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Learning Organization Culture, Organizational Performance and Organizational Innovativeness in a Public Institution of Higher Education in Malaysia: A Preliminary Study

Norashikin Hussein^{a*}, Safiah Omar^a, Fauziah Noordin^a, Noormala Amir Ishak^a

^aFaculty of Business and Management, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia

Abstract

The existence of learning organization culture has been proven to influence growth and development of an organization. This study explores the level of learning organization culture and its associations with organizational performance, and organizational innovativeness among academics in a Public Institution of Higher Education in Malaysia (PIHE). Statistical results obtained from 40 academics indicate significant positive associations between all variables. Continuous learning was found to be the highest correlated with organizational performance while collaboration and team learning was found to be highly associated with organizational innovativeness. Detail of results, implications of study, and future research are discussed.

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Keywords: learning organization culture, organizational performance, organizational innovativeness, public institution of higher education (PIHE)

1. Introduction

The Government of Malaysia, through the Ministry of Education (MOE), has restructured the higher education system by developing strategies and plans for Higher Education Institutes (HEIs) in adopting change to achieve excellence in facing the competition posed by the global education market (Grapragasem, Krishnan, & Azlin, 2014). In line with Malaysia's aspiration in becoming a center of education excellence and competitive international education hub of South East Asia, PIHEs in Malaysia are now expected to achieve academic excellence not only through its performance but also in terms of innovation. Hence, is also important for the PIHEs to meet the

* Corresponding author. Tel.: +6-019-725-4231
E-mail address: shikin6320@salam.uitm.edu.my

international academic trends by raising the overall academic standards as well as the quality of the education (Chen, Wang, & Yang, 2009).

Accordingly, for PIHEs to strive for academic excellence, it is crucial for the institutions to adopt learning organization culture (Kalsom & Ching, 2012). This is because with the existence of learning in organizations, the directions of the organization will be determined from the retrieval of valuable information obtained from the best knowledge memory (Lin, 2008). Furthermore, as academic excellence highly involves quality education and also qualified educators, learning organization culture is seen essential in encouraging educators to exchange the right information with the right person, location, and at the right time (Kumar, 2005).

The concept of learning organization has been widely used in organizations particularly those who strive for survival in competitive world (Zare, Jajarmizadeh, & Abbasi, 2010). An organization with a learning organization culture particularly assists in increasing competitive advantage and is responsive to change as it encourages learning in organization (Norashikin & Noormala, 2006). Many advantages arising from learning organization, one of it is to overcome chaotic and changing condition (Hannah & Lester, 2009). Learning organization culture has been linked to positive organizational outcomes such as improved performance (Power & Waddell, 2004; Watkins & Marsick, 1999) and enhancing firms' innovative capabilities (Kieser & Koch, 2008). This is because organizations that learn are able to keep abreast with developments and improvements in the business environment to operate successfully and also fosters its innovation competence.

Although the relations and connections were established among learning organization culture with organizational performance and organizational innovativeness, there are however still lack of empirically assessment within the PIHEs context especially in Malaysia (Norashikin, Amnah, Fauziah, & Noormala, 2013). Furthermore, little attention has been paid to the assessment in educational institutions that cover the whole aspect of learning organization culture (Ministry of Higher Education, MOHE, 2013). Thus, this study intends to look at: (1) the level of learning organization culture among academics of PIHE in Malaysia; (2) the association between learning organization culture and organizational performance; (3) the association between learning organization culture and organizational innovativeness.

2. Literature Review

2.1. Learning Organization Culture

Learning organization is a type of an organization that develops its capabilities on a continuous basis for long term benefits (Senge, 1990). This means that organizations that adopt learning organization culture should have the skills and capabilities in order to produce, accomplish and utilize the knowledge, and transforming individuals as a reflection of acquiring new knowledge and vision (Garvin, 1993). In public institution of higher education (PIHE), although the core products is academic learning, it necessarily for them to implement such learning organization as their core culture (Patnaik, Beriha, Mahapatra, & Sigh, 2013).

In a learning organization, learning and work are combined in an ongoing systematic manner to ensure the continuity of individual, group and organizational improvements (Watkins & Marsick, 1993). It is the learning culture that contributes to the existence of learning organization. There are seven dimensions that characterize learning organization culture (Watkins & Marsick, 1993). The learning organization culture dimensions are as follows: continuous learning, dialogue and inquiry, team learning, embedded system, system connections, empowerment and leadership. First, which is continuous learning, represents an attempt by the organization to generate learning opportunities for all employees. Second, inquiry and dialogue refers to an organization's effort in building a platform that supports dialogues, reaction and experimentation among its members. Team learning, the third dimension refers to the collaboration of the team in using resources effectively as a team. Empowerment is the organization's practice to produce and share vision that has been agreed together and get response from its members to further improve the implementation of the new vision. The effort to create methods to utilize and therefore the learning can be shared represents the fifth dimension which is embedded system. The sixth dimension which is system connection brings the organization to establish comprehensive way to look at things and translate it into actions to be linked to the environment, be it internal or externally. The seventh, strategic leadership involve with leaders who think strategically in bringing the organization to new directions (Yang, Watkins, & Marsick, 2004).

