and uniqueness of its component elements.

The following discussion is organised according to the ‘challenge’, the ‘process’, and the ‘promise’. As I will reiterate, we can achieve better online learning outcomes by working collaboratively than by working in isolation.

The Challenge

This Global Summit of Online Knowledge Networks represents an important milestone to build on collaborative processes that could help transform online learning internationally.

Together, we could engage in the creation of an integrated online learning infrastructure that efficiently leverages shared components, yet respects the uniqueness of contributing nations.

Internationally, a number of public sector agencies are already established to facilitate online learning and to undertake operational work. Some of these agencies have begun successfully leveraging each other’s efforts.

In our respective domains, we face common challenges:

• How do we engage traditional education and training with online learning technology when some professional educators may perceive the latter as a threat to existing activities?
• How do we improve the outcomes delivered by education and training systems by using online learning processes?
• What are the smart and robust ways to provide online learning services using Information and Communications Technologies?
• How do we build distributed systems that are easily administered?
Collectively we may be able to produce common solutions to some of these problems. In this forum we have an opportunity to discuss, define and determine collaborative solutions to commonly experienced problems.

ICT – Information Communication Technology – has transformed many aspects of our world during the past two decades, from how businesses deal with their customers to how governments deliver their services. Each of us within this forum has experienced its impact on online learning and training technologies.

...further challenges

Currently there is often a gap between the ICT tools available to online learning innovators and the rapidly emerging needs and demands of learners, both organisationally and individually.

This gap involves both the technology and the culture of the learners.

While access – the so-called ‘digital divide’ – is a major challenge to overcome, it is also true that the ‘Information Age’ has brought with it enormous amounts of freely available information.

An issue that arises from this is that both online learners and educators need to discern the validity of Internet content. A central problem facing every online learning initiative globally is how to manage knowledge networks in a manner that extracts insight from information.

If you accept a cartographical analogy, it’s comparable to putting an index in a street directory. But in this case the indexes need to be more than just keywords.

...content and context

We are creating not only the tools and the services, but also the context, for people who will learn online in the coming years. As part of this discourse, we will ask many questions.

How do we design a relevant online learning system? Should we utilise a database model that stores information and offers access tools? Should we put experts online – expert systems or expert people?

During this summit we will canvass a broad range of issues ranging from methodologies for maintaining high quality collections of resources and designing compelling interactivity in our learning environments, to issues and questions of accessibility, interoperability, architecture, and customisation.

By the end of this process, I have no doubt we will end up with more questions than answers. However, I believe that we have a unique opportunity to establish an international discussion that can achieve a collective understanding and definition of the problems that we face. Collectively, we can identify the hurdles we face, quantify the measures that will gauge how successfully we overcome these hurdles, and then move on to solving the problems that dog each of us.

The Process

The arrival of the Internet Age during this past decade has presented us with a plethora of models.

It is widely agreed that effective business models for the Internet are transactional, utilising a highly interactive online marketplace that enables the process of buying and selling.

Futurist, Don Tapscott, a presenter at the World Congress on Information Technology, proposes five successful models for online business, all of which are based upon the provision of services. However, none of these models encompass the breadth that is necessary to engage people globally through the delivery of online learning.

...a proposed process model

Based on the lessons that education.au limited has learned, I would propose a Process Model that actually underpins the entire construct of this Global Summit of Online Knowledge Networks.

The education.au limited model of collaboration used in building nationally relevant online learning services involves three distinct steps:
1. Identify the community of interest.
2. Convene a meeting of key representatives of this community of interest to define a common goal.
3. Engage everyone in a collaborative solution that delivers mutual benefit.

Of course, such a model is not new because it is widely utilised in the discipline of scientific research where ‘publish or perish’ is a driving imperative. Each scientific publication is an investment in the process of global scientific collaboration.

...these are global issues

Although the so-called ‘learning industry’ is just a small part of the world’s economy, it is crucial to ongoing success for the global economy and indeed the planet’s environmental viability.

Online learning is a global issue. Let us define a common problem that we can work on collaboratively on a global basis for our collective benefit.

Often, however, it is easier to understand the value of a proposition such as collaboration by looking at its opposite. On that assumption, let me tell you a story about the Industrial Age communications infrastructure of Australia.

...an Australian story

For the entire 20th century, different states within Australia – a country equivalent in size to the continental United States – operated railway networks with different size rail gauges.

