

# Demystifying e-Learning: how big is the “e” in your e-Learning and how big is your “L”?

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**Abstract:** John will be exploring what is meant by "e-Learning", a concept which is bandied about so easily, yet is often misunderstood. To what extent are the purveyors or champions of "e-Learning" talking about the digitization of materials like textbooks so that content is simply appearing in electronic format? And to what extent is e-Learning being driven by the IT experts where the focus lies on the delivery mechanism. Or is it being driven by pedagogical and androgogical imperatives? Is e-learning rooted in the learning needs of the learners or is the seduction of technology deciding what happens in the classroom? Is it "Electronic learning" or "electronic Learning" and where should the emphasis be, or does it not matter?

## 1. Introduction.

In the world of education, e-Learning has become the latest buzzword. In fact it seems as if it is being viewed as the panacea for all ills. Taken to its extreme, one can't help but think that for some educators who are “drowning”, they are clutching at electronic straws. And of course as soon as one talks about e-Learning, you are entering the realm of IT. Without wishing to insult the fine professionals in this field, there are far too many IT wannabes in the broader FET College sector who give rise to the following warning: “In the land of IT, one eye is king!” Far too often, IT people do what is good for them leading their clients down the proverbial garden path as opposed to providing IT solutions that are good for the client.

In e-Learning, if the “e” stands for “electronic” and the “L” for learning, where is the emphasis, and does it matter? I would suggest that it not only matters, but it is fundamental for understanding why you have chosen to go this route. What has given rise to the need for an e-Learning system in your organisation? Is it a skills needs driven process, whereby your employees or students need to be learning either at work or at home in a cost effective way?

Or has your IT department initiated it because that is what is happening in other organisations and it is such a sexy thing to do and sounds so good when accounting for their time and budget? And have they and you, not perhaps been seduced by the lure of the technology?

## 2. What e-Learning is not?

It might be easier to approach this complex topic by first looking at what e-Learning is not. “The simple conversion of printed, hardcopy textbooks or manuals into an electronic format does not mean that these offerings can now be classified as technology-delivered education or eLearning. These are just electronic textbooks or manuals!” (*M Stanton, Positioning eLearning within the Skills Development Framework, ROADMAP to Learning and Skills Development Series. Knowres Publishing : Randburg, 2005, page 12.*

A lot of what passes for e-Learning is simply changing the delivery channel: instead of a warm body in the classroom “delivering” content, the content is now made available via a computer network or the internet. Please do not get me wrong: I am an avid fan of the accessibility of digital information via the internet and Google has really made my researching of topics so much more efficient. However, I also know that Google and other internet sites demand a fairly high level of reading and the ability to discriminate between thousands of search results so as to eliminate what you do not need.

### **3. Alice in wonderland**

While in Wonderland, Alice came to a fork in the road so she asked the Cheshire Cat which road she ought to take. “Where do you want to go to?” asked the Cat. “I don’t know” replied Alice. Said the Cheshire Cat: *“If you don’t know where you are going, any road will do”*

If your “e-Learning system” is simply a conduit for delivering content to the client learner, it remains that: a conduit and/or repository of information, and does not fall under the heading of an e-Learning system. Learning is so much more than being provided with information. Many organisations have good intentions of delivering learning materials to employees and students, but when one has the wrong motivation or driver, one can often fall into a state of delivering content electronically under the guise of –e-learning. And that is why I keep asking the question: is the driving force behind your e-Learning system a big “e” or a big “L”?

### **4. e-Learning follows a recognisable process.**

If we accept that learning is a distinct process, and there are many theories surrounding learning and learning styles, it is logical that an e-Learning system will also follow a recognisable process. Having spent my working life in education, training and development, there is a developmental process which I have observed over and over again. We move from a state of “unconscious incompetence” through “conscious incompetence” to “conscious competence” and finally “unconscious competence”. A common illustration of how this process works, is seen in learning to drive a motor car:

Unconscious incompetence – At the beginning of every new learning phase, we simply do not know what we do not know. When you get into the car for the first time, you simply do not know where to start, literally and figuratively. This translates into "I don't know what I don't know".