2.2. Learning Organization Culture and Organizational Performance

It is important to note that organizational performance is hard to define and has been measured in different ways according to its respective context (Stainer, 1999; Stankard, 2002). Organizational performance is the product of interactions of different components or units in the organization (Stainer, 1999). The highly need for competitive quality education in academic institutions bringing up the need for the institutions to come up with ways for improvement in such areas (Lawrence & McCullough, 2001). This is related to the development for performance measurement indicators which are used to assess the performance level of the academic institutions (Sukboonyasatit & Thanapaisarn, 2011). The development of performance measurement indicators that is specific to be used in academic institution is vital. In the context of this study, organizational performance refers to the outcomes of various educational related processes which occur in the course of its daily operations (Norashikin, Amnah, Fauziah, & Noormala, 2013). Since there is limited literature on what consist of organizational performance in the context of PIHEs in Malaysia, it is proposed that organizational performance is represented by various dimensions such as school reputation, quality of students, research results curriculum planning and community involvement (Chen, Wang, & Yang, 2009).

Learning organization culture was expected to influence the performance of the organizations which include competitiveness advantage as well as financial performance (Lopez, Peon, & Ordas, 2005). There are several other studies that relate learning organization culture with financial performance (Bontis, Crossan, & Huallnd, 2002; Kandekar & Sharma, 2006). Another study found only two dimensions of learning organization culture that lead to higher performance, specifically inquiry and dialogue, and systems connection (Akhtar, Arif, Rubi, & Naveed, 2011). The remaining dimensions of learning organization culture do not have any link with organizational performance. Continuous learning however was found to have greater impact on individual performance rather than organizational performance. Therefore it is hypothesized that:

H1: Learning organization culture is positively related to organizational performance.

2.3 Learning Organization Culture and Organizational Innovativeness

Findings and conceptualization on innovation among PIHEs is still lacking (Kieser & Koch, 2008). The context in which organizational innovativeness is used in this study is the willingness of the organization to encourage and support the innovation among the employees by providing the development of new knowledge and insights (Hult, Hurley, & Knight, 2004; Hurley & Hult, 1998). Apart from being implemented in research agencies, it is suggested that organizational innovativeness should be implemented in PIHEs as they are also responsible in 'manufacturing' innovations (Nordin, Fauziah, Rohana, & Norlina, 2013). In general, learning organization culture was proved to have positive relationship with organizational innovativeness (Ussahawanitchakit, 2008). For example, learning organization culture and innovativeness were found to be significance among the small medium enterprises' employees in Malaysia (Islam & Mohamed, 2011). Other study found that organizational learning capability impact firm innovation in Iranian ceramic tile industry (Tohidi, Seyedaliakbar, & Mandegari, 2012). Therefore it is hypothesized that:

H2: Learning organization culture is positively related to organizational innovativeness. Methodology

The study was conducted using quantitative method. The analyses of this study were assessed using Statistical Package for Social Science (SPSS) version 20. Quantitative method was chosen in order to generalize the findings based on the exploratory data obtained from the preliminary work. There were 40 academics from a Public Institution of Higher Education (PIHE) participated in this study. Among them, 26.3 percent were male and 73.7 percent were female. Majority were holding the position of lecturer (DM/DS45) at 76.3percent.

The assessment instrument for learning organizations was adopted from Watkins and Marsick (1996). The instrument covers seven dimensions which are continuous learning, inquiry and dialogue, collaboration and team learning, systems of shared learning, empowerment, connection to environment, and strategic leadership. There were twenty one questions in total. The coefficient alpha for reliability analyses are ranging from 0.638 to 0.881.

There were far too little instrument available that assessed on the educational organization aspects in terms of organizational performance. Despite that, it is suggested that academic setting performance measurement indicators should cover several aspects (Chen, Wang, & Yang, 2009). Several importance aspects identified in educational institution in Malaysia for this study are reputation, social/community involvement, student's quality, innovation, faculty's resources, teaching activities, research activities, development target and characteristics, and curriculum

planning following Chen et. al. (2009). The coefficient alpha for reliability analyses are ranging from 0.600 to 0.943. Finally, organizational innovativeness' assessment instrument was adapted from past studies (Lin, 2006; Nunnally, 1967). The instrument has 14-items and the reliability coefficient alpha was 0.943. Items for all variables were presented using a five-point Likert scale ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'.

