# Readiness Assessment Tool for An eLearning Environment Implementation

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#### Abstract

Economic, social and technological trends are shifting the global economy and the universities' behavior around the world. The need to acquire and to provide students knowledge and skills beyond geographic borders drives higher education institutions to an astute state of cogitation. e-Learning is becoming an answer to continuous learning and changes in the new economy. It responds to this need by offering new ways of learning and alternative ways of teaching.

Before even considering any e-learning solutions or tools, it is imperative to assess and address the factors that can cause failures in education. Success in online learning comes about by understanding the needs as well as the readiness of major players in the online learning environment.

By understanding these critical factors that foster online learning, the success of implementing an online learning ready environment is more likely to be achieved.

This paper attempts to present a readiness tool cum needs assessment that would reflect the value of understanding the institutions current state and the different readiness parameters in implementing an elearning environment.

**Keywords:** Assessment Tool, eLearning Environment

#### 1. Introduction

IT and communications technologies are pervasive in all social aspects, including the educational, due to the need of getting information from beyond geographic borders (Vicent, 2006).

Such technologies provide opportunities for higher education institution to enhance the learning environment of the students as well as the management and administration of program and module delivery and support. One of the enhancements of the learning environment is the introduction of e-Learning.

e-Learning is "the acquisition and use of distributed knowledge and facilitated primarily by electronic means (Wentling, 2008). The Commission on Technology and Adult Learning (2001) defined e-Learning as instructional content or learning experiences delivered enabled or electronic technology. In practice, incorporates a wide variety of learning strategies and technologies.

A wide range of systems fall into the elearning purview - from students using email and accessing course work online while following a course on campus to programs offered entirely online. This type of ICTenhanced learning is "increasingly prominent in tertiary education" (Commission on Adult Technology, 2001; OECD, 2005).

McCombs (2005) stated that the rate at which a variety of institutions are entering the distance learning arena is increasing rapidly. The numbers of universities that offer

distance education courses and programs have increased exponentially since the 1980s (Jones, 1997). Universities are gradually bringing e-Learning into the mainstream of their educational programs and it is often an integral part of a classroom-based course (OECD, 2005).

In a rush to employ e-Learning, many institutions however, are making ominous blunder usually caused by their unfamiliarity with requisites of e-learning. Any attempt to institutionalize e-Learning will prove futile without first attaining its vital requisites (Trinidad, 2002). Adding to the mystification that surrounds any e-learning initiative is the market availability of a wide range of e-learning solutions.

Experience has shown that when a decision has been made to use a technology in open and distance learning, this decision influences not only the teaching and learning environment. It leads to the development of new cultures, concepts, and understanding. the introduction of Consequently, alternative form of learning can alter and expectations among users institutions alike. (Bandalaria, 2007). In order to reduce the risk of failure and increase the chance of success in the adoption of e-Learning, a tool for measuring the readiness along the critical factors in implementing an e-learning environment is proposed.

It is given that the degree of adoption of e-Learning within a university and among universities varies to a great extent. However, regardless of the degree of adoption, a successful e-learning endeavor must always involve a systematic process of planning, designing, developing, evaluating and implementing an e-learning environment where learning and teaching is actively fostered and supported. This can only happen when the e-learning environment is meaningful to all the stakeholders including the learners, teachers, support staff and the institution.

The assessment framework proposed for this particular study encompasses the preliminary information for planning process. Such readiness assessment tool could be applied to universities which are contemplating of putting up e-learning for the first time, and may also be applied to universities who have put up e-learning initiatives but would want to reevaluate the state of the institution along critical factors in e-learning.

# 2. E-Learning Implementation Issues and Factors

Each constituent in the online education process (policymakers, administrators, faculty, parents, and students) must consider a number of important issues when contemplating creating, adopting, administering, or participating in online courses (NEA, nd). In developing the readiness assessment tool for this particular study, various e-learning issues and critical success factors that were introduced by numerous literatures were considered. In terms of e-learning, critical success factors can be viewed as those activities and constituents that must be addressed in order to ensure its successful implementation (Masoumi, 2006).

Khan (2002) cites issues along eight critical dimensions: pedagogical, institutional, technological, interface design, evaluation, management, resource support, and ethical considerations. Each dimension has several sub dimensions, and each sub dimension consists of issues related to a specific aspect of an e-learning environment.