Conscious incompetence - As we start our learning, we realize how much we do not know and become familiar with the challenges of what needs to be learnt and we can say, “now I know what I don't know”.

Conscious competence – As you start driving, you continue to think about what the driving instructor drilled into you: check this, check that etc. This translates into "I have to think about what I'm doing".

Unconscious competence – I am now so competent, so used to driving that I am able to drive with a cellphone to my ear while putting on my makeup! "I perform the tasks without even thinking”.

The challenge we face, is how do we bring people to a state “automaticity” where they can function with competence and confidence?

All things being equal, it ought to be a relatively simple process to implement training and development programmes for skills development that build on our education system. However, all things are not equal.

## 5. We have a dichotomy.

So here we are in this dichotomy: we have a very sophisticated economy. Our banking system is amongst the best in the world, even better than the USA in some areas. We have very sophisticated IT solutions and infrastructure; we Skype people all over the world and increasingly we are computerising our schools so that learners can access the internet. However, the other side of the coin is we operate within a third world education and development environment. We have policemen who cannot take down a statement and post office clerks who respond with "where is that?" when you ask how much it will cost to post a letter to Scotland! Or the call centre dispatcher who upon been told by a caller that his address is 69 Aletta Avenue, asks "in what street is that?" and was quite surprised to be told that an avenue is in fact a street. And this of course leads to what we euphemistically call challenges in service delivery. An example of some of the service delivery issues: an educational department which under spends its budget by R648m in 2006; another government department has an allocation of R2m for computers. It gets its allocation in November last year only, and if not spent by the end of March this year, loses it – for the third year running!

Many organisations are struggling with Human Resource Development and rightly are focussing on job skills, and this is where I see e-Learning systems being implemented. And that is great, but remember that all things are not equal... Let's examine that.

## 6. The legacy of the schooling system = inequality.

Murphy once said... "Before you can do anything, you have to do something else!" This is so true for skills development. Before training staff locally, you often have to provide preparation for training because they cannot cope with the training being provided. This is also true of the FET colleges, the institutions which government has positioned as our primary skills development providers. Hence the emphasis on Learner Support.

All organisations are faced with the legacy of the schooling system which can be summed up as follows: *Our schooling system is failing to produce sufficient learners adequately prepared for the world of work and study in technological careers.*

## 7. Our education system is in crisis.

Some indicators of an education system in crisis.

- *World Competitiveness Report - SA ranked 40th out of 40 for HR Development*
- *Timms report - last in Maths amongst international study*
- *Learners are functioning at 3 - 5 grade levels below where they are. (WCED study)*
- *65% of Learners at former Model C schools are coping with maths at grade 8, but only 0,01% in rural schools*
- *In 2007 National pass rate for Maths at FET Colleges was 20%*

In 2006 35,000 Grade 11 learners failed in the Eastern Cape. You cannot keep this number of learners behind because they simply clog up the system, so they were promoted to Grade 12 with no additional help and made to write the end of year exams as private candidates.

Much has been said about the hastily introduced new curriculum and we know that it has its unique challenges (1 in 3 failed in the first assessments).

Of course, our biggest problem remains our educator corps. According to the Centre for Development Enterprise, only 20% of our teachers are truly competent to do the job they are in. And add AIDS to the equation, we see that our teacher population is being decimated. Based on statistics from as far back as 2003 when the AIDS pandemic was still relatively quiet, as many as 11 teachers a day were dying of AIDS related illnesses. What that number could be today, is anyone's guess.