60 questionnaires were distributed among the academicians in a public institution of higher education with a return rate of 66.7 percent of 40 questionnaires. The data were collected using drop-off/pick-up method. The questionnaires were self-administered by the researchers. Descriptive types of analyses were use in this study. The analyses began with the assessment of internal consistencies. The coefficient alpha was tested and those variables must achieved above 0.60 (Nunnally, 1967). Then, the frequencies of the data were examined by generating the means and standard deviation of the items as well as the respondents' demographic information. Finally, correlation analysis (bivariate) was conducted next in order to determine the existence of the relationships between all the variables assessed.

3. Results

3.1 Descriptive

The results of this study began with the descriptive analyses. Referring to Table 1, the highest mean score for learning organization is continuous learning (M= 5.24; SD= 1.0). The lowest mean score for this variable is systems of shared learning (M = 4.83; SD= 1.1). In organizational performance, teaching activities score the highest mean at 5.20 (SD= 0.98). Lowest score for organizational performance is research activities (M= 4.58; SD=1.1). Means for total organizational performance is 4.84 (SD= 0.79) whereas the means for organizational innovativeness is 4.83 (SD= 0.93).

Table 1: Means and Standard Deviation

N=40	Mean	Std. Deviation
	Statistic	Statistic
Continuous Learning	5.25	1.006
Inquiry and Dialogue	4.74	1.100
Collaboration and Team Learning	4.71	1.112
Systems of Shared Learning	4.78	1.118
Empowerment	4.83	1.186
Connection to Environment	5.19	0.857
Strategic Leadership	5.13	1.029
Total Learning Organization	4.95	0.907
Reputation	4.64	0.888
Social/ Community Involvement	4.65	1.151
Student's Quality	4.88	0.869
Innovation activities	4.84	0.875
Faculty's Resources	4.88	0.954
Teaching Activities	5.20	0.971
Research Activities	4.58	0.986
Development Target & Character	4.84	1.104
Curriculum Planning	5.07	1.048
Total Organizational Performance	4.84	0.793
Organizational Innovativeness	4.83	0.925

Note: "0-2.99 = low; 3.0-4.99= moderate; 5- 7= high"

3.2 Correlation Analysis

Referring to Table II, the magnitude of the correlation for all the variables measures from (r) =0.413 to (r) =0.84. All correlations among the dimensions in learning organization culture with organizational performance and organizational innovativeness are significance at level < 0.01 . Continuous learning scored the highest within learning organization construct with organizational performance ($r= 0.584$; $p < .01$). The lowest relationship score for learning organization construct with organizational performance is systems of shared learning ($r= 0.446$; $p < 0.01$). In relationship between learning organization and organizational innovativeness, collaboration and team

learning achieved the highest significant score where the $r = 0.684$ ($p < 0.01$). The lowest score for the relationship is continuous learning where the $r = 0.406$ is significant at 0.01 level.

Table 2: Correlation between learning organization, organizational performance, and organizational innovativeness

	1	2	3	4	5	6	7	8	9
1	1								
2	.654**	1							
3	.643**	.828**	1						
4	.532**	.607**	.660**	1					
5	.696**	.582**	.724**	.842**	1				
6	.681**	.652**	.777**	.657**	.779**	1			
7	.704**	.741**	.668**	.671**	.664**	.734**	1		
8	.584**	.512**	.566**	.446**	.556**	.552**	.535**	1	
9	.406**	.628**	.684**	.413**	.525**	.541**	.504**	.765**	1

Note: '1=continuous learning; 2=inquiry and dialogue; 3=collaboration and team learning; 4=systems of shared learning; 5=empowerment; 6=connection to environment; 7=strategic leadership; 8=organizational performance; 9=organizational innovativeness'

** Correlation is significant at the 0.01 level (two-tailed).

* Correlation is significant at the 0.05 level (two-tailed).

4. Discussion and Conclusion

This study was designed to gain insight in achieving organizational performance and innovativeness from the perspective of learning organization culture. Specifically this study examined (1) the level of learning organization culture among academics of PIHEs in Malaysia; (2) the association between learning organization culture and organizational performance; and (3) the association between learning organization culture and organizational innovativeness. The results have provided empirical support for the link between learning organization culture, organizational performance and organizational innovativeness. To some extent, this study has made an effort to address lack of studies in Malaysian setting.

