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Role of e-learning in capacity building: An Alumni View

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Abstract

The concept of knowledge sharing has now expanded because of sophisticated communication tools. A common consensus has been generated for spreading knowledge beyond boundaries and making collective efforts for the development of individuals as well as nations. E-learning has proven its authenticity in this regard. In developing countries, access to and quality of education are being addressed by e-learning strategies; being served as a tool of capacity building, this study is an attempt to explore the role of e-learning in capacity building of students in Pakistan. An on-line survey was conducted from alumni of Virtual University of Pakistan. Descriptive statistics and Pearson's correlation were used for data analysis. Findings of the study show that e-learning plays a key role in capacity building of students in developing countries like Pakistan. It can further be used to enhance professional skills in specific disciplines.

Keywords: E-learning; Capacity building; Alumni view; Pakistan

Introduction

Provision of e-learning opportunities in the education sector has become a well-established fact; e-learning prospects are now open in 50 developing countries with more than 1000 institutions (Sharma & Kitchens, 2004). In recent years, it has been witnessed that online education is not being offered by distance learning universities only, conventional universities are also offering online courses because it helps reduce cost, improve market access and overcome capacity barriers. Prior research studies (Bajinath, Awad, Lolwana & Olakulehin, 2008; Olakulehin, 2008) indicate that the challenge of access, quality and capacity building in education can only be met by making e-learning a key strategy in developing countries.

With increasing popularity of e-learning mode around the globe, expectations are raised in terms of active learning. Further access to resources and flexibility of learning for learners along with refined and updated teaching methods is anticipated. In this regard, more focus is placed on new interaction methodologies for teachers and students in order to improve social and professional skills (Mason, 2006; Aczel, Peake & Hardy 2008).

Role of e-learning in capacity building in developing countries

Capacity building is defined as "The process of developing competencies and capabilities in individuals, groups, organizations, sectors or countries which lead to sustained and self-generating performance improvement" (AusAID, 2004). E-learning provides opportunities to citizens, particularly in developing countries, to acquire different skills like communication, interpersonal, management and leadership skills that facilitate the capacity building of individuals as well as of organizations (Bolger, 2000). The World Summit on the Information technology gave official endorsement to capacity building in e-learning. In this context, special emphasis was made on properly resourced ICT use in the education sector (ITU, 2006).

A study conducted by Ehlers, Aimard, Gwardak and Dembski (2007) narrated the fact that e-learning plays an important role in polishing the innate potential for growth of the individuals in

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developing worlds. They focused on 40 development corporations working internationally. Results of the study endorsed the fact that e-learning is a useful tool for capacitating the unprivileged people in developing countries.

Distance learning with the use of ICT has also increased the possibility of catering the issue of capacity building of marginalized groups in developing countries. In underdeveloped countries of the world, specifically in Asia, use of distance learning as a capacity building tool to work with pro-poor development strategies is very important as it will ensure the active involvement of the poor in mainstream economy (UNESCO, 2004). In developing countries of Africa, the same shift in distance learning purposefulness is highlighted. Project Identification Report (2013, cited in SADC, 2014) did a sector analysis of the tertiary education and e-learning and identified the gaps. As a result, they suggested to improve capacity building in terms of research and emphasized on enhancing decision-making skills of students (SADC, 2014).

In developing countries, multiple factors restrain the access to education and capacity building of the individuals: language, finance and availability of limited seats in conventional institutions, are to name a few. E-learning by focusing on multiple methods can help to overcome these limitations in developing countries, as Berge and Leary (2006) stated "The challenge is to fully exploit electronic media, maximizing its usefulness and the realm of possible resources; e-learning must not be Power Point presentations modified into online modules, but rather well-designed trainings that draw on the best electronic resources available" (p. 57). Zander, Schloeder, Jacobs and Murphrey (2006) shared their experience of introducing e-learning to agriculturists working in dairy and livestock production. Findings of their innovation and adaptation of e-learning for capacity building suggest that this mode enhances the analytical skills and management skills of the participants as well.

E-learning Initiatives: success stories

There are a number of initiatives that can be interpreted as exemplifying the notion of e-learning in capacity building specifically in terms of leadership role. One of the prominent programs was launched by The University of Waikato in the year 1997 by the name of Mixed Media Programme (MMP). This program was initiated to meet the pre-service needs of the students who were unable to join on campus studies due to personal or professional commitments (University of Waikato, 1997). MMP served the motive of capacity building at various levels, not only professional development of teachers to train them how to teach on-line education, but also guided them towards mentoring, problem solving and interactive communication skills practices towards students (Campbell, 1997). MMP served as a continuous practice in e-learning settings through non-stop analysis, collaboration and reflections for enhancing leadership skills. Thus, it served the objective of "purposeful learning" in the community (Lambert, 2003).

