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## Why and how can we teach e-Citizens with e-Books?

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# Why and how can we teach e-Citizens with e-Books?

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## **Abstract**

”As the digital age moves ahead rapidly, the digital teaching and learning gap between educators and students requires continual bridging. For this reason, educators are increasingly embracing digital teaching tools and technologies to achieve learning outcomes for students. This line of thought has been followed to examine the reason and methodology of teaching current and future university students with e-Books. A new definition of e-Citizens was created, being persons who are digitally literate including university students. Also a multi-dimensional e-Citizen framework was developed for educators to evaluate the digital appetite of their students and themselves. The first dimension represents the birth period of the e-Citizen, second the probability digital media acceptance by e-Citizen, third depth of technological immersion of e-Citizen and fourth the extent of teaching and learning outcomes achieved. Other dimensions can be added to this e-Citizens model too. Using e-Book for Auditing revealed that the uptake of e-Books was low by masters students. The multi-dimensional e-Citizen framework so developed can provide educators a structured approach to identify the digital appetites of e-Citizens and then best apply the digital tools and technologies, such as e-Books to achieve the teaching and learning outcomes.”

## Why and how can we teach e-Citizens with e-Books?

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### **Introduction**

Last year on joining the School of Accounting, Finance and Economics, Faculty of Business and Law at ECU, the approach of embedding digital media in the teaching curriculum of Auditing was taken. It was found that amongst the maze of digital tools and technologies available, there was one teaching tool which had still not been used, a digital book or popularly known as e-Book.

Thinking about why and how e-Book would benefit the Auditing - Master of Professional Accounting students, an e-Book for a well reputed textbook Auditing and Assurance – e” by Gay & Simnett by McGraw-Hill was identified. This opened up the opportunity to teach our students with the power of an e-Book!

The e-Book experiment was commenced by explaining to students, the salient features of the Auditing and Assurance e-Book. Contemporary literature, research and experiences related to new generation students and e-Books was also examined. In this process, came across many digital terminologies resulting in a new definition of e-Citizen to be given. e-Citizens include digital natives, digital immigrants, digital residents, digital visitors and excludes digital in-exiles. These prefixed digital terms have been explained later.

### **How do the New Generation Students Think?**

The view that human brain does not change after the age of 3, which the educators have grown up with, is being challenged. There is a widely held theory of “neuroplasticity” which suggests as the brain is plastic and that it changes itself throughout life in response to changes in the environment (Doidge 2008).

What does all this mean in real terms for the new generation students? According to Dr Bruce D Perry of Baylor College of Medicine, it is very likely that as a result of being born and grown in the electronic world, the new generation brains have physically changed and are different from the earlier generations. As a radical consequence of this technology-rich environment, some of the attributes of new generation are that they want information to be received fast and access it at random. Also, that they like to multi-task and be networked (Prensky 2001a, 2001b).

While neuroscientists continue to research how the brain actually changes as a consequence of growing up in a digital world, one thing is obvious that the thinking patterns of the newer generation Y (Gen-Y) have indeed changed and that they process information differently. Gen-Y are fluent in using the digital language of computers, video games, internet and all other electronic media. These distinctions and consequences go much deeper than it was suspected or realised by educators (Prensky 2001a, 2001b).

### **Who is a digital native?**

The term digital native is a person who was born in the eighties and consequently been raised and immersed in digital surroundings all their life. Some of the key attributes of a digital native can be summarised as follows:

- Proficient uses of technology and expect that their learning and working places are technology-rich.
- Information and opinion sharing culture, as their natural form of interaction is not one-to-one by many-to-many.
- Extensively disclose personal data via blogging, facebook and other internet media.
- Creators of their own content and not passive users.
- Learning through browsing, although identifying qualified and expert sources becomes questionable.
- Peer-to-peer interaction, so that often decisions are not done by individuals but by a group.

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So, what is the impact on teaching and learning for these digital natives?

In the book *Growing Up Digital: The Rise of the Net Generation*, it is observed that digital natives want to learn in an interactive mode rather than in a broadcast mode (Tapscott 1998).

