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The Role of Leadership in Developing an ICT Based Educational Institution into Learning Organization in Pakistan

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Abstract

The “Learning Organization” (LO) concept has become so high-flying and so popular since its emergence. The main emphasize has been put on how an ICT based educational institution fulfils the requirements of LO. This paper is an endeavour to response the question that “Can ICT based academic institution become a LO?” By looking around, the external environment is changing so dramatically and it is effecting to all; humans, organizations, societies, governments and the world as a whole. This change has altered the way of living, communication, and business and even pattern of learning. Information and Communication Technology (ICT) is an aspect that is responsible for this change (Kinder, 2002) and this ICT revolution has boosted enormous challenges for organizations.

Keywords: Leadership, Information and Communication Technology, Learning Organization

Introduction

The “Learning Organization” (LO) concept has become so high-flying and so popular since its emergence (Senge, 1990). LO literature shows how the concept of LO is applicable to business organization (Senge, 1994) in general and in service sector (hospital, academic organizations, hotels) in particular (Isaacson and Bamburg, 1992; Senge, 1994). When one relates LO concept with service sector, it crafts aggravation among business sector (Spencer, 2002) because service sector cannot fabricate equivalent outcomes as turn out by business organization by reason of differences in values among different services (Somerville & McConnell, 2004). This article is an endeavour to response the question that “Can ICT based academic institution become a LO?” The main emphasize has been

put on how an ICT based educational institution fulfils the requirements of LO. Garvin, Edmondson and Gino in their article, "Is Yours a Learning Organization?" published in Harvard Business Review, March 2008, described three building blocks of the LO; *A supportive learning environment, Concrete learning processes and practices, Leadership that reinforces learning* (Garvin, Edmondson & Gino, 2008). They developed these blocks to know as a criteria to check that whether an organization is a LO or not (Garvin et al., 2008). According to authors, these three building blocks of organizational learning reinforce one another and, to some degree, overlap. The three building blocks along with some questions are related to evaluate different aspects that can be used to in a unit, department, and multiple departments and even in the whole organization. Three blocks can be used collectively or independently and in this paper, third block is selected to conduct this empirical study. The study is restricted within the period from 1980 to onward. This restriction is applied for convenience and to some extent covers the studies that lead towards the development of this concept and studies that conducted to explore this concept.

By looking around, the external environment is changing so dramatically and it is effecting to all; humans, organizations, societies, governments and the world as a whole. This change has altered the way of living, communication, and business and even pattern of learning. Information and Communication Technology (ICT) is an aspect that is responsible for this change (Kinder, 2002) and this ICT revolution has boosted enormous challenges for organizations. Organizations become a part of ancient history who failed to change itself in terms work styles, learning pattern and structure of organization (Kinder, 2002). LO is a continuous process of change, development and learning (Örtenblad, 2001). The organization will become more effective who have capacity to learn (Tsang, 1997) and change.

LO demands activity (Örtenblad, 2001) and this activity leads towards experience, modification in behaviour reflecting new knowledge and insight (Garvin, 1993), adopting new ideas that trigger for improvement (Garvin, 1993). ICT change has effected and inspiration on both organization learning and individual learning. In developed and developing countries, there is an enormous global pressure of ICT change on business organization in general, and on academic institutions (by some researchers), to enhance effectiveness, performance and to improve learning (Dill, 1999). This pressure leads organizations to address ICT change to become as LO (Senge, 1994; Park and Rojewski, 2006). To meet the demand and reduce the pressure, the pace of change in education organization and learning environment must be matched with ICT change (Meng and Werner, 2005).