The overall learning organization culture among the organizations is moderate, based on the mean score ranging from 4.71 to 5.25 out of a seven-point scale. In fact it is reasonable to conclude that dimensions of learning organization culture such as continuous learning, connection to environment and strategic leadership were perceived as high indicating that these dimensions are highly 'visible' among academics of the PIHE surveyed. Organizational performance was perceived to be moderate based on the total mean of 4.84. The mean scores seem to indicate that teaching activities and curriculum planning received the most attention which is explained by that fact the surveyed PIHE is a non-research university. Organizational innovativeness on the other hand is perceived to be moderate.

The results of correlation analysis between variables indicate that all learning organization culture dimensions were significantly associated with both dependent variables, namely organizational performance and organizational innovativeness. This further signifies that all learning organization dimensions are equally important for higher organizational performance. Continuous learning was found to be highly associated with organizational performance, followed by collaboration and team learning. As continuous learning reflected as opportunities to learn (Watkins & Marsick, 1999), academics perceived prospect for ongoing education and growth as crucial to contribute to overall performance of their respective PIHE. Indeed, as learning is integrated into work, academics can have the opportunity to learn on the job and subsequently transform it into improved teaching, learning and research activities. To some extent the findings corroborate with a past study (e.g., Akhtar et al., 2011) which highlighted that continuous learning may have greater a greater impact on individual performance – which will lead to the overall performance of the organization. The findings of the study also show that collaboration and team learning is perceived as important in contribution towards higher performance. This may due to the fact that teamwork works

better among the academics as they use resources in the organization effectively as a team through their daily teaching and research activities. Hypothesis 1 is thus fully supported.

Collaboration and team learning; and inquiry and dialogue were found to be the top two variables that correlate with organizational effectiveness. Respondents that perceived having teams to work and learn together were most likely to have high perception of organizational innovativeness. In the context of PIHE, collaboration of research and learning activities through multidisciplinary approach are encouraged to generate different ideas and creativity for innovation. Compared to individual, teams are given more access and empowered to conduct projects that contribute to the willingness of the organization to have new insights and knowledge to be promoted. Supported by previous study (e.g., Jyothibabu, Farooq, & Pradhan, 2010) as inquiry and dialogue fosters thinking collectively and efficient communication, management are more encouraged to promote innovation. In other words, a culture that encourages two-way communication, opinion and exploration are definitely favored in supporting organizational innovativeness in a PIHE. The above findings support past studies (Tohidi et al., 2012; Ussahawanitchakit, 2008) that learning organization culture is necessary to facilitate organizational innovativeness among PIHEs. Therefore, Hypothesis 2 is fully supported.

The present study suggests some implications to the PIHE's top management, administrators, Deans and academics on the importance to inculcate the culture of learning in promoting higher performance and organizational innovativeness. The study suggests that there is a crucial need to instill the learning organization culture among academics for the significance they add not only to their jobs but also their individual inputs to organizational performance and innovativeness. As the performance and innovativeness of PIHEs are highly dependent on its academics, it is fair to say that relevant resources should be allocated and efforts need to be made to instill learning in the organization (Norashikin et al., 2013). It is proposed that continuous learning opportunities through scholarships, training programmes, and research grants should be made available to the academics to add value to their existing skills and knowledge for higher performance. Collaboration opportunities and the team learning culture through work activities and research interest group need to be enhanced and strengthened to offer better performance innovation in the organization. In addition, platform should be provided for the academics for their ideas and views to be heard and exchanged to encourage innovation.

The contributions of this study are of significance, firstly due to the fact that it is an empirical work. Since this area of research is new in the context of PIHE, hence it is vital to lessen the gap of limited empirical work on the topic especially in Malaysia. From a theoretical perspective, this study provides new insights on learning organization culture as a predictor for organizational excellence in terms of performance and innovativeness.

The study has a few limitations. The most evident are the small size of respondents and the fact that the study's being restricted to one particular PIHE only. Ideally, a larger sample size would provide better perspective of the link between the variables using other statistical tests such as regression analysis. Nevertheless, as a preliminary study, the findings provided major contribution on the importance of learning organization culture in promoting organizational performance and organizational innovativeness. Future research should utilize larger sample size and should involve various PIHEs in Malaysia. Besides that, this study specifically concentrates on the direct link of learning organization culture and organizational outcomes such as performance and innovativeness. Future study should include moderating or mediating variables to give better understanding on the relationships between these variables. Perhaps, dimensions for each variable especially for organizational performance and organizational innovativeness should be detailed out to further understand the relationships. Finally, this preliminary study employed a cross-sectional study design, over a longitudinal design. Since learning organization culture may takes time to be embedded in the organization, longitudinal design should be considered to capture the link between the variables.

In conclusion, this study has contributed to the body of knowledge by providing empirical evidence through the integration of learning organization culture with organizational outcomes, namely