Another presentable case study in this regard is the project "Flexible Learning Leaders in New Zealand." This project focused on capacity building in the tertiary education through online learning. The project focused on developing professional, leadership and management skills to groom the potential professionals in a way that distinguished them from other graduates at tertiary level education. In addition to preparing groups of professionals with outstanding skills, this project progressed by focusing on establishing a national level mentoring network through online education (Shukla, 2005).

Two more initiatives i.e. The Interim Tertiary e-Learning Framework and E-learning Fellowships also emphasized the area of tertiary education and capacity building of the professionals. All these programs were successful and worked in four main areas i.e. leadership and capacity building, innovation and research inquiry, network building, professional development and reflective practices

but the focus was more on professional development of the teachers rather than learners. Overall a mentoring approach was encouraged for learners but the inculcation of leadership, communication and management skills in context with students was not well dealt with (Ministry of Education, 2004).

Existing Gaps in terms of Capacity Building in e-learning

Any society's welfare and wealth is determined by the capacity building of individuals and to educate in such a way that they may serve as productive members in all spheres of life (Hernes, 2003). Thus, e-learning by focusing on the capacity building can lead toward inclusivity, effectiveness and trustworthiness and this capacity building can be done by identifying the gaps in existing e-learning structures. As pedagogical trends are moving from active learning to analyzing and collaborative learning, so, it requires a mix of different pedagogical components i.e. simulation, communication, leadership, mentoring, etc. (Mason, 2006).

Aczel, Peake and Hardy (2008) identified four types of gaps in terms of capacity building by analyzing the six e-learning based organizations. The identified gaps were tutorial gap, community gap, production gap and instructional design gap. Further, researchers hypothesized and re-examined the data in order to find out the strategies organizations used to sort out the capacity building issues. Eade (2007) in his study concluded that there is no single determinant of measuring capacity building, it varies from situation to situation. Capacity building is not a quick fix, it has flexibility in terms of time and willingness of both sides i.e. the person who wants to capacitate and the one who wants to learn. In developing countries, most of the non-governmental organizations are serving as change agents and initiate this process, but this change is subjected to the institutional or organizational capability to inculcate such skills. Further, he stated that capacitating the young ones can be an effective tool to abridge the existing gap in terms of access and social justice.

Similar findings were shared by Kamruzzaman and Takeya (2008) in terms of capacity building in distant markets. Researchers infer from their findings that the capacity building process can be effective when access will be increased and the producers will be willing to use ICT as an important tool to enhance skills of individuals. The communication component in e-learning environments provides a set of opportunities for the learner to interact with tutors, other students and management as well. Practicing frequent interactions with tutors through e-mail and audio-video conferencing enables learners to communicate as per situation and circumstances (Humphreys, 2002).

Multiple Skills Development and Capacity Building of Learners

Mehra, Smith, Dixon and Robertson (2006) in their study focused on leadership styles in e-learning environments. They explained that collaborative leadership skills can be effectively enhanced through shared networks of students, when conducting projects in e-learning environments. Such leadership styles may be based on democratic norms which may determine high level of social and project management skills in students. They further proposed a collaborative –leadership model for e-learning environments. But in an online learning environment it is not necessary that leadership skills be developed all the time, as sometimes teachers or students are unable to build healthy relations in terms of learning. Further, drop-outs also restrict this process. In this regard, Forbes (2004) argued that e-learning has a solution to this problem in itself, as capacity building is a reciprocal process which could be done with frequent interactions of instructors and learners and through proper mentoring from instructors' side.

Interpersonal skills along with management, leadership and communication skills are also considered important in e-learning organizations (Dobbs, 2000; Sofres, 2001). In learning

environments, inculcation of interpersonal skills among students is critical as it guides students in improving their listening, negotiation, questioning skills and motivates them to be good learners and un-biased in their approach towards life. In the project "E-learning for Leadership, Emerging Indicators of Effective Practice" conducted at University of Bristol, interpersonal skills were also recognized as a prominent factor of effective skill enhancement in students (McKimm, Jollie & Hatter, 2007; Sloman, 2001).