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In another book, *Born Digital*, leading internet and technology experts Prof John Palfrey (Harvard's Berkman Center for Internet & Society) and A/Prof Urs Gasser (St Gallen) provide guidance on many digital issues including the impact of internet on teaching and learning (Palfrey 2008).

With the rapid increase of digital natives, the global economy, politics, culture, family life, teaching and learning is continuously being transformed. This is a useful conceptualisation, as it helps educators to understand which digital tools and techniques, such as eBooks will be required to fulfill the digital appetite of e-Citizens.

### **Who is a digital immigrant?**

An e-Citizen who is not a digital native, but belongs to Gen-X may be a digital immigrant. Although a digital immigrant was not born into this digital world, but has embraced the use of digital technology. Just like those who learn another language later in life, digital immigrants retain their accent because they still have one foot in the past. Thus, the accent of the older generation from the pre-digital world makes communication with digital native students difficult (Prensky 2001a).

So how do you know that if someone is a digital native or a digital immigrant? A digital native will assume their new camera will be digital, whereas a digital immigrant will refer to it as their new digital camera.

### **Who is digital in-exile?**

Digital in-exile is a person who was born after the turn of the century surrounded by steam power, basic gasoline powered cars, the telegraph and when IBM was still thinking about a mainframe computer. A digital in-exile is disconnected from digital technology and therefore do not qualify to be a e-Citizen. If an e-Citizen talked about "Google", digital in-exile would wonder "Whats that"?

### **What use a multi-dimensional e-Citizen model?**

In order to determine the digital appetite of e-Citizens, a multi-dimensional e-Citizen framework was developed. At least four dimensions can be used by finding out:

When was the e-Citizen born?

What is the probability of their digital media acceptance?

What is the depth of their technological immersion?

What is the extent of the teaching and learning outcomes achieved?

Other dimensions can be added to this e-Citizen model.

At this stage the first two dimensions of the e-Citizen framework can be determined:

The first dimension determines when the e-Citizen was born in order to identify whether a person is a digital native, digital immigrant or digital in-exile?

The second dimension determines what is the probability of accepting digital media by the e-Citizen? The level of probability can range from nil to high.

### **Who are digital residents and digital visitors?**

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The terminology of digital natives and digital immigrants has been critiqued by other sociologists. The distinction of digital native or digital immigrant is a simplification of a complex relationship between the generations and technology. Even though technology is embedded in the lives of the new generation, their digital skills are not uniform (Bennett 2008). For example, the cohort of online students studying on the web can be digital natives and digital immigrants.

The third dimension of e-Citizen framework requires the determination of what is the depth of technological immersion by e-Citizens? This can range from an occasional digital visitor to a permanent digital resident, as explained below:

Digital visitor is an e-Citizen who uses the web as a tool, and uses when required not become totally dependent upon it.

Digital resident is an e-Citizen who lives a virtual life on the web with professional and social networks existing mostly online.

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### **What should university educators do?**

University educators must be attuned to the continually changing and varied characteristics of their student cohorts. Identifying the profile of these student cohorts is crucial for designing the best suited technological tools for an engaging learning experience. (Kennedy 2008).

Thus, the multi-dimensional e-Citizen framework can identify student profiles by determining the digital appetite of the student cohort. Students can then be taught with appropriate digital tools and technologies, such as, e-Books.

Also educators must take their cues from the 21st century digital innovations and abandon their pre-digital instincts and comfort zones. They should place engagement before content, when teaching. Educators need to evaluate their own digital immigrant accents, pay attention to how the new generation students learn, and value what these students already know (Fetherston 2009).

This means that we need to understand the distinction between student cohorts by their digital appetite's, so that appropriate mix of technologies can be used for teaching and learning both on-campus as well as off-campus students.

### **What is an e-Book?**

An e-Book is an electronic book in file format containing the text of a book for easy reading on a PC screen, a laptop, a personal digital assistant (PDA) or a reader.

Some salient features of an e-Book are:

e-Books are published usually in PDF format and are available on websites.

An e-Book may require a software for reading.

e-Books have security settings which can prevent or limit printing, copying, and specify how many devices they can be installed.

