

The Relationship Between Creative Organizational Climate And Learning Organization

Sarminah Samad

Faculty of Business Management, UiTM, Shah Alam, 40450, Selangor

E-mail: sarminasamad@yahoo.com

ABSTRACT

The purpose of this study was to investigate the relationship between creative organizational climate and learning organization. Consequently this study determined the contribution of creative organizational climate components on learning organization and identified the differences in perception of creative organizational climate based on the selected demographic variables. The sample consisted of 584 lower and higher level managers in Telecom Malaysia (TM). The results hypothesized that creative organizational climate perceptions are positively related to learning organization. The study revealed that all of the creative organizational climate components made significant contribution to learning organization. Significant differences of creative organizational climate by the selected demographic variables were also shown for some components. Based on the implications of the research findings, several recommendations were put forward.

Keywords:

Creative organizational climate and learning organization.

1.0 INTRODUCTION

The economic crisis in 1997 has changed rapidly the environment and management concepts in most private sector organizations (Samad, 2004). Drastic change has also altered the traditional face of the work place of most organizations in Malaysia. This includes telecommunication industries (Samad, 2004). One of the greatest changes was the concept of work that changed from life long employment to life long career. This paradigm focuses more on the responsibility of individual employee. This is because most managers realize that a productive workforce will provide a global, sustainable and competitive advantage for business organization. Generally, in the past relationship of employee

and employer was primarily based on loyalty, but now is based on performance, rewards and benefit. However the change of composition in

the workforce has caused company that offer better benefits and supportive working environment to gain

leverage in hiring and retaining valuable, competent and knowledgeable people (Park, 2001). Additionally, pressure is mounting on all types of organizations to learn faster and to manage their knowledge better (Loermans, 2002). Park (2001) stated that business organizations are paying attention to increase organizational positive attitudes, having good organizational climate and creating learning organization.

In an attempt to reap the purported benefits that knowledge workers bring to organization some telecommunication companies in Malaysian have shifted to a customer problem-oriented policy and Telecom Malaysia (TM) is no exception. In keeping with much of the contemporary literature on learning organization, TM hopes to deter its customers through the knowledge benefits that derive from associated technologies. This is because many private organizations are striving to change their operations towards concept of knowledge worker through learning organization (Brown & Brudney, 2003). This interest stems from the premise that success in changing environment and competitive advantage requires learning – recognizing a need for change, evaluating new possibilities and implementing new courses of action (Edmondson, 2002).

Literature have documented that learning organization are not optimally enjoyable. Additionally, several factors have been identified as associated to learning organization. This includes organizational and non-organizational factors. This study aimed at investigating the relationship and the contribution of organizational culture or creative organizational climate with learning organization.

2.0 LITERATURE REVIEW

Learning organization has attracted considerable interest among scholars (Schein, 1993). This is because the ability of a workforce in an organization to learn faster than those in other organizations constitutes the only sustainable competitive advantage at the disposal of a learning organization (Geus, 1988) and the link between learning organization and the success in changing environment (Samad, 2004). According to Sandelands (1999) companies that are not able to embrace learning and knowledge generation at the organizational level simply will disappear. Confessore

and Kops (1998) described learning organization as an environment in which it is structured in order to allow teamwork, collaboration, creativity and processed knowledge that have a collective meaning and value. Marquardt (2002) stressed that in a learning organization, the corporate culture is one in which learning is recognized as absolutely critical for business success. Accordingly, learning can occur at individual, group and organizational levels with the roles to develop the capacity to encourage and maximize learning at these levels. Senge (1990) suggested learning organization as one that should be viewed holistically, that is all individuals within the organization work together across traditional boundaries to solve problems and to create innovative solution.

Senge (1990) recommended a systems view of the learning organization to explain: (1) system thinking, (2) personal mastery, (3) mental models, (4) a shared vision and (5) team building. Further, Senge (1990) emphasized that a learning organization has to be continually expanding its adaptive and generative learning capacity to create its future. Therefore the main goal of learning organization is to ensure employees to be able to understand and apply these disciplines to increase their level of knowledge and, as result, to achieve organization's success. As a means to enhance the organization's capacity to adapt to environmental forces, Watkins *et al.* (1997) proposed seven dimensions of learning organization that comprised: (1) creating continuous learning opportunities, (2) promoting inquiry and dialogue, (3) encouraging collaboration and team learning, (4) establishing systems to capture and share learning, (5) empowering people to have a collective vision (6) connecting the organization to the environment and (7) providing strategic leadership for learning. This framework highlighted that building a learning organization is a process in which individual's intellect is harnessed to create a collective understanding of the environment, the roles and purposes of business.