ICT Based Academic Institutions

ICT has changed the business organizations as well as academic organizations. Due to this change the learning environment becomes independent of geographical restriction and it is transformed from "traditional classroom" to distance education and then to ICT based "invisible classroom" (Meng & Werner, 2005). In traditional classroom plain lectures are given with the aid of computer and multimedia presentations, while in distance education content and learning aids are provided by mail, audio or/and video tapes while in "invisible classrooms" content and learning aid material is provided with the help of internet, e-mail, fax, video- conferencing , cable, television and satellite (Sherry, 1996). This method not only increases interactivity between students and teachers because of break-up of time limit constraint but technology facilitate the learning and can motivate students and stimulate learning process (Sherry, 1996). Engagement of students in learning activity increasing

motivation and technology can engage students by challenging activities like problem solving, analysis and research.

Learning in invisible classroom where students come from any race, culture, gender, social background and with different IQs demand highly informative and innovative content, challenging activities and may not be satisfied with “model answers” (Meng and Werner, 2005). To address this confront, teacher distributes challenging assignments, quizzes and projects and teacher’s interactive discussions with students with all solutions and remedies of problems faced by students create a learning environment for students and teachers’ own as well. To develop this environment, a platform is required integrated with all technological and communication facilities.

A Learning Management System (LMS) used by Virtual University of Pakistan, a public sector university came about in 2002 with latest ICT infrastructure, is one of the existing models and platform with all its fundamental and advance requirements of student and teachers. LMS provides opportunity to all students and teachers to interact continuously and regularly irrespective of their geographical locations. Through this system, teachers provide different learning activities like assignments, quizzes and research projects directly to students and if there is ambiguity regarding any activity questions can be raised and discussion can be conducted through a discussion forum called Moderated Discussion Board (MDB). In this forum, the questions of students are answered in a comprehensive and elaborative way that may not be possible in traditional classroom situation due to time constraint. This answer and discussion is also shared with all other students and discussion among student to student and among student to teacher through chat facility, make learning environment more effective. To increase the involvement of students, teacher also ask question and rate the feedback of students. The exchange of ideas in this way requires a lot of learning from student’s end as well as from teachers’ end. Exchange of information and ideas reduce many barriers like shyness and inability to speak from student’s part.

This web based LMS tool is supported by many other activities like video lectures in streaming media from the Virtual University’s servers, (lectures also broadcast over free-to-air television and also available in the form of multimedia CDs). This LMS environment does not develop to replace classroom environment but serves as compliment and expand the learning form physical boundaries where student from remote areas can be facilitated to acquire knowledge from renowned teachers. This LMS has many features like:

- Disseminating information about course to students
- Providing course material, course outlines, FAQs, Glossary, power point slides etc
- Providing supplementary material like quiz, assignment, project
- Allowing student to ask and discuss through MDB, and chat facility
- Time schedule for lectures is communicated to students
- All courses about 150 are available with LMS platform to all 25000 students,

The table (1) below summarizes the tools and resources available for use:

Table (1): adapted from VU's office (Tools and Resources available in LMS)

Tool	Description and Use/Function
Course Outline	<ul style="list-style-type: none"> • Provides overview of each course • Provides the weekly, monthly lecture's content, course activity, assignment scheduling, reference material
Chat Room	<ul style="list-style-type: none"> • Students can communicate with other university fellows • Enables student-faculty communicate outside of class time
Moderated Discussion Board	<ul style="list-style-type: none"> • Enables peer-to-peer learning and interactions • Any question regarding course can be raised here which is also visible to all students enrolled in that course • Maximum facility and time to grasp the concept
Enrich FAQ Section	<ul style="list-style-type: none"> • Displays frequently-asked questions related to course which the lecturer wants to students to read before they post any email messages to him or to the discussion forum
Glossary Section	<ul style="list-style-type: none"> • Each course has its own terminology and term and this section elaborate difficult terms that students need to know who enrolled in the subject
Quiz / Assignments	<ul style="list-style-type: none"> • Quizzes and assignment uploaded for students to apply and increase the understanding of the subject
Work Storehouse	<ul style="list-style-type: none"> • Provide enough space to students and teachers to upload the quizzes, assignments and projects

Due to this innovative learning environment, the responsibility and learning capacity of faculty member has increased enormously; firstly grasp the information and master the content and handle this challenging environment to make learning environment and secondly introduce new ideas and techniques to make learning environment supportive and easy for students. The role of faculty member has also changed in this state of affairs and he entitled as a "learner" for the attainment of goals and objectives of organization because when employee learns, the organization also learns and that leads organization to become a LO. (Murdeoch, 1995). It is essential task for faculty members to acquire and develop skills, ideas to keep the learning environment of the organisation alive.