This meant the trains and carriages from one state, such as Western Australia, were...
unable to transport goods or people without interruption from Perth, through South Australia, to destinations such as Melbourne, Sydney or Brisbane.

People had to climb off the carriages and embark on another train while goods had to be unloaded at least once and sometimes twice during the journey.

The political barriers and high cost of modifying existing infrastructure defied demolishing this monument to inefficiency for 100 years. It wasn’t solved until the 1990s!

Today Australia has one national rail gauge, so a single train can travel from coast to coast without interruption.

It is ironic to note that while this situation persisted for so long, Australia engaged enthusiastically with the international freight transport industry to implement standardised containers that enabled the seamless transfer of diverse products from truck to train to ship.

This transport analogy has a great deal of significance for each of us as we set about building the infrastructure to support online learning.

Today, at the dawn of the age of online learning, Australia is committed to ensuring it does not repeat the costly follies of the last century. However, each step we take contains a lesson.

For example, education.au limited was commissioned to develop an information-harvesting tool that could be used by every education agency or department around the country.

Developing it was a straightforward process, based on clearly defined business requirements. However, when we went to test it with each individual state system, it required a substantial effort because the recipient systems did not implement standard software architecture or protocols for information.

We had to rebuild that harvesting tool 14 times to hook it up to every State and Territory. At the end of the day, it actually cost us more money to deploy the tool than to develop it.

This experience was clearly analogous to the disintegrated rail infrastructure that plagued Australia for the entire 20th century.

What we learned from this lesson was the need — and the clearly achievable financial value — that could be derived from investing effort into negotiating and achieving commonly agreed standards for online learning for national interoperability or the ability to exchange information.

As each new issue comes up, we discuss and design a solution that each party can go away and benefit from.

The issue for any collaborative endeavour is how to establish common interest and how to deliver unquestionable advantages to each participant. The challenge is to demonstrate that there’s more value in working collaboratively than in labouring individually.

Australia’s experience in online learning has demonstrated this value. We are constantly deriving value because it is cheaper to learn from other people’s mistakes.

...a brief profile of our agency

education.au limited is a not-for-profit company that is owned by 13 Ministers of Education at the Federal, State and Territory level.

The organisation’s mission is to develop and manage online learning services that benefit the education and training sector on a national level.

education.au limited has a mandate to speak with education departments, training systems and universities. At present, the demand for our services is evenly divided between schools, universities and Vocational Education & Training (VET) programs.

There has been a progressive engagement with the services and capabilities that we have offered educators during the past five years. Initially, we were asked to assist them to leverage their use of Internet technologies by providing a common core of directory services and online learning references.

Before long, a number of news services were developed. Soon after, our stakeholders began requesting us to provide Internet tools to assist them build their own systems.

This has now evolved to where we have built entirely new services that combine large amounts of disparate information into one site, to provide information about particular subjects, such as careers.

This represents a definite evolution of requirements as trust and understanding of education.au limited has developed. The initial need for information has evolved to the requirement for services and, from there, the online learning infrastructure.

...checking the assumptions

As the pioneers of a new era in learning, we need to constantly challenge the concepts that underpin our assumptions.

An early assumption we made, along with the entire dot com phenomenon, was that the new technology is compelling enough to sell itself. This attitude is summed up by the line from the Kevin Costner film, Field of Dreams, which said ”build it and they will come”. Unfortunately, that attitude does not reflect reality.

You can cook the greatest meal but if you do not invite anyone to dinner your efforts will go unappreciated.

...the pivotal role of community

One of the important lessons we have learned is the pivotal role of communication and online communities.

Several years ago, we launched EdNA Online as a service that aimed to support and promote the benefits of the Internet for learning, education and training in Australia.

Organised around Australian curriculum and competencies, and funded by the
bodies responsible for education provision in Australia, its tools are free to Australian educators.

We assumed the value proposition of EdNA Online was so obvious and compelling that its intended market would flock to it.

We were wrong. Eventually, we recognised the need to tell people about its value — we recognised the importance of networks that embrace those practitioners on the coalface. The communities of practice engaged in contributing to and benefiting from EdNA Online are now growing.

More recently we were asked to use our methodology of collaboration to create a National Careers System. This time our project management plan included a resource allocation for communication planning to let people know its availability and where to find it.

The expected result is a much more rapid uptake of the service by its target market.

...the learner takes centre stage

Underpinning our experiences in recent years is the reality that online learners are increasingly in charge of their own learning.