Though literature have identified various models of learning organization, however, no research thus far was done on the relationship between creative organizational climate and learning organization in Malaysia particularly in TM. This study explored the relationship between creative organizational climate and learning organization in this organization.

2.1 Factors Influencing Learning Organization

Organization needs to provide activities for employees as well as providing an environment and climate or condition that facilitates or inhibits learning (Knowles, 1984). Merriam and Caffarella (1991) suggested three main factors that influence or contribute learning in an organization: (1) people who can influence the learning process, including trainers and supportive middle and

top management, (2) mission and operating procedures to guide policy and (3) the culture or shared values that frame organizational actions. Nonaka and Takeuchi (1995), stressed that a key characteristic of the learning organization is the ability of its members to make opportunities to learn from whatever resources or situation is available and to add value to organization by converting individual information into organizational knowledge.

As a learning organization that facilitates learning of all its members, Pedler *et al.* (1991) identified characteristics that associated with learning organization encompassing: (1) opportunities for organizational members to experiment in developing corporate strategy, ((2) participation in policy making, in which sharing and the involvement of all members are encouraged (3) the open exchange of information that promotes internal dialogues and collects external data, (4) a flexible structure that encourages growth and experimentation, creative problem solving and flexibility and (5) opportunities and resources for self-development such that individuals are encouraged to take responsibility for their own learning and development. Individual's role is inherent in the learning organization and therefore the individual's capacity to learn is a key component of this capability (Padler *et al.*, 1991). According to Garratt (1999), although the concept of learning organization did not emerge until 1980's, but its principles are rooted into many perspectives of management and its practices recognize a wide range of factors, such as organization strategy, organizational climate, culture, structure, absorptive capacity, problem solving ability, employee participation, organizational commitment or climate for creativity.

2.2. Creative Organizational Climate and Learning Organization

Creative organizational climate is one of the important elements that play a vital role in learning organization (Samad, 2004). Creative climate is the organization characteristics as perceived by its members (Ekvall, 1996). These characteristics include learning climate – a culture that encourages creativity and innovativeness (Ortenblad, 2002). Creative organizational climate also encourages people to generate new ideas and helps the organization to grow and increase its efficiency and at the same time it enables members to generate and implement creative ideas more effectively (Ekvall *et al.*, 1983). Therefore, according to Isaksen and Lauer (1998) researchers and practitioners need to understand the relationship between creative organizational climate or organizational climate, organizational values and norms with effective learning organization.

Several literatures have been put forward to explore the relation and role of climate in organization (Ekvall, 1996). Ekvall and Britz (2001) stated that

organizational climate affects the relationship between individual and organizational performance due to its modifying effect on organizational and psychological processes. The organizational climate is influenced by many factors within organization and as a result affects organizational and psychological processes. Organizational processes include group problem solving, decision-making, communication and coordination. Meanwhile, psychological processes include learning in the organization, individual problem solving, creating, motivating and committing (Ekvall & Britz, 2001). Service and Boockholdt (1998) concluded that organizational climate is related to and has a major impact on psychological processes particularly in learning organization. Consequently, these components exert a direct influence on the performance and outcomes in individuals, working groups and the organization. Study conducted among managers of information technology in Malaysia revealed that creative organizational climate and commitment had a positive and significant impact on learning organization (Samad, 2004).

3.0 PURPOSE OF THE STUDY

The purpose of this study was to investigate the relationship between creative organizational climate and learning organization. Consequently it tested the following hypotheses:

- HA1: Perception of creative organizational climate will be positively related to learning organization.
- HA2: Creative organizational climate will have significant contribution on learning organization.
- H3: There is a significant differences in creative organizational climate by gender, position and qualification.

4.0 METHODOLOGY

4.1 Subjects

Data for this study were collected from 584 employees of lower and higher managerial level at Telecom Malaysia (TM). These questionnaires represented a response rate of 83% from the sample of 700 employees. The study adopted stratified random sampling, which covered managers of TM in Malaysia. The background profiles of the subjects are presented in Table 1.