Learning Organization and Leadership

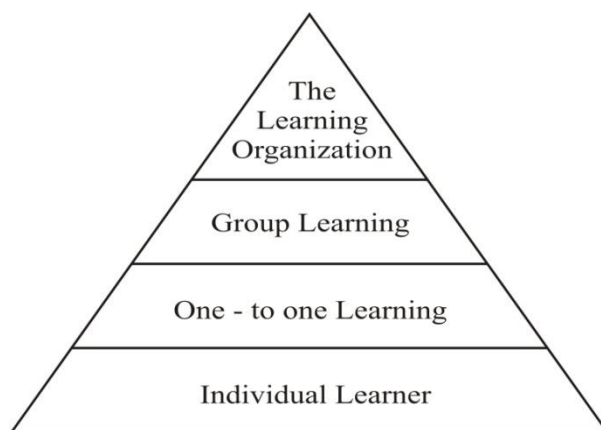
In literature, two related and narrowly interrelated vocabulary 'organizational learning' and learning organization' are bring into play to some extent interchangeably but the vocabulary be supposed to deem dissimilar (Lundberg, 1995; Tsang, 1997; Stewart, 2001; Ortenblad, 2001; Sun and Scott, 2003; Yeo, 2005; Ya-Hui, Yu-Yan, Yang and Mingfei, 2006). Organizational learning is a notion employ to

explicate particular nature of activity that happens in an organization while the LO submits to a certain type of organization. Literature about organizational learning is mainly suggestive and scholarly in nature but the literature of the LO for the most part is perception and intentionally it aims at professional (Amy, 2007). In spite of this segregation, there is harmony that LO proactively concerns about the congruency between contextual factors and environment to facilitate the organizational learning process and they can coexist and for successful LO it is indispensable that there should be a never-ending learning cycle and one must be on familiar terms that it may extend to sometime (Gorelick, 2005). The organization learning is a course of action which continues on constant basis in a LO (Jones and Hendry, 1994). LO is that organization that smoothen the progress of the learning of each and every member of the organization and persistently gives a face-lift with the purpose to obtain strategic goals of the organization (Padler, 1995) and leadership is a practice of igniting others to take the bull by the horns to achieve that goals — this ignition may be caused by leader because for someone he is an engine of change for an organization (Bass, 2000). In literature, leadership is anticipated as a deep-seated aspect in the mission to turn out to be LO because they confront status quo supposition concerning the environment and direct followers in crafting collective interpretation that turns out to be the starting point for valuable act (McGill, Slocum, and Lei, 1992; Argyris, 1993; Garvin, 1993; McGill and Slocum, 1993; Fiol, 1994; French and Bazalgette, 1996; Appelbaum and Goransson, 1997; Altman and Iles, 1998; Bass, 2000; Williams, 2001; Naot, Lipshitz and Popper, 2004; Vera and Crossan, 2004; Collinson, 2008). Learning of any individual and organization is reliant on environment (Teare and Dealtry, 1998) and task and liability of leaders is to generate that learning environment by building LO (Buckler, 1996) and they transform the organization rather upholding the existing position of organization (Johnson, 2002) — there is no justification for leaders and not fashioning an environment somewhere everybody can contribute and learn (Mahoney, 2000). Learning is the premier priority for leaders, building environment for shared learning – shared learning has the influence to renovate the organization (Franklin, Hodgkinson and Stewart, 1998) into LO as whole has more strength than individual — and hit the big time achievable to transfer learning from the individual to organization (Popper and Lipshitz, 2000) and organization learns only through individual who learns (Murdoch, 1995).