Traditional education is compulsory or strongly regulated, so learners have little or no choice. Even tertiary education has largely mandated course structures through subject availability and student accreditation.

By contrast, online learning is voluntary, so consumers can choose what suits them. They may want to study an entire course or they may choose only a single subject that satisfies an immediate need. The fundamental principle is that the learner is in the driver’s seat, not the educating institution.

The challenge we face in designing online learning systems within sound educational frameworks is to identify and deliver what learners want and how to support the processes of education and training.

There are a 1000 different ways learners can obtain their desired learning outcome. Our aim should reflect that diversity of desire.

How do we build technology systems to help people in what they want or need to do? How do we assist someone who is learning that has very specific requirements?

In business, you define business requirements. It’s a matter of defining and achieving a goal. In education, there are as many outcomes as there are learners. The learner is now largely in charge. He or she is in the driver’s seat. We need to understand what they want to do.

The objective needs to be to deliver one service to one group – such as kids in the Australian outback - and another to a different group such as young workers in the city. This can be accomplished through a multi-purpose online learning infrastructure. It is an ambitious idea but achievable through collaboration.

The promise

Internationally, the development of an online learning infrastructure is occurring as traditional education systems come to terms with the opportunities and challenges offered by online learning technologies. International collaboration can deliver enormous benefits to all participants in the development of relevant and reusable ‘objects’.

Although online learning may occur in a specific cultural context, the component ‘objects’ used in that context can evolve from collaborative development. Such collaboration in this technological environment enables the re-purposing of quality built learning objects.

As I have discussed these issues with colleagues internationally, I’ve received a lot of support for this global collaboration call. The challenge facing the innovators in the field of online learning is how to translate that good will into action.

In Australia, we are advocating the establishment of an internationally coordinated approach to identifying and quantifying the problems that confront the deployment of online learning technologies in all participating countries.

A collaborative committee based on the model that has succeeded with the diverse education industry that has evolved in Australia, could create a multilateral examination of the challenges that we face collectively.

The underlying principle we must all respect in this process is that the whole is greater than the sum of the parts. We can achieve better online learning outcomes by working together than by labouring alone.

The promise

Whether we like it or not, the emergence of online learning technologies is driving the globalisation of education and training. As global entities, the decision we must make is whether we drive this globalisation through a collaborative initiative or simply react to it.

During the past decade, globalisation has incurred a bad name in some quarters because it is largely perceived in the context of international trade where value is based on availability – or more accurately, scarcity.

However, in an educational context, globalisation inverts this model. The reverse proposition is true. The more education is available, the greater its value becomes. This inverts the traditional market model.

The processes of learning, especially core enablers such as literacy and numeracy, create a larger number of potential online learners for higher-level education services. Even in the most abject developing world context, a little education goes a long way.

Just as a map can transform your experience of finding your way around a strange town, a little education about hygiene or irrigation can transform the health or crop outcomes for a developing world community.

Nicholas Negroponte was a prominent proponent of the difference between bits
and atoms. In his book, Being Digital, Negroponte points out that bits and atoms often are confused. He asks if the publisher of a book is in the information delivery business (bits) or in the manufacturing business (atoms).

Negroponte acknowledges that the historical answer is both, but that this will change rapidly as information appliances become more ubiquitous and user-friendly.

A straightforward example of this change comes from my time as a school principal. During my tenure, the second most expensive item on my budget, after staff, was maintenance of the school library.

The Internet has removed that problem because today, research and reference resources are all online – the only requirement for school libraries is to provide literature and perhaps visual resources.

This replacement of expensive obsolete atoms with accessible, affordable bits is not only less expensive, but it’s also more effective and accessible.

The distinction between atoms and bits is epitomised in the problematic issue of Intellectual Property. Intellectual Property is a concept from the Industrial Age which is manifestly inadequate for the digital era when copying is so easy.

In the industrial era, you make a product such as a book for which you maintain value by restricting its availability. However, the ‘Digital Age’ has changed that. If you have a service, its value is enhanced by the number of people who use it, not by artificially maintaining its scarcity. In the Digital Age, the value doesn’t reside in an idea; it resides in the take-up of an idea.

The problem with Intellectual Property is that it is an industrial age concept built around property ownership of an artefact that contained the idea.

...knowledge as value

The Digital Age is based around an experience rather than an artefact, so the concept of Intellectual Value (as opposed to ‘Property’) becomes much more relevant.