4.2 Instruments: Dependent Variable and Independent variables

The dependent variable of this study is learning organization. DLOQ (Dimension of Learning Organization Questionnaire) scale developed by Watkins and Marsick (1993) was adapted to measure learning organization. A seven-point Likert scale was

used that ranges from almost never to almost always. The seven dimensions in the DLOQ instrument were measured by 6 to 7 items for each of the following dimensions: create continuous learning opportunities (7), promote inquiry and dialogue (6), encourage collaboration and team learning (6), establish systems to capture and share learning (6), empower people toward a collective vision (6), connect the organization to its environment (6) and provide strategic leadership for learning (6). The reliability coefficient for the overall of learning organizational scale was .95. DLQO was used in this study due to its strong validity over time and across borders. The independent variable of the study is creative organizational climate. Creative organizational climate was measured based on adapted instrument developed Ekvall *et al.* (1983). This instrument is Creative Climate Questionnaire (CCQ). A seven-point Likert scale was used that ranges from not relevant at all to very relevant at all. The questionnaire contains ten dimensions: challenge, freedom, dynamism/liveliness, idea support, playfulness/humour, debate, conflict, trust/openness, risk-taking and idea time. The instrument consists of five items for each of the ten dimensions. The reliability coefficient for the overall of CCQ scale was .93.

4.3 Analysis of data

The statistics used to test the hypotheses consisted of Pearson correlation coefficients, regression analysis, T test and analysis of variance. The obtained data were analysed using Statistical Package for Social Science Research (SPSS) version 13.

5.0 RESULTS

5.1 Respondent profiles

Table 1 exhibits the profile of 584 respondents of the study. The average age of the respondents is 35.04 years, while the mean age of their experience in organization is 11.3 years and experience with the current job is 5.6 years. 64% of respondents are male while female respondents are 36%. Majority of the respondents (68%) are married while 32% are not married. Table 1 also depicts 60% of the respondents are from higher level of manager and 40% are among lower level of managers.

Table 1: Background Characteristics of The Respondents

	Mean	SD	n	%
Age	35.04	6.57	-	-
Exp in org.	11.30	6.91	-	-
Job Exp in Dept.	5.56	3.29	-	-
Male	-	-	374	64
Female	-	-	210	36
Married	-	-	392	68
Single	-	-	192	32
Higher level	-	-	350	60
Lower level	-	-	234	40

5.2 The Relationship Between Creative Organizational Climate and Learning Organization (H1)

Pearson correlation coefficients were computed for the relationship between ten components of creative organizational climate with overall learning organization scores rating. Table 2 depicts the relationship between learning organization and creative organizational climate dimensions. The data indicates a positively strong to moderate and significant relationship. All of the correlations were in the expected directions indicate significantly and positively moderate and high relationship between creative organizational climate components and learning organization. This finding is consistent with expectations, that there were significant and positive correlations between creative organizational climate and learning organization

Table 2: Intercorrelations Among Dependent and Independent Variables

	1	2	3	4	5	6	7	8	9	10	11
1	1.0										
2	*.75	1.0									
3	*.69	*.55	1.0								
4	*.60	*.56	*.69	1							
5	*.68	*.60	*.57	*.60	1						
6	*.61	*.69	*.67	*.61	*.58	1.0					
7	*.45	*.45	*.62	*.45	*.60	*.68	1.0				
8	*.52	*.72	*.65	*.71	*.59	*.65	*.64	1.0			
9	*.57	*.45	*.68	*.60	*.52	*.67	*.65	*.58	1.0		
10	*.42	*.70	*.66	*.65	*.61	*.69	*.62	*.65	*.57	1.0	
11	*.63	*.62	*.60	*.46	*.44	*.67	*.59	*.34	*.58	*.61	1.0

Note, * p < .05

1. Challenge 2. Freedom 3. Support of ideas 4. Trust 5. Liveliness 6. Playfulness 7. Debate 8. Conflicts 9. Risk taking 10. Idea time 11. Learning organization.

(Samad, 2004). The results also closely parallel earlier findings (Ekvall & Britz, 2001) lending some support to the construct validity of these measures. Findings of the study tend to suggest that creative organizational climate components were perceived as the variables that associated with learning organization. The results support the first hypothesis of the study.