As a human being there is much natural behaviour which he exhibits and out of those several behaviours learning is a natural behaviour (Franklin, Hodgkinson and Stewart, 1998). Learning has become a product which people pursue for to invest in for own achievement and organizations like universities who struggle for students and for acknowledgment in the society (Davies, 1998). Learning is a continuous, inevitable and lifelong process starts from birth till the death and person's speed of learning may vary from different stages of life. The sources of this learning is of two types; first is conventional, formal called programmed (school, college or university) and second is unconventional and informal called experimental (interaction with family, workplace and society) (Franklin, Hodgkinson and Stewart 1998). Both sources are powerful and important and have potential to impact not only on individual's own living but on others to whom individual is responsible and related; others may be family, organization or society as a whole. As individuals are distinct entities and learning style of each vary from one individual to other, same as each organization is a different entity and organization learn, if organization learns certainly it learns when all individuals learn (Somerville & MacConnel, 2004; Collinson, 2008), when employees learn and they interact with others (Brandit, 2003). Individual learn when they are motivated and organization learn when it has reason (Brandit, 2003). Individuals learn in every now and then in a group without a doubt and team and group

learning is a vital and fundamental learning unit in modern organization (Steiner, 1998) and then they try to submit an application of this learning to make changes occur in the organizational activities (Macdonald, 1995). Continuous learning for an organization is essential to stay alive and flexible (Örtenblad, 2004) and for that purpose environment for learning provided by leader must act as facilitator for individual's learning. Learning and LO are part of the same dialogue by claiming, "Learning is a part of work and work involves learning" (Franklin, Hodgkinson and Stewart, 1998). If leader is not able to create an environment where individuals are not able to learn "how to learn" then those individuals will become eventually, a "walking encyclopaedia" (Steiner, 1998) with obsolete information and direct organization towards a dark street with close end. It is necessary for the survival of an organization that it learns with same or greater pace than swiftness of change (Hill, 1996).

Figure (1): Adapted from Mumford, 1995-Pyramid for a Learning Organization



In fig (1), a pyramid that is a path of an organization to become LO (Mumford, 1995) is given. According to the above pyramid, LO came into existence when an individual learns, then two individuals learn together and share their knowledge; then ultimately group learning comes which will automatically result in the learning organization (Mumford, 1995).

Methodology

The main objective of this study is to find the role of leadership in the ICT based educational institution and identify the most important factors of leadership role that facilitate the learning of different components of an organization that transform it into LO by creating a learning environment. There are many tools developed by many researchers to evaluate the status of organizations in the context of LO concept. These tools were developed by Padler, Moilanen, Marsick and Watkins, Griego, Marquardt, O'Brien (Somerville & McConnel, 2004) and lastly by Garvin, Edmondson and Gino in the time span of 14 years from 1994 – 2008. In this study, the latest toolkit is utilized (Garvin, Edmondson and Gino, 2008) and the third building block of this toolkit— Leadership that reinforces learning — comprised of eight statements rated by respondent with the help of 5 point Likart scale (1 – strongly disagree, 2 – disagree, 3 – Never, 4 – agree and 5 – strongly agree). As, this survey is conducted in a public sector university so to make it understandable in university context, few words are replaced by neutral words without changing the sense and meaning of the statement; for example, the statement "My managers invite input from others in discussions" is reproduce with

minute change *“My seniors invite input from others in discussions”*. Some demographical variables are also introduced in the questionnaire like gender, education, and age of the respondent. The purpose of these variables is to view the response of the respondent in different perspective.

This empirical study is conducted in an ICT based public sector university (Virtual University of Pakistan) serving within the national boundaries and across the boundaries also. The university has two main building blocks; academic and non – academic with overall employee strength of 248 (214 academic and 34 non – academic). Academic block is selected as target respondent due to considerable level of respondent’s strength and easy accessibility. This block is further classified into two layers of top –managers called assistant professors and first line managers called e – lecturer (‘e’ stands for electronic). By convenience sampling techniques and personally administrated questionnaires (110) is distributed to e – lecturers and received 69 (N = 69) fully completed questionnaires showing overall response of 63%.