Critical Success Factor and Capacity Building of E-learners

Learning through open mode provides a great set of opportunities for students to develop their capability and capacity. The instructor, being the facilitator of this learning mode, plays a critical role for the success of such system. Skill development and knowledge sharing are key features of this system. Technology and support facilitate this process of capacitating the individuals (Burgess & Carpenter, 2008). Zaheer (2013) found that students in distance learning develop their networks called "Knowledge networks" to share knowledge and build capacity informally.

In order to run a successful e-learning program along with capacitating students with different skills, only provision of opportunities is not enough. Successful learning depends on different critical success factors such as technology, instructional design, infrastructure, interaction mechanisms, knowledge management and content as well (Sun, Tsai, Finger, Chen & Yeh, 2008; Mosakhani & Jamporazmey, 2010). Papp (2000) worked on the success factors in distance learning environments and concluded that measuring a single factor independently cannot bring some fruitful results in such way; a combination of factors and their inter-relationship can determine the success of any study program. A few researchers, after analysis of Papp's study, suggested that e-learning success should be assessed through evaluating the students' performance and learning itself (Benigno & Trentin, 2000). A consensus has been built by numerous studies and the majority of the studies identified instructor, knowledge, technology and university support as most prominent success factors (Selim, 2007; Shin, 2003; Sun *et al*., 2008; Mosakhani & Jamporazmey, 2010; Volery & Lord, 2000; Zaheer, 2013).

Study Context

In a developing country like Pakistan, e-learning has successfully played a significant role in winning the trust and satisfaction of many people across the country. This satisfaction has not only proven the success of the e-learning mode to enhance higher education but at the same time it has given rise to many challenges and the most important among them is the capacity building of online and distance learners in virtual environment (Jabeen, Din & Sadiq, 2012). Multiple assessment practices such as research projects and scenario assessment exercises have been used successfully in different degree programs at Virtual University of Pakistan for the capacity building of students but overall role of e-learning in capacity building still requires exploration (Din & Jabeen 2013). In this regard, the present study is an attempt to find out the perceived role of Virtual University of Pakistan in capacity building of individuals, being the first e-learning university of the country.

Objective and Purpose

The aim of the current research was to explore the contribution of e-learning in capacity building of students in developing countries with a specific focus on Pakistan. The objective was to investigate the opinion of alumni regarding the role of online learning in their capacity building. Further, this

research also intended to assess the critical success factors in the professional or other types of capacity building of the students.

Method and Procedure

An online survey link was sent via email to the 215 graduates of Virtual University of Pakistan who graduated in semesters Spring 2011 and Fall 2011. A total of 117 students participated in the survey and a good response rate of 54.41% was achieved. High response rate may be attributed to the students' attitude towards online education as VUP students are good at using computers.

VUP offers only online courses so all these students had studied all of their subjects online which is a very important aspect of this study. Course material at VUP consists of video lectures, hard and soft copies of lecture handouts, online learning resources, OpenCourseWare (OCW) and Learning Management System (LMS). Instructional support is offered through Moderated Discussion Board, where students can post their lecture related questions; e-mail is a medium through which students put different queries. Assessment and evaluation is also done online, students are given assignments and online quizzes to test their knowledge. Mid and final examinations are also conducted online in a proctored environment. Two questionnaires were used as survey instruments in this study: critical success factors (CSF) were measured through the instrument developed by Selim (2007) and capacity building indicators were measured through a questionnaire prescribed by the Quality Assurance Agency of Higher Education Commission (HEC) of Pakistan[1]. Both of these instruments used Likert-type scale with 5 categories.

The Critical Success Factors (CSF) instrument developed by Selim (2007) had 4 variables i.e. Instructor characteristics (INS), Student characteristics (STD), Technology (TEC) and Support (SUP) with 63 statements capturing all dimensions. The student satisfaction questionnaire also had 4 main variables i.e. knowledge, communication skills, interpersonal skills and management and leadership skills, and a number of elements to capture these variables.

Table 1. Cronbach Alpha of Capacity Building indicators and Critical Success factors

Variables	Number of Items	Cronbach Alpha
Capacity Building Indicators		
Knowledge	5	0.818
Communication Skills	3	0.806
Interpersonal Skills	4	0.795
Management & Leadership Skills	3	0.809
Critical Success Factors		
Instructor	13	0.927
E-Learning	22	0.830
Technology	9	0.792
Support	9	0.831

Data in table 1 shows the reliability analysis of both instruments. Cronbach's alpha for all the variables is quite satisfactory showing high reliability of the measures used.