5.3 The Contribution of Creative Organizational Climate on Learning Organization (H2)

The second objective of the study was to examine the contribution of creative organizational climate components on learning organization. In other words the second objective focused on identifying a combination of creative organizational climate components that correlate significantly with learning organization.

The results in Table 3 revealed that, learning organization was significantly related to creative organizational climate factors. The relationships were found to be strong (R=.75) and all components of creative organizational climate were able to contribute towards learning organization significantly at .05. The R square value of .62, showed that the regression model

Table 3: Multiple Regression Results: Contributions of Creative Organizational Climate Dimensions On Learning Organization

Independent Variables	Beta	t	p
Creative Organizational Climate:			
Challenge	0.36	6.49	.000*
Freedom	0.13	1.10	.270
Loveliness	0.28	6.19	.000*
Trust/openness	0.24	5.75	.000*
Support of ideas	0.51	8.11	.000*
Playfulness/humor	0.37	6.50	.000*
Debate	0.42	4.03	.000*
Conflicts	0.13	3.15	.000*
Risk taking	0.01	0.13	.896
Idea time	0.42	4.36	.000*
(Constant)			.000
Multiple R=.75	R ² =	.62	
Adjusted R ² =.61	(_{10,574}) =	148.50, Sig F=	.000

Note, * p < 0.05

consisting of all creative organizational climate aspects was able to contribute about sixty two percent of the variations in learning organization. This means that learning organization was explained by a combined effect of all the creative organizational climate components. Therefore, the H2 of this study was supported by the data.

5.4 The Differences in Creative Organizational Climate By Gender, Level of Position and Qualification

Table 4, 5 and 6 indicate the differences in creative organizational climate perception by the selected demographic variables.

Table 4: The Differences in Creative Organizational Climate Between Male (N = 374) and Female (N = 210)

Variables	t	df	Mean	
			Male	Female
1	-1.02	582	22.85	23.20
2	-1.27	582	24.44	25.02
3	-0.82	582	24.22	24.56
4	-0.89	582	21.54	21.93
5	-1.33	582	24.16	24.70
6	-0.49	582	24.81	25.04
7	-0.91	582	24.45	24.93
8	0.85	582	24.13	24.43
9	-1.36	582	24.78	25.33
10	-1.56	582	24.28	24.94

Note *p< .05

1.Challenge 2. Freedom 3. Support of ideas
4.Trust 5. Liveliness 6. Playfulness 7. Debate
8. Conflicts 9. Risk taking 10. Idea time

Table 5: The Differences in Creative Organizational Climate Between Higher Level Manager (N = 350) and Lower Level Manager (N = 234)

Variables	t	df	Mean	
			Higher	Lower
1	1.59	582	23.20	22.65
2	1.18*	582	24.87	24.33
3	1.58	582	24.60	23.97
4	1.05	582	21.86	21.41
5	0.52	582	24.44	24.23
6	1.62	582	25.19	24.46
7	1.68*	582	24.97	24.12
8	0.87	582	24.37	24.07
9	0.87	582	24.37	24.07
10	0.79	582	24.65	24.32

Note *p< .05

1. Challenge 2. Freedom 3. Support of ideas

4. Trust 5. Liveliness 6. Playfulness 7. Debate
8. Conflicts 9. Risk taking 10. Idea time

Table 6: The Differences in Creative Organizational Climate by Qualification

Variables	Mean				F Sig
	A	B	C	D	
1	22.00	23.35	22.87	22.72	2.44
2	26.34	24.78	23.88	23.98	3.38*
3	24.66	24.86	24.58	23.85	1.17*
4	19.34	22.24	19.88	21.72	6.58*
5	23.44	24.61	24.13	24.28	1.12
6	24.81	25.36	23.50	24.33	1.87
7	25.91	24.91	24.50	23.79	2.47
8	23.47	24.45	24.88	24.13	1.24
9	24.09	25.22	25.88	24.83	1.31
10	26.09	24.54	24.00	24.01	3.01*

Note ; *p< .05

1.Challenge 2. Freedom 3. Support of ideas 4.Trust 5. Liveliness 6. Playfulness 7. Debate 8. Conflicts 9. Risk taking 10. Idea time A = Masters and or PhD; B = Bachelors, C = Diploma/HSC; D = Others

Based on the T test as can be seen in Table 4, male and female had no significant differences in all aspects of creative organizational climate. However, creative organizational climate for aspect freedom and debate in Table 5, had shown significant differences between higher and lower level of manager. An F test was employed to determine the significant differences in creative organizational climate perception among employees' category of qualification. Results in Table 6, indicated that three aspects of creative organizational climate namely freedom, support of ideas and idea time had significant differences among four categories of qualification. Based on the results the hypothesis three concerning the differences in creative organizational climate components by gender, level of positions and qualifications was partially supported.