As we progress our online learning initiatives, we must clearly distinguish between the ‘atoms’ with which we build the knowledge networks and the Intellectual Value ‘bits’ that those networks deliver to enable online learning.

A collaborative approach to online learning will need to focus on liberating ‘bits’ rather than labouring over ‘atoms’ to achieve success.

In April 2001, Negroponte’s academic home, MIT (Massachusetts Institute of Technology), announced its commitment to make the materials from all of its courses freely available on the World Wide Web for non-commercial use. Called MIT OpenCourseWare (OCW), this initiative reflects MIT’s institutional commitment to disseminate knowledge across the globe.

This online learning approach represents a serious challenge to the domain of traditional universities, which are only gradually evolving from their geographically concentrated model of content delivery.

Online learning offers the concept of learning from any source. In this context, issues of accreditation will become driven by the overwhelming criteria of access and availability.

In future, schools, universities and TAFEs will not exist as standalone organisations. They will be transformed by online learning, which will evolve from its current status as a niche area to its true stature as a transformational mechanism that will substantially broaden the market for education.

...the call

New groups in education which can operate anywhere in the world are the future. We mitigate against this momentum by organising online learning initiatives into states and ministries.

We are presented with this opportunity at the dawn of the era of online learning, to create a globally integrated system that leverages each of our investments through the creative and focused use of collaboration.

In conclusion, I would remind you that we could achieve better online learning outcomes by working together than by labouring alone. I challenge you to become part of this process that can truly transform our world.

Learning is a verb. Online learning is, and will remain, in a process of rapid change. We can choose our direction today. Rather than create 100 meandering paths, let us use this forum as an opportunity to collaborate on blazing one well-defined trail.

Acknowledgements

The author would like to thank the following people for their contributions, insight, feedback and support during the development process for this paper, which in itself was a significant demonstration of the value of collaboration.

Alan Bevan, Director National Careers Information Systems, education.au limited
Garry Putland, Director EdNA, education.au limited
Jon Mason, Assistant Director IMS Australia, education.au limited
Irene Spencer, Director Marketing, education.au limited
Helen Galatis, Manager Information Systems, education.au limited
Jenny Millea, Information Manager EdNA, education.au limited

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Biography


Gerry White is currently Chief Executive Officer of education.au limited which is a company limited by guarantee and owned by the Australian education and training Ministers. The business of the company is to build and manage national education networks supported by distributed online information services for schools, vocational
education and training and universities. The company does this through the use of collaborative, national processes utilising information and communications technologies, and through the formation of international alliances with similar government nationally sponsored organisations.

The foundation online service managed by the education.au limited is EdNA Online. EdNA (Education Network Australia) Online provides quality educational resources, services and Internet tools for all sectors of Australian education and training. As well as having recently completed the development of the Government Education Portal, education.au limited is also building a National Careers Information System. It is also building a major national service which delivers online curriculum content for schools, in partnership with Curriculum Corporation, as part of the Backing Australia’s Ability policy announcement by the Commonwealth Government during 2001.

Being involved in EdNA since its inception has given Gerry the opportunity to work at the cutting edge of information technology and telecommunications in education nationally and internationally. As Chief Executive Officer Gerry provides leadership and direction in the development, enhancement, standards and use of online distributed and managed national education networks. His current work involves oversight of a number of major national projects, worth $12M, and the formation of national and international alliances.

Gerry has been a teacher, Mathematics Consultant, Deputy Principal, Curriculum Management Consultant, and Principal with the South Australian Education Department, and Deputy Director of Catholic Education and National Coordinator of Information Technology and Telecommunications in Education for Catholic education across Australia.

Gerry has worked in education for over thirty years, specialising in curriculum and technology in education. His Master’s graduate thesis examined the integration of computers with curriculum in schools including the impact of computer location and configuration on educational use.

Gerry founded the Computer Education Group of South Australia in 1984 and was its Chairperson for five years. He was also a member of the Australian Council for Computers in Education for many years. In 1987, Gerry became Chairperson of the Australian Computers in Education Conference. He was President of the SA Chapter of the Australian College of Education (ACE) and was admitted as a Fellow of the ACE in 1991. His Fellowship was awarded as recognition for his outstanding work in the field of technology in education. Gerry currently serves on the National Council of ACE as a technology in education adviser.

Gerry is a regular keynote speaker and panellist at national and international conferences. Recent international presentations include a keynote address on the future use of the Internet in education and training at the Joint Information Systems Committee (JISC) conference at the Online Educa.