Results

Table 2 shows that the majority of the respondents are male (79.3%). Most (93) of the respondents are from computer science or IT (79.48%). A very important aspect is re-enrollment intentions. About half of the respondents were students and the rest were professionals, only 3% were involved in their own business. Alumni were asked whether they would like to enroll in any course in the future, 72% of the students said yes.

Table 2. Alumni Composition

Variables	Dimensions	Frequency	%
Gender			
	Male	94	79.3
	Female	23	19.7
Program			
	BSBA	12	10.3
	BSCS	21	17.9
	BSIT	08	6.80
	BS -Psychology	03	2.60
	MBA	09	7.70
	MCS	64	54.7
Current Status			
	Student	56	47.9
	Employee	58	49.6
	Businessman	03	2.60
Re-enrollment Intention			
	Yes	85	72.6
	No	32	27.4

N=117

Table 3 shows descriptive statistics. Alumni perceptions regarding all the variables of Capacity Building are high. A mean score of *(M*=3.91) about perceived knowledge gained after the completion of degree program with (*SD*=.65) shows high satisfaction of students about the knowledge they gained. Communication skills with mean score (*M*=3.82) also indicated high approval with reference to capacity building at individual level. Interpersonal skills with mean score (*M*=4.01) and Management & Leadership Skills with mean score (*M*=4.03) is significantly high. It shows that students even with online learning can develop good communication and interpersonal skills which are considered as the shortcomings of distance (online) learning.

Pearson correlation was carried out on different indicators of capacity building and critical success factors of e-learning. Table 4 indicates that there is a significant correlation between different indicators of capacity building and critical success factors. Instructors' characteristics and

Table 3. Descriptive statistics of dimensions of Capacity Building and CSF as per Alumni perception

Variables	Mean	SD
Knowledge	3.91	0.65
Communication Skills	3.82	0.84
Interpersonal Skills	4.01	0.73
Management & Leadership Skills	4.03	0.78
Instructor	3.80	0.68
E-Learning	3.97	0.42
Technology	3.92	0.58
Support	3.89	0.62

N=117

perceived communication skills of the students are significantly correlated. Technology used is also significantly correlated with interpersonal skills and technology used by the university also has significant correlation with perceived communication skills of students. Leadership skills are also strongly correlated with instructor, which explains that the instructor has a significant role in developing leadership skills among students.

Table 4. Correlation Matrix among Critical Success Factors and Capacity Building Indicators (N=117)

Indicators	1	2	3	4	5	6	7	8
1. Instructor	—							
2. Technology	0.565	—						
3. Support	0.620	0.826	—					
4. ELearning	0.693	0.635	0.672	—				
5. Knowledge	0.479	0.381	0.440	0.512	—			
6. Communication Skills	0.305*	0.292*	0.326	0.427	0.544	—		
7. Interpersonal Skills	0.353	0.260**	0.286**	0.387	0.706	0.599	—	
8. Leadership Skills	0.224**	0.330	0.366	0.391	0.557	0.526	0.598	—

p<.000
* p<.001
**p<.005

Discussion

A wide range of variation is found around the globe regarding e-learning and its dynamic role in changing educational scenarios. E-learning has been associated with many dimensions and

approaches linked with students learning, grooming and mentoring in various spheres of life. Such versatile approaches don't explain a single dimension but rely on various experiments based on indigenous experiences. These variations are found from instructors' approach of mentoring to management level training and from students' learning to their professional capacity building. In all domains, roles and challenges are discussed by many researchers. Present study also documents a new dimension of e-learning i.e. capacity building of the students that is considered as a challenge too.

In developing countries like Pakistan, e-learning is not just restricted to access to the un-privileged but it was also anticipated that it will serve the purpose of providing skillful and purposeful education either through content or through mentoring and developing different social skills among learners (Heeks, 2002; Rajesh, 2003). This study in this regard took an alumni's view to find out the role of e-learning in developing competence of students and also explored the success factors in this framework. As alumni were employed in different organizations after graduating from Virtual University of Pakistan so, they were expected to better identify and explain the role of e-learning institutes. Results of the study ascertained the fact that alumni considered the e-learning mode effective in developing communication, leadership, interpersonal and management skills. Their opinion could be validated from the results as well, as the majority of respondents showed their intention to take admission again in the same institution. It also supported the assumption that students were satisfied from e-learning mode of instruction.