6.0 CONCLUSION, IMPLICATIONS AND SUGGESTIONS

The main objective of this study was to determine the relationship between creative organizational climate and learning organization. Finding of the study indicated that there was a positive and significant relationship between creative organizational climate components and learning organization. This means that the higher the level of perception on creative organizational climate components, tend to increase the high level of learning organization. The strength of the relationship ranged from moderate to high correlation. Those correlations that were moderate or better (above 40) were potentially useful towards promoting learning organization. This finding also implied that all creative organizational climate components were usefully and meaningfully correlated with learning organization measure. This result is fairly consistent with the first hypothesis of the study and previous study and teory (Samad, 2004 and Ekval & Britz, 2001) which says

that the degree of learning organization will increase with the increase of creative organizational climate.

The other important issue in this study was to determine the contribution of creative organizational climate on learning organization. Overall, analysis of the goodness and fit for the regression equation showed that the coefficient of determination $R^2 = 0.62$ signifying that sixty two percent of the variation in the level of learning was statistically explained by the regression equations. This means also that creative organizational climate has contributed or influenced quite substantially on learning organization and supported the hypothesis two of the study. The results in this study therefore, have shown a remarkable leading factor of creative organizational climate in influencing or contributing learning in organization.

The study also found significant differences in the perception of creative organizational climate aspects namely, freedom and debate by level of position and freedom, support of ideas and idea time by qualification. Although the hypothesis three of the study was partially supported, the finding however, suggested that management may take into consideration the importance of some creative organizational climate components in promoting learning organizational culture in the working environment.

Findings of this study were consistent and supported by previous literature and theories (Ekvall & Britz, 2001, Service & Boockholdt, 1998, & Ortendblad, 2001). In addition, the study contributed towards managerial applications. The internationalization of business has accelerated to the point at which nearly all companies affected by globalization, international linkages and development (Garland & Farmer, 1996). The critical dynamic suggests that the success of any business organization depends on their approach of dealing with their employees. The management of human resources and the understanding of learning in any organizations is a complex and daunting task. Hence, the successful organization is likely to be one that can manage employment practices and perceptions of those practices by all groups of employees in a way that results in positive job related outcomes (Gaertner & Nollen, 1998).

The findings of the study also implied that learning is important in an organization. Therefore, people in organization must be able to learn in order to adapt to new circumstances. The highly competitive environment has caused greater impetus for most technology-based organization to becoming learning organization. This scenario would drive organizations and companies to increased levels of effectiveness as they develop higher quality product (Bartezzaghi et al., 1997). In addition, the success or failure of technologies in organization depends upon how well it

learns and adapts (Utterback, 1992). Therefore, learning is hoped to enable an organization to translate for short-term gains into long-term competitive advantages (Arthur et al., 2001), as learning organization enables organization to continually expand its capacity to create its future (Senge, 1990). The concept of learning organization also has evolved to encompass diverse aspects of organizational management. Through an extensive literature, learning organization includes focus on knowledge management that involves knowledge acquisition, dissemination, refinement, creation and implementation; the ability to acquire diverse information and to share common understanding so that this knowledge can be exploited (Fiol, 1994) and the ability to develop insights, knowledge and to associate among past and future activities (Fiol and Lyles, 1985).

This study suggests that emphasis should be given on the factors that can help in increasing learning organization. Findings of this study will be of great help to provide understanding to management of organization in designing policies and strategies to improve learning in organization. Research in this area has not been explored extensively in a non-western multicultural work setting particularly in Malaysia, therefore, there is a considerable territory yet to be explored. This paper explored some of this nascent territory. However, this study is not without limitations. This is because the study is limited in Telecom Malaysia and this may reduce the sensitivity of the analyses and the ability to detect small effects and it could also make generalizing the results of the study to different setting more difficult. The study recommends that research on learning organization to consider other factors such as moderating and intervening factors. Consequently, further research should be employed on other variety of samples and settings to generalize the results.

As conclusion, this study serves as a starting point for future studies in this topic and as an initiative towards a greater understanding of organizational important aspects in the global business and learning organization.

REFERENCES

- Arthur, M.B., Robert, J.D., & Candace, J. (2001). Project based learning as the interplay of career and company non financial capital. *Management Learning*, 32, 61-76.
- Bartezzaghi, E., Mariano, C., & Roberto, V. (1997). Continuous improvement and inter-project learning in new product development. *International Journal of technology Management*, 14(1), 116-138.
- Brown, M. M., & Brudney, J.L. (2003). Learning organizations in the public sector : A study of police agencies employing information and

- technology to advance knowledge. *Public Administration Review*, 63 (1), 30-43.
- Confessore, S. J., & Kops, W.J. (1998). Self-directed learning and the learning organization: Examining the connection between the individual and the learning environment. *Human Resource Development Quarterly*, 9(4), 38-44.
- Edmondson, A. C. (2002). The local and variegated nature of learning in organizations: A group-level perspective. *Organization Science*, 13, 128-146.
- Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*, 5, 105-123.
- Ekvall, G., & Britz, A. (2001). Perceptions of the best and worst climates for creativity: Preliminary validation evidence for the situational outlook questionnaire. *Creativity Research Journal*, 13 (2), 171-184.
- Ekvall, G., Arvonen, J., & Waldenstorm, L.I. (1983). *Creative organizational climate. Construction and validation of a measuring instrument*. Faradet, Report 2 the Swedish Council for Management and Work Life Issues: Stockholm.
- Fiol, M. (1994). Consensus, diversity and learning in organization. *Organization Science*, 5, 403-437.
- Fiol, M., & Lyles, M. (1985). Organizational learning. *Academy of Management Review*. 10(4), 803-813.
- Gaertner, K.N., & Nollen, S.D (1998). Career experience, perception of employment practices and psychological commitment to the organization, *Human Relations*, 42, 975-991
- Garland, J., & Farmer, R.N. (1996). *International dimensions of business policy and strategy*. Boston, M.A. : Kent.
- Garratt, B. (1999). The learning organization 15 years on: Some personal reflections. *The Learning Organization*, 6(5), 202-206.
- Geus, D. A. (1988). Planning as learning, *Harvard Bus. Rev*, 66, (70-74).
- Knowles, M. (1984). *The modern practice of adult education: From pedagogy to andragogy*. New York : Cambridge University Press.
- Loermans, J. (2002). Synergizing the learning organization and knowledge management. *Journal of Knowledge Management*. 6 (3), 285-294.
- Marquardt, J. M. (2002). *Building the learning organization*. Palo Alto, CA: Davis-Black.
- Nonaka, I. & Takeuchi, K. (1995). *The knowledge creating company: How Japanese create the dynamics of innovation*. Oxford University Press : Oxford.
- Ortenblad, A. (2002). A typology of the idea of learning organization. *Management Learning*, 33(2), 213-230.
- Park, M. (2001). Current economic trend. *Samsung Economic Research Institution Magazine*, 30(3), 45-48.
- Pedler, M., Burgoyne, J., & Boydell, T. (1991). *The learning company*. McGraw-Hill: London.
- Schein, E. (1993). On dialogue, culture and organizational learning. *Organizational Dynamic*, 40-51.
- Samad, S. (2004). *The influence of creative organizational climate and organizational commitment on learning organization among employees in private organization*. Refereed conference proceedings of International Borneo Conference.
- Sandelands, E. (1999). Learning organizations: A review of the literature relating to strategies, building blocks and barriers. *Management Literature In Review*, 1, 1-10.
- Senge, P.M. (1990). *The fifth discipline: The art and practice of learning organization*. Doubleday : New York.
- Service, R.W., & Boockholdt, J. L. (1998). Factors leading to innovation: A study of managers' perspectives. *Creativity Research Journal*, 11, 295-307.
- Utterback, J. M. (1996). *Mastering the dynamics of innovation*. Harvard Business School Press.
- Watkins, K.E., & Marsick, V.J. (1993). *Sculpting the learning organization: Lessons in the art and science of systematic change*, Sage: London.
- Watkins, K.E., Yang, B., & Marsick, V.J. (1997). Measuring dimensions of the learning organization. In R. Torraco, *Proceeding of the Academy of Human Resource Development Conference*, pp 543-546. Academy of HRD : Atlanta, GA.