Data Finding and Analysis

For data analysis, the package used is SPSS (Statistical Package for Social Sciences) and the method applied is ‘Factor Analysis’ to find the most important factors of the leadership which are helpful for LO. In the table (2), the factors extracted by SPSS are presented in descending order from most important to least. Due to time constraint, only three factors are taken with 68% data variance instead of two factors, presenting 55% data variance that is acceptable in social sciences (Ahmad, 2007). This interpretation is well presented in scree plot shown in fig (2).

Table (2): Component Matrix (a)

Statements	Components			Communalities
	1	2	3	
My seniors encourage multiple points of views.	0.805	-0.215	0.042	0.697
My seniors acknowledge their own limitations with respect to knowledge, information, or expertise.	0.455	0.749	-0.267	0.839
My seniors provide time, resources, and venues for reflecting and improving on past performance.	0.645	-0.09	0.594	0.777
My seniors criticize views different from their own.	-0.387	0.583	0.482	0.828
My seniors provide time, resources, and venues for identifying problems and organizational challenges.	0.736	-0.035	0.308	0.638
My seniors ask probing questions.	0.630	0.027	0.008	0.397
My seniors listen attentively.	0.735	-0.159	-0.182	0.598
My seniors invite input from others in discussions.	0.654	0.37	-0.258	0.630

Extraction Method: Principal Component Analysis.

(a) 3 components extracted

For factor analysis, the correlation matrix and principle component method with no rotation of axis is used purely for convenience of interpretation. The brief interpretation of factors is as follows:

Factor '1': Factor loading for the component “*encouragement of multiple views*” is highest that is 0.805 and no other item is close to this value. The parallel communality value is in addition reasonably acceptable which almost 70% is.

Factor '2': The second most important component “*acknowledgement of leader about knowledge and information*”: has factor loading 0.749 which is also very quite strong and there is no other item in list which is very close to this component. The communality value for this factor is very strong and highest in the list which is 83%.

Factor '3': The third component in the factor analysis is “*resource provided by leader*” with loading 0.594 and this component is quite dissimilar with other components of the list due to highest loading and no other components is close to this factor and the communality power for this factors is 78%, quite significant.

These three factors about leadership’s role are helpful in creating a learning environment and have great importance for employees’ learning. When individuals think that leaders is showing one-to-one consideration by listening, communicating and addressing the needs of individuals, they start altering their behaviour, conceptualizing, comprehending and analyzing the problems (Avolio, Waldman and

Yammarino, 1991; Avolio and Bass, 2008). They start learn to tackle and solve problems by their own by creative and innovative behaviour. In this way, leader provides an opportunity to an individual to express views and widen a persuasive hallucination of future for himself or herself and for organization (Stashevsky and Koslowsky, 2006).