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### **Why the Auditing & Assurance Services e-Book was introduced ?**

Based on our earlier discussion on growing digital appetites of e-Citizens, it was thought that teaching students with e-Books would be a good application of digital technology. For this purpose McGraw Hill supplied the e-Book for Auditing and Assurance Services in Australia by Gay and Simnett. This e-Book was easily installable using a code inside the printed textbook and had the following important features:

Highlighting

Note Creation

Copy and paste

Portable

Bookmarking

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Eco-friendly  
Re-sizing text  
High powered search

### **Are e-Citizens ready for e-Books ?**

It was observed during the study that the uptake of e-Books was slow. This may be a reflection of the student cohort in the masters program, which consisted mainly of digital immigrants. Although these students were digital savvy, learning with the e-Book was not fully embraced.

An explanation for the slow uptake of e-Books was given by William Endhoven of iRex Technologies at the International Digital Publishing Forum in 2006. People spend a lot of time in front of their computer screens, but they still do not want to read at length on their computer. Also, when faced with more than three or four pages, most people choose to read the printed text. (Buzetto-More 2007).

### **What are the advantages of reading e-Books?**

There are many other advantages of e-Books over printed books, such as:

Original quality printing of any page can be done.

Lighter and take up no physical space.

Less costly than paper books.

Instantly available worldwide by downloading from web instead waiting delivery by snail mail.

Full text search available on e-Books databases by specific phrase or keyword.

Never go out of print.

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Authors can self publish and distribute their books inexpensively.

Virtual library can be created.

Environmentally friendly by saving trees and pollution reduction.

Reference material can easily updated.

Libraries can loan by setting a time period in which it may be read.

### **How to develop and improve eBook publication standards?**

It has been recommended that publishers of electronic materials should take full advantage of the multimodal learning styles by using well-designed electronic publications, such as e-books (Johnson 2006). In this respect, publishing industry should filter out the sub-standard books by determining as to what gets published, particularly in an e-Book environment, where anyone can publish an e-Book.

### **Is there e-Books management system software?**

Recently, Adobe announced the release of Adobe Digital Editions 1.0, a new software application for acquiring, managing and reading eBooks, digital newspapers, and other digital publications.

### **What will be the tipping point for e-Books ?**

The implications for the future of education, publishing and reading by e-books are enormous. There has been a great push to introduce e-Books in the global educational system. It is expected that with the full emergence of the digital native population consisting of both educators and students, the adoption of e-Books for teaching will be accelerated.

As an analogy, digital camera technology remained dormant for many years till PC's became a household equipment. Now at the press of a button, photos can be transferred from PC's and also transmitted from mobiles.

Fast forward time and e-Books could quickly jeopardise the existence of printed textbooks.

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### Conclusions and future directions

Neuroscientists are researching to find out how the brain actually changes and behaves like plastic in response to external environment. *Prima facie*, the digital native brains have physically changed as a result of their birth and growth in the digital world. As a consequence digital natives have different ways of finding out and processing information by consuming information in fast and random bursts. They use Google, blogs, tweets and wikis as their "go to" sources. They intuitively know that all information is linked. Digital immigrants, on the other hand, instinctively immerse themselves in a topic and spend hours digging out the important bits. Whether a digital native or digital immigrant or digital resident or digital visitor, they all have been incorporated in the definition of e-Citizens.

The current pedagogies employed in education needs to bridge the digital teaching and learning gap by adapting digital tools and technologies to achieve the learning outcomes. Using the multi-dimensional e-Citizen framework, consisting of four dimensions to start with, educators can establish the digital appetite of student cohorts and themselves. Educators can then fit their teaching curriculum with the needs of the e-Citizens. Amongst other digital tools and technologies available, e-Books can provide e-Citizens this useful digital educational resource.

It will not be surprising in a world where readers believe that all information can be obtained from the web and transmitted electronically, there would be a stage where demand for e-Books rapidly increases over the printed textbooks. Already professional magazines are increasingly being distributed via the web.

In going forward, we need to ask ourselves those hard questions:

Where are we in this evolution ?

Are we digital natives or immigrants or in exile?

What are our experiences with these new social and collaboration technologies?

Have we adapted to this new digital world and part of e-Citizenship?

How long will a printed text survive the e-Book?

**Finally, are we ready to teach e-Citizens with e-books?**

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