Previous studies conducted by Campbell (1997) and Lambert (2003) also concluded that e-learning is successfully contributing to capacity building of students through mentoring and practicing interactive communication skills with them. In this way, it serves those people who were otherwise unable to develop their professional capacities due to official commitments. Technology is identified as an important indicator that facilitates the process of communication in e-learning mode either in the form of student to student interaction or student to instructor interaction. Provision of different communication tools to e-learners i.e. LMS, Skype, e-mail, tutorials, web-conferencing, chat rooms and discussion boards all offer a hand-on opportunity and training to improve communication skills (Kamruzzaman & Hiroyuki, 2008).

Another important dimension with reference to capacity building in e-learning is the development of leadership skills in students. It is a common perception that e-learning lacks the element of students' grooming as they are not in direct contact with their respective teachers. Results of this research negate this assumption, as leadership is identified by the alumni as a prominent factor of personality development and grooming of students. Results of this study in this regard are consistent with the study conducted by Mehra *et al*. (2006), who also explored leadership skills of the students. Further, at next level they suggested collaborative style of leadership through continuous and direct interaction of students and teachers and students with students. Moreover, they focused on developing the democratic values among future leaders/students.

This study also explored critical success factors (CSF) that facilitate the process of capacity building. In this regard, results of this study discovered instructor as an important success factor that assists the students in developing leadership skills. There is a strong correlation between the two factors. Forbes (2004) in his study shared similar findings and he established the relationship between instructor and student interaction and mentoring behavior in order to develop leadership skills among students. Ehlers *et al*. (2007) explained a similar phenomenon in the context of the developing world and explicated the role of e-learning in capacity development of individuals in developing countries.

Development of leadership, management, communication and interpersonal skills is not restricted to the role of instructor and technology; student support services offered by universities also

contribute to capacity building. Selim (2007) identified student support services as important CSF in e-learning and results of this study also support the same phenomenon and student support provided by university was recognized as an important success factor by alumni. Further, results of this study are consistent with the studies conducted by Shin (2003) and Sun *et al*. (2008). They assessed support services as an indicator of student performance in e-learning mode and established the fact in their studies that frequent interaction, facilitation by university in administrative matters and technological support enhances the confidence and trustworthiness of students as well (Mason, 2006).

Most of the previous researches throw light on the role of e-learning in capacity building in terms of enhancing communication and leadership skills (Ministry of Education, 2004; Humphreys, 2002; Mehra *et al*., 2006; Forbes, 2004). This research also took into account management and interpersonal skills as important indicators of capacity building as the majority of students graduated from VUP are working professionals who belong to the business sector or computer industry, therefore it is necessary to groom them for these aspects as well. Results of the study indicated that alumni have also considered management and interpersonal skills as very important for their careers. Only a few researchers explored management skills (Bolger, 2000; Zander *et al*., 2006) and interpersonal skills development (Dobbs, 2000; Sofres, 2001) in e-learning mode and their findings are consistent with this research.

Conclusion

Data analyses of 117 alumni of Virtual university of Pakistan in which all the courses are taught online strongly support online education to enhance and initiate capacity building among students. Alumni have expressed a high level of satisfaction from the education they received and they rate their knowledge, leadership skills, university support, e-learning and technology as very high after the successful completion of their degree programs. And this fact can be ascertained from the results that 72% of the alumni showed re-enrollment intention at the same university.

Access to quality education, specifically higher education, is difficult to achieve in developing countries like Pakistan. Alternative strategies such as e-learning prove to be useful in these cases. Though e-learning has provided a platform to obtain quality education, still a vast majority feels that it has certain limitations, such as lack of capacity building. This research has proven the fact that e-learning is a successful tool for students' capacity building in contrast with the perception of some people. Results show that alumni reported e-learning as an effective mode of learning to improve their communication, leadership and management skills which enhance overall capacity at individual and organizational level. Further, study results lead towards the conclusion that technology is also an instrument that helps improve interpersonal and communication skills, which provides the chance for social networking and enhances students' capability of communicating with others.

E-learning as an alternative strategy of learning has overcome the shortcoming of the conventional mode of learning with respect to higher education. It has stretched the scope of education for everyone. Overall, it can be concluded from the results that enhancement of different skills among students and professionals can be incorporated through this learning mode.

Note

[1] The questionnaire used for this research to measure capacity building is a standardized questionnaire that is prepared and validated by the Quality Assurance Agency of Higher Education Commission of Pakistan and is used for quality assurance in all public and private sector universities of Pakistan.

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