When communication, a key factor to encourage learning (Amy, 2008), is allowed by leaders through cross questioning, listening multiple views, getting new ideas and value the suggestions of individuals then they feel association and start interacting with leader and with team members and try to influence them. This influential behaviour leads towards a series of exchange from both sides (Stashevsky and Koslowsky, 2006). The informal, amicable communication style designs an open, trustworthy setting in the organization that smoothen the progress of learning through questioning, delegating of projects, exchanging of information, knowledge and past experiences (Amy, 2008). By encouragement of communication and exchanging of views, leaders allow individuals who have unique knowledge and capabilities that helpful for the organization (Shane and Fields, 2007), to align themselves with others and with organization (Avolio, Waldman and Yammarino, 1991). During this exchange of views, leaders share information, knowledge, resources and past experience to solve old problems with new solution (Avolio, Waldman and Yammarino, 1991; Coad, and Berry, 1998; Dionne, Yammarino, Atwater, and Spangler, 2004; DeJong and Deanne, 2007; Shane and Fields, 2007; Amy, 2008; Avolio and Bass, 2008). Leaders with the exchange of knowledge and information create an intellectual stimulation and intellectual environment for learning where each individual starts thinking, generating ideas, create innovation and develop a team or group. When leaders create such environment, they continuously re-examine their strengths, weakness and limitations regarding information, knowledge and expertise because it is necessary to evaluate the influential factors (Avolio and Bass, 2008). By highlighting the limitation among individuals, leaders create confidence in the individuals so that they can able to influence others and respond a new and innovative idea (Avolio, Waldman and Yammarino, 1991; Coad, and Berry, 1998; Dionne, Yammarino, Atwater and Spangler, 2004) and develop a realization of individual's own strength. When leaders express their limitations among individuals actually they are creating an environment where individual thinks that if exchange of ideas or viewpoints with his peers or management not reach in conformity due to lack of knowledge then restless condition will not emerge which creates a fear and fear is a great hurdle in individual's learning because it reduces communication. Limitation or weakness of an individual or leaders is may be due to lack of knowledge and past experience that ultimately resulted in mistake while solving the problem but research tells that people learn from mistakes as well as successes but their learning is greater from failures as compare to successes (Edmondson, 1996). If individuals in the organization are not able to tell or share about the mistakes they have made then the chance of learning of individuals as well as organization is less or minimum (Edmondson, 1996).

By sharing new ideas and methods to solve problems, the performance of the individual also increases which is also a key determinant of organizational outcomes (learning) (Stashevsky and Koslowsky, 2006). Learning, change in behaviour and performance are not take place instantly rather it is a time consuming activities spreading over individual' life span. Leaders by creating an environment where resources and time are provided to solve technical and human relation problems, to identify new solutions for old dilemmas and to offer new challenges, they make available opportunity to increased performance (Avolio and Bass, 2008). So, communication provides learning opportunities that is intensified by psychological safety provided by leaders by acknowledging limitation regarding information, knowledge and past experience and this learning further stimulated

by exercising methods and recourses provided by leader reflecting in good job performance. By doing all these leaders are responsible for creating an environment where individual learns solely and then in groups that transforms organization into a LO.

Figure (2): scree plot of the data obtained from the VU of Pakistan.

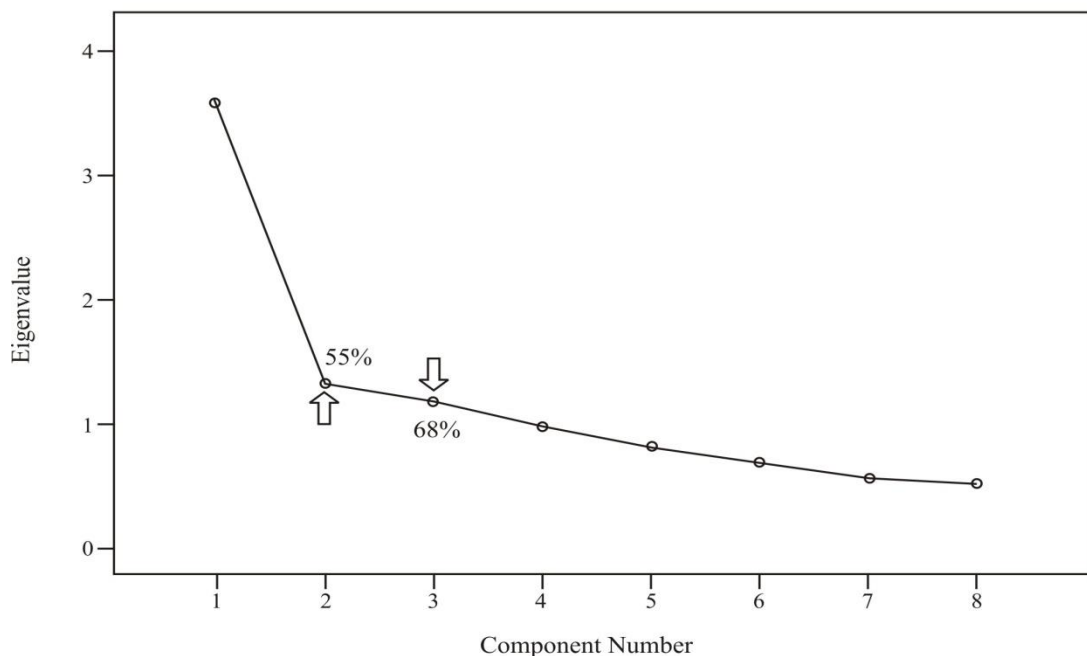
However, from the scree plot, it is also clearly obvious that factor 1,2, and 3 are covering how much percentage and having how much worth factor-wise.