Chapnick (2000) grouped together a wide variety of factors into eight categories that allows practitioners to use the same process to assess the vastly different stakeholders in the system. The factors include psychological readiness, sociological readiness, environmental readiness, human resource readiness, financial readiness,

technological skill readiness, equipment readiness and content readiness.

According to Pirani (2004), institutions must provide adequate and reliable technical infrastructure to support e-learning activities, instructors and student must possess the technical skills to use e-learning tools and instructors must redesign their courses to incorporate e-Learning effectively into their pedagogy.

Anderson (2002) looked into five critical success factors--or the five Cs that will help companies make sound e-learning decisions hope to eliminate some failures. The five Cs of successful programs are culture, content, capability, cost, and clients. Any of these factors can derail even the best-intentioned e-learning initiative. Collectively, they are the make or break success factors.

Volery (2000) using an empirical study college students proposed framework for the critical success factors in online education with emphasis on three aspects in e-learning. These include technology (ease of access and navigation, interface design and level of interaction). Another factor is the instructor along students, attitudes towards instructor technical competence and classroom interaction. The other factor identified is the previous use of technology from a student's perspective.

Tham (2002) cites the framework that discusses critical institutional, technological, and student issues that must be addressed for effective online learning to take place.

#### 3. Readiness Assessment for e-Learning

The various issues cited by the different literatures clearly cut across three crucial areas: student, faculty and the institution (administration) itself. While aptitude to adapt e-Learning maybe anchored on several dimensions, the most obvious can be readily and practically measured are along these three areas identified.

In recent years several studies have also highlighted critical aspects of readiness both for students and the teachers that must be addressed. Some of these more important issues include: include the technology access, technical skills and attitude.

#### 3.1. Technology Access

Access refers to the ability/inability of persons, to avail of, and participate in, a widely available service. (Fathaigh, 2002). A basic requirement for online learning is the access to a stable Internet connection and dependable computer. For online learner and teachers, their computer and Internet access are the primary instruments of learning / teaching. To probe for readiness along technology access, the corresponding questions are asked for both teachers and students.

	TECHNOLOGY ACCESS	YES	NO
	1. I own a computer	0	0
SS	2.I have access to a dependable computer	0	0
COMPUTER S	3. I have access to a computer with the necessary software installed	0	0
COM	4 A printer is attached to my computer	0	0
\INTERNET ONNECTIVIT	5 . I have / I am willing to obtain access to a computer and Internet connection at home?	0	0
\INTER CONNEC	6. I have access to a computer in campus or Internet cafes with stable Internet connection	0	0
TOOLS	7. I have one of these Java-enabled web browsers? Netscape™ 6.2 (PC and Mac), or 7.0(PC); Internet Explorer 5.0 or higher	0	0
T	8. I have a virus protection on my computer	0	0

#### 3.2. Technology Skills

More than access, the student's teachers and the administrative staff who would technically support the e-learning environment implementation must have the technology skills to be ready to venture into e-Learning. These involve basic computer

skills, online skills and computer application literacy. Success in an e-learning world demands new forms of literacy and expertise of students (Oliver, 2001). This is likewise true for teachers and administrators.

	TECHNOLOGY SKILLS STUDENT	YES	NO
	1.I know the basic functions of computer hardware components ( CPU and monitor) including its peripherals like the printer, speaker, mouse etc.	0	0
TER	2. I know how to save / open documents to/ from a hard disk or other removable storage device.	0	0
OMPU	3. I know how to turn on and shutdown the computer properly.	0	0
BASIC COMPUTER SKILLS	4. I know how to resolve common hardware or software problems or I can access a technical support in case I encounter a problem.	0	0
	5. I have an email address	0	0
	6. I can open / send an email with file attachments	0	0
	7. I know how to log in to the internet service provider (ISP)	0	0
SKILLS	8. I know how to navigate the web pages ( go to next, or previous page)	0	0
ERNET	9. I know how to download files using any browsers ( Internet explorer, maxilla)	0	0
BASIC INTERNET SKILLS	10. I know how to resolve common errors while surfing the Internet such as "page not found" or "connection timed out"	0	0
	11. I know how to access an online library and other resource database	0	0
	12. I have attended online classes before	0	0
	13. I have previously joined in online discussions and online forums	0	0
Е	14. I know what PDF files are and I can download and view them	0	0
$\sim$	15. I am familiar with word processing and use it comfortably	0	0
LITERACY ON SOFTWAI APPLICATION	16. I am able to have several applications opened at the same time and move easily between them	0	0
TERAC	18. I know how to use file compression	0	0
LI	19. I know how to use spreadsheet application ( Excel)	0	0

20.	I have attended seminars /	_	
worl activ	sshops related to online learning rities	O	O

	TECHNOLOGY SKILLS TEACHERS	YES	NO
	1.I know the basic functions of computer hardware components ( CPU and monitor) including its peripherals like the printer, speaker, mouse etc.	0	0
COMPUTER SKILLS SKILLS	2. I know how to save / open documents to/ from a hard disk or other removable storage device.	0	0
TER	3. I know how to turn on and shutdown the computer properly.	0	0
COMPU	<ol> <li>I am comfortable with things like installing software and changing configuration settings on my computer.</li> </ol>	0	0
	5. I know how to resolve common hardware or software problems or I can access a technical support in case I encounter a problem.	0	0
	6. I have an email address and I can open / send an email with file attachments	0	0
ILLS	7. I am familiar with online etiquette	0	0
BASIC INTERNET SKILLS	8. I know how to surf the Internet and navigate the web pages (go to next, or previous page)	0	0
NTER	9. I know how to download files using any browsers (Internet explorer, maxilla)	0	0
BASICI	10. I know how to resolve common errors while surfing the Internet such as "page not found" or "connection timed out"	0	0
	11. I am comfortable with things like doing searches, setting bookmarks, and downloading files	0	0
	12. I know how to access an online library and other resource database	0	0
	13. I have attended online classes before	0	0
	14. I know how to use asynchronous tools (e.g., discussion boards, chat tools,) effectively;	0	0
STO	15. I know what PDF files are and I can download and view them	0	0
E TOOLS ITY TOOL	16. I am familiar with word processing and use it comfortably	0	0
	17. I am able to have several applications opened at the same time and move between them	0	0
ON C RODU	18. I know how to use file compression	0	0
LITERACY ON ONLIN & OTHER PRODUCTIV	19. I know how to use spreadsheet application ( Excel)	0	0
LITE	20. I know how to use presentation software	0	0
	21. I have used a learning management system before	0	0
	22. I have the skills to modify and add content and assessment using an online learning management system	0	0
	23. I have attended to seminars / workshops related to online learning activities	0	0

#### 3.3 Students' Attitude towards e-Learning

In today's age of corporate governance and customer-centered approaches, it can be arrogant and unwise for universities to impose online learning on students without first addressing their needs and concerns (Oliver, 2000).

An individual learner's success in an online course often hinges on the foundation of his readiness. Prior to implementing any e-learning initiative, institution must take into careful consideration the readiness of students.

Readiness is fortified by the ability to work independently, have self-motivation, mature reading and writing skills, and a proactive approach to learning, as well as a positive attitude about the learning experience in general (Kaminski, Student's attitude towards e-Learning maybe measured along the following dimensions: study habits, abilities, motivation and their time management behavior. Learners need to be valued and taking time out to review the issues discussed above is just the beginning of the valuing process and success of the elearning initiative.

In the development of the student readiness assessment tool several existing tool have been considered, SORT Student Online Readiness Tool (ALT, nd) Technical Skills Self-Evaluation (NMSU, nd). The information generated from the initial appraisal of these dimensions will serve as baseline data in developing well strategies as as approaches developing course management and policies of e-learning implementation.

	UDENTS' ATTITUDE towards CH UCCESSFUL ONLINE STUDENT DIMENSIONS								
	(1-never , 2- seldom, 3-about half of the time, 4- usually, 5 – always)								
	4- usuany, 5 – aiwa	ys) 1	2	3	4	5			
	1. When I have an important assignment, I get it done ahead of time	0	0	0	0	0			
	2. I prefer to figure out instructions for assignment by myself / I prefer to study or work alone	0	0	0	0	0			
	3. I look forward to leaning new skills and master them quickly	0	0	0	0	0			
BITS	4. As a learner, I an highly independent	0	0	0	0	0			
STUDY HABITS	5. I am able to refrain from distractions and stay on task while working or studying	0	0	0	0	0			
ST	6. When asked to learn new technologies, I do not put it off or avoid it.	0	0	0	0	0			
	7. I can analyze class materials and formulate opinions on what I've learned.	0	0	0	0	0			
	8. I am determined to stick to studies despite challenging situations	0	0	0	0	0			
	9. I do not need direct lecture to understand materials	0	0	0	0	0			
	10. I am able to express my thoughts and ideas in writing	0	0	0	0	0			
70	11. I am as self-starter	0	0	0	0	0			
ABILITIES	12. I am able to communicate effectively with others using online technologies	0	0	0	0	0			
A	13. I take responsibility for my own learning	0	0	0	0	0			
	14. Taking responsibility for staying in contact with my instructor would be easy for me	0	0	0	0	0			

For this purpose, the following checklist allows the students to assess themselves along statements that describe the characteristics of successful online students. The statements of characteristics are clustered according to study habits, abilities, motivation and time-behavior management.

	STUDENTS' ATTITUDE towards CHARACTERISTICS OF SUCCESSFUL ONLINE STUDENT ALONG SELECTED DIMENSIONS								
	(1-never , 2- seldom, 3- 4- usually, s			of the t	time,				
		1	2	3	4	5			
	15. I consider flexibility in time as an important motivating factor in taking an online class	0	0	0	0	0			
	16. I am highly motivated and enthusiastic to take an online course	0	0	0	0	0			
MOTIVATION	17. I enjoy learning that is both interesting and challenging, and I am motivated in such situations to go beyond the minimum requirements.	0	0	0	0	0			
	18. I would be able to remain motivated even though the instructor is not online at all times.	0	0	0	0	0			
	19. I set a goal before starting a task	0	0	0	0	0			
	20. Considering my professional and professional schedule, I am able to spend significant time and energy to engage in online learning class	0	0	0	0	0			
INT	21. I do not have trouble getting things done on time	0	0	0	0	0			
TIME MANAGEMENT	22. I am able to organize my time well so that works and tasks don't buildup	0	0	0	0	0			
TIME M.	23. I can sacrifice personal time to complete assignments and readings	0	0	0	0	0			
	24. I get things done without having to be directed by others	0	0	0	0	0			
	25. I finish things that I start	0	0	0	0	0			

## 3.2. Teachers' Attitude towards e-Learning

The teachers play a crucial role in the implementation of the online learning environment.

More than the required technical support, they must possess the unique set of tools, skills and personal attributes to perform online teaching and online environment administration successfully.

Teaching in an online course involves more than replicating classroom strategies in a different form. It "requires a different approach - one that focuses less on the amount of time students spend together in a particular place, and more on facilitating a distance community and on activities designed for students working individually" (University of Washington, 2004).

The following checklist allows the teachers to reflect on their teaching style and strategies, circumstances, abilities, motivation and time behavior management. These statements describe some of the characteristics of successful online teachers. By assessing themselves along the statements, the teachers will get some idea of their predisposition and temperament for online teaching experience.

In the development of this tool, the following existing readiness tools have been considered: "Is online Teaching for me?" (Online-Learning.net, nd), Faculty Self Assessment (Cabrillo College, 2003), Online Readiness Checklist (SJC, nd).

	TEACHERS ATTITUDE towards SUCCESSFUL ONLINE TEACHE DIMENSIO never , 2- seldom, 3-about half of t usually, 5 – alv	RS A NS the tin	LONG			
		1	2	3	4	5
	I use discussion as a teaching strategy for the subjects that I teach	0	0	0	0	0
EGIES	I encourage independence and creativity from my student	0	0	0	0	0
STRAT	3. I facilitate and monitor appropriate interaction among students;	0	0	0	0	0
ES AND	4. As a teacher, I support student-centered learning	0	0	0	0	0
G STYL	5. I am flexible in dealing with students' needs (due dates, absences, make-up exams)?	0	0	0	0	0
IEACHING STYLES AND STRATEGIES	6. Critical thinking and problem solving are important skills for my students	0	0	0	0	0
I	7. I use strategies to encourage active learning, interaction, participation and collaboration among students	0	0	0	0	0

8. I use effective strategies and techniques that actively engage students in the learning process (e.g., team problem-solving, inclass writing, analysis, synthesis and evaluation instead of passive lectures)	0	0	0	0	0
I encourage learning through group interaction	0	0	0	0	0
10. I provide timely, constructive feedback to students about assignments and questions	0	0	0	0	0
11. I use appropriate strategies designed to accommodate the varied talents and skills of my students	0	0	0	0	0
12. I provide student-centered lessons and activities that are based on concepts of active learning and that are connected to real-world applications.	0	0	0	0	0
<ol> <li>My teaching goals and methods address a variety of student learning styles.</li> </ol>	0	0	0	0	0
14. As a teacher, I view myself as facilitator	0	0	0	0	0
15. I immediately consult with students to correct problems and keep them on task	0	0	0	0	0

	TEACHERS ATTITUDE towards SUCCESSFUL ONLINE TEACHE DIMENSIO (1-never , 2- seldom, 3-abo 4- usually, 5 – al	RS A NS out hal	LONG	SELI	ECTEI	
		1	2	3	4	5
	16. I use the Internet to locate resources for teaching	0	0	0	0	0
	17. I work well with students with different cultural background	0	0	0	0	0
	18. I communicate with students very well	0	0	0	0	0
S	19. I have very good reading comprehension skills	0	0	0	0	0
ABILITIES	20. I am able to condense multiple perspectives into a coherent discussion?	0	0	0	0	0
A	21. I can work independently, without the traditional class arrangement (students & teacher in the same class at the same time)	0	0	0	0	0
	22. I can often complete difficult tasks on my own, even if others do not provide support and encouragement	0	0	0	0	0
	23. I am able to comfortably work online / I feel I will be able to comfortably work online	0	0	0	0	0

24. I am able to comfortably communicate almost entirely through writing	0	0	0	0	0
25. I am able to establish effective environment for student-teacher and student- student interaction	0	0	0	0	0
26. I am capable of self-discipline	0	0	0	0	0
27. I am able to work in a non-structured environment	0	0	0	0	0
28. I assume responsibility for preparation and presentation of learning tasks	0	0	0	0	0
29. I have the ability to experiment with a new pedagogical approaches.	0	0	0	0	0

		_	_			
	TEACHERS ATTITUDE towards ( SUCCESSFUL ONLINE TEACHE) DIMENSIO	RS A	LONG	SELE	CTEL	F
	(1-never , 2- seldom, 3-about 4- usually, 5 – al			e time,		
	- usuany, 5 - u	ways)	2	3	4	5
	30. My interest in online teaching is motivated by the flexibility it will give me to decide when I do my work	0	0	0	0	0
	31. My interest to teach online is motivated by the opportunity for me to pursue personal interests that are not work- related	0	0	0	0	0
MOTIV ATION	32. My interest to teach online is motivated by the opportunity to have more free time for other professional activities (attending conferences, consulting, etc.)	0	0	0	0	0
MOT	33. Having a more convenient way to teach highly motivates me to teach online	0	0	0	0	0
	34. I am committed to teaching	0	0	0	0	0
	35. I am highly motivated and enthusiastic	0	0	0	0	0
	36. I set a goal before starting a task	0	0	0	0	0
NT	37. I can dedicate 4 to 6 hours a week (any time during the day or night) to participate in the online teaching process	0	0	0	0	0
TIME MANAGEMENT	38. I am willing to log on and contribute to your online classroom discussions and interact with students online	0	0	0	0	0
FIME MA	39. I am willing to devote more time to an online class than an onsite class	0	0	0	0	0
	40. I am able to create schedules for myself and stick to them	0	0	0	0	0

#### **Institutional Readiness**

The online learning environment revolves around a learner centered- system supported by teaching activity focused on facilitated learning. Administrators seeking resources for the establishment of a distance learning program must take pains to cultivate the support and interest of faculty (Beaudoin, 1996). The move from traditional to an alternative delivery of instruction such as e-Learning requires that commitment is secured from all levels especially the administration. This is to address possible limitations in resource and conflicting perspectives in e-Learning and eliminate structural constraints.

Institutional readiness likewise takes into consideration whether processes are in place to support both students and faculty. Support systems should provide instructional and technical resources to teachers, students, and administrators. Special support necessitated by the unique circumstances of the online environment must also be in placed. Of equal considerations are supports for resources including financial, human and infrastructure/technical resources for the organization.

Numerous literature on institutional readiness are available that covers various issues of management affairs along making the institution online learning-ready ensuring that the organization is able to meet the identified needs of the online program implementation over time.

The suggested measurement is motivated by the following literatures: "Report Questions" (ACICS, 2007), "Is E-Learning Right for Your Organization", (Anderson, 2002).

i 7 0 1	READINESS  An e-learning initiative is aligned with the institution's mission  The institution recognize that large-scale course redesign for e-learning initiative involves a strong collaboration among the	YES O	NO O
i 7 0 1	institution's mission The institution recognize that large-scale course redesign for e-learning initiative involves a strong collaboration among the	0	0
; 1	course redesign for e-learning initiative involves a strong collaboration among the	С	
1	involves a strong collaboration among the	_	0
1	teachers, IT personnel, and administrators in		
	the planning as well as the implementation		
i	There is commitment on the part of institutional leaders to use technology to achieve strategic academic goals	0	0
i	There is commitment on the part of institutional leaders to use technology to achieve strategic academic goals and that such commitment extends beyond just using technology.	0	0
NSTRUCTI	The institution is willing to employ or to assign an academically capable and/ or experienced faculty to oversee the implementation of the e-learning environment	0	0
ICIES, I	The institution support employees who seek out non-traditional development programs or experiences	0	0
NT, POI	The institution is willing to accept e-learning as a mode for teaching and learning	0	0
OMMITME	The institution has committee or is willing to put up a committee that will work directly with the development of online courses and programs	0	0
PPORT ( C	The institution ensures / or is willing to put in place provisions that would ensure adequate and timely support to the teacher and students when technical issues arise	0	0
SATIVE SU	The institution provides or is willing to provide teachers with professional development opportunities to assist them in improving their online teaching	0	0
DMINISTE	The institution support teachers to have access to a network of other online practitioners to discuss pedagogical and curricular issues.	0	0
1	The institution is willing to provide a professional support system is in place to ensure teacher success in delivering the online course.	0	0
	The institution is willing to make provisions for collaborative teaching arrangement	0	0
	The institution is committed to learner- centered instruction	0	0
	Computing is firmly integrated into the institution's culture?	0	0

	INSTITUTIONAL READINESS	YES	NO
RESOURCE SUPPORT ( FINANCIAL, HUMAN, TECHNICAL)	The institution is financially ready to venture into e-learning	0	0
	The institute is willing to create a budget for implementing e-learning	0	0
	The institution has experienced human resources, or a department that organizes trainings related to online learning?	0	0
	The institution have adequate human resources to support an e-learning initiative		
	Adequate and timely support is available to the teacher and students when technical issues arise.	0	0
	The institute has a courseware delivery system (LMS) through which courses and programs are delivered	0	0
	The current technological infrastructure is adequate to build and/or sustain an online learning environment	0	0
	The online platform used for course delivery has the necessary system capacity to support the learning activities of the course	0	0
	The online platform provides appropriate tools for communication and collaboration.	0	0
	The online platform used for course delivery has the necessary system capacity to support the learning activities of the course.	0	0
	The institution is willing to provide students and faculty access to appropriate hardware and software needed in the e-learning implementation	0	0
	The institutions ensures that instructional resources and equipment are readily available, accessible and reliable	0	0
	The institution has a well-developed technical infrastructure	0	0
	The institution has extensive bandwidth capability	0	0
	Connection speeds are sufficient for communication and accessing all course materials.	0	0

### Conclusion

By establishing the characteristics of successful online learners and online teachers as well as an online learning –ready institution, one is able to assess the state of readiness of students, teachers and the organization along the implementation of an e-learning environment.

The readiness criteria provide a goal for the institution as it develops its capability to implement an online learning environment. Being able to assess the status as to where the institution is currently positioned in relation to where it envisions itself to be already sets a milestone. Having these vital information sets already institution to develop strategies as well as timetable for achieving readiness in all the categories identified.

While it is the objective of this study presents a readiness assessment tool, it is recommended that further studies be done to validate and apply the assessment tool.

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