Other indicators of an education system in crisis must surely be the annual matric results. In 2007 in one province 65,000 Grade 12 learners failed. They could not go back to school and repeat because the curriculum has changed. The real tragedy is that this failure was forecast as early as August 2007 and a budget of R104m was put in place to assist them in 2008 AFTER THEY HAD FAILED! And subsequently, the Senior Certificate results of 2008 do not show any improvement nationally. While two provinces rejoice with results over 70%, a quarter of learners is still failing, and what about those provinces where the pass rate is a paltry 50 odd percent?

How many of these learners have just "scraped through" and are barely literate? And they are being channeled to your institutions... At a recent provincial FET College conference, the Master of Ceremonies joked that a young lady arrived at a college at the start of the new academic year and asked for directions to the hospital as she wanted to study hospitality. This would be funny if it weren't so true.

Maybe this is why we see national FET College results of 7% - 20%?

## **8. We actually have a nation at risk.**

*"The people of this country need to know that individuals in this society who do not possess the levels of skill, literacy and training essential to this new era, will be effectively be disenfranchised, not simply from the material rewards that accompany competent performance, but also from the chance to participate fully in our national life. A high level of shared education is essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom."*

*Incidentally, this study was not conducted in South Africa like many of you are thinking, though I am sure that you will agree that the sentiment applies to our country. This quotation comes from the 1983 report entitled **A Nation At Risk** and refers to the United Kingdom!*

## **9. Why am I sharing this with you?**

The purpose is certainly not to criticise. Not appreciating the magnitude of the educational challenges, will lead you down a long and costly path with potentially little return on investment. There are no "quick fixes" here. Despite what many learned people and skilled IT practitioners will tell you, all the technology in the world will not make one iota of difference if you are not addressing the fundamental problem. It is crazy to try and layer skills on a flawed educational foundation.

If one's educational progress were represented by a brick wall, it might look like the following: there are many levels (years) of learning made up of individual building blocks. (learning elements) As a learner progresses through the school structures, there are classes that are missed due to illness; sections of the curriculum not covered because of time constraints and some material never mastered. This leaves gaps in the educational wall leading to a poorly constructed platform upon which further skills development can take place.

If your skills developmental processes do not take the poor educational preparation of your staff and students into account, you will end up pouring valuable resources down the drain. And the challenge is how do you provide the required educational remediation in the relatively short time that the academic year provides?

So by now you are considering an e-Learning System? Wonderful. Because without resorting to technology, we haven't a hope of addressing these developmental challenges. Added to the general educational challenges, don't underestimate the criticality of language...

*"In the early part of the twentieth century, education focussed on the acquisition of literacy skills: simple reading, writing and calculating. It was not the general rule for educational systems to train people to read and think critically, to express themselves clearly and persuasively, to solve complex problems in science and mathematics. Now in this century, these aspects of high literacy are required of almost everyone in order to negotiate successfully the complexities of contemporary life."*

## **10. GIGO**

So let's assume that your focus is clear and you know what you want to achieve with your e-Learning System. Remember the old GIGO principle of garbage in, garbage out – well it is still applicable. Stephanie Taylor from Pearson Education puts it well: "While the rapid strides made in both individual technologies and their integration with others have been inspiring and exciting, the successful use of new content and services depends to a large extent on the quality of teaching and the commitment of teachers"

How big is your "e" and how big is your "L"? Whether we are talking school or work place, an e-Learning System is only as good as the learning theory and content that goes into it.

One of the best descriptions of an e-Learning System I have read comes from Rizwan Tufail from Microsoft: "The innovation with eLearning is not about being able to learn through digital content – it is the ability for a student to be provided with an individual learning path and for the educators to then be able to measure progress on this path. It is the ability for a student to be presented learning materials, and objectives, tied to the students' past understanding of background materials, for the students to interact with this learning material, and finally for the students' understanding to be assessed and recorded in real-time – for use in the subsequent phase of the learning experience. It is this complete, repeated cycle that ensures the delivery of the greatest benefits associated with eLearning."

And this is true for all e-Learning, albeit for adults or learners at school.

## **11. E-Learning really comes into its own when there is an interactive, learning management system.**

Key to effective learning is to be able to identify the learners' current level of competence compared to a particular grade level. With appropriate technology one can "drill" down to identify concepts which the learner may not have mastered in earlier years, but which are preventing progress later on.

The LMS must provide a remedial curriculum for each specific learner according to his/her needs. Most importantly it must be able to assess the learner and give immediate feedback as to how he/she is doing.

Finally, a third party (teacher, facilitator or parent) should be able to access the LMS and get a report on how the learner is doing.

Successful e-learning requires sound educational concepts, in this case, competency-based instruction and mastery learning. The basic principle is this: people don't magically learn better just because they are using a computer. They learn better if the instruction delivered through the computer uses effective educational methods.

Competency-based instruction describes the curriculum by describing learning outcomes, which are often stated as objectives. Each objective describes a particular, measurable behavior which the learner must perform under stated conditions. For example, a conventional curriculum design might include a topic such as "the pythagorean theorem." By contrast, a competency-based curriculum design might include an objective such as, "given the lengths of the two legs of a right angled triangle, the learner will calculate the length of the hypotenuse." The difference is that the learning objective is more precise, and it suggests a particular way we could measure learning.

### **11. Assessment linked to outcomes**

The same specific outcomes are used to design the assessments to ensure congruency which leads to greater effectiveness: you measure that which you intend to measure. Technology makes it possible for assessments to be individualised, diagnostic and prescriptive.

### **12. So what should a decent e-learning system be able to do?**

- Identify & remediate deprived learning areas (knowledge gaps)
- Accommodate individual rates of learning
- Provide a private learning environment
- Personalise the learning
- Instruction material and method must be consistent
- Provide immediate feedback to the learner
- Reduce learning time
- Guarantee improvement in content retention
- Becomes more cost effective than conventional teaching approaches which may require considerably more "man-hours".

An example of a good e-Learning System, is the PLATO Learning System.

The Learning Management System (LMS) assesses individual learners against a specific grade level and identifies any learning gaps the individual has. The LMS then goes into the "bucket" of content within the system, and picks appropriate tutorials to close the identified learning gaps. The learner then has a personal learning path or curriculum to work on which addresses his or her needs. Usually at the end of a classroom session, the teacher asks "Do you understand?" After a chorus of "yes", the teacher moves ahead in the mistaken belief that learning has taken place. In the PLATO system, at the end of a tutorial, there is an assessment and "mastery" is based on an 80% achievement rate. Should the learner not get 80%, he is directed back into the tutorial to repeat it. When he gets to the

assessment the second time, the questions have changed : so for example, the first time 10 questions may have been asked, but the second time the learner is presented with  $10 - x + y$  questions. The reason for this is because the focus is on understanding and mastering the content, and not learning the questions.

### 13. Proven success in South Africa.

- *“Most of the students on the programme benefited from it. Between 56% and 71% of the students did better in their final tests while individuals improved their marks between 7% and 37%.”* Frikkie O’Connell: Campus Manager; Pinelands Campus, College of Cape Town
- *“Our pass rate for Mathematics (on the National exam) was 100% and for Communication 98%. **This is the best pass rate that Wingfield has ever had.**”* (Compare this to the National pass rate of 49%) Wingfield Campus

### 14. In conclusion.

- Beware of the seductiveness of technology
- Know what you want to achieve with your e-Learning System
- Choose an educational solution for an educational problem (More “L” less “e”)
- Be aware of the crisis in education and don’t assume competence based on a certificate
- Don’t be afraid to demand competence
- Be prepared to invest in language acquisition and development
- Provide a supportive developmental climate where it is OK to acknowledge learning gaps
- Challenge your IT people on the validity of the e-Learning Solution

**And make sure everyone understands that a good e-Learning System requires the learner to WORK, there is no USB cable you can plug in to your ear and download knowledge and competence.**