One important aspect of this study is that this study provides similar results when analyzed on gender bases. In the sample size, the representation of both sex are nearly equal; 31 women (45%) and 38 men (55%). Though men and women perceive leadership differently (Bass, Avolio and Atwater, 1996; Stashevsky and Koslowsky, 2006) but in this study both perceive leadership equally important and same components mention in table (2) are extracted when data is analyzed separately.

Commentary

So from the above findings and analysis, this aspect is obvious that in VU of Pakistan the role of

Scree Plot



leadership in converting this ICT based education into a learning organization the three of the factors are encouragement of multiple views, acknowledgement of leader about knowledge and information, and resource provided by leader; the most important one and having a greater share. So, these three factors of leadership are the most important ones to convert any ICT based educational organization into a learning organization. Research is a creative activity which requires a lot; time, resources, guidance, motivation and most importantly the environment. Due to time constraint and limited resources, this study is not able to explore the all aspects of individual and organizational learning and leaderships' roles in particular and on the whole not able to apply the all blocks of the toolkit in a whole organization, in general. But this paper can be modified by increasing the number of respondents and apply complete toolkit in an organization. This toolkit can produce very important results, if it is tested in educational institutions in public and private sectors of

Pakistan and compare these results which can be helpful in identification of areas of strength and weakness for creating healthy learning environment.

Epilogue

LO is a wide spreading concept since its emergence and different organizations attempt to transform the existing entities into LO. The model and hierarchy given by Mumford (Mumford, 1995) to transform an organization into a LO is very realistic and key theme of this study. This model and hierarchy brings to lights a track to shift from individual learning to group/team learning and then to organizational learning which ultimately increase the memory of the organization and ultimately it transforms it into LO. For all this activity the role of leader is very important which creates an environment that stimulates learning.

This environment for making and developing any organization into a learning one from an ICT based educational institute though, can be created by communication with followers, by acknowledging limitation regarding information, knowledge, resources and expertise and by providing time, and resources for improving performance. However this has been made clear by the above findings and analysis.

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7-TABLES

Table (1): adapted from VU's office (Tools and Resources available in LMS)

The table (1) above summarizes the tools and resources available for use in LMS.

Tool	Description and Use/Function
Course Outline	<ul style="list-style-type: none">• Provides overview of each course• Provides the weekly, monthly lecture's content, course activity, assignment scheduling, reference material
Chat Room	<ul style="list-style-type: none">• Students can communicate with other university fellows• Enables student-faculty communicate outside of class time
Moderated Discussion Board	<ul style="list-style-type: none">• Enables peer-to-peer learning and interactions• Any question regarding course can be raised here which is also visible to all students enrolled in that course• Maximum facility and time to grasp the concept
Enrich FAQ Section	<ul style="list-style-type: none">• Displays frequently-asked questions related to course which the lecturer wants to students to read before they post any email messages to him or to the discussion forum
Glossary Section	<ul style="list-style-type: none">• Each course has its own terminology and term and this section elaborate difficult terms that students need to know who enrolled in the subject
Quiz / Assignments	<ul style="list-style-type: none">• Quizzes and assignment uploaded for students to apply and increase the understanding of the subject
Work Storehouse	<ul style="list-style-type: none">• Provide enough space to students and teachers to upload the quizzes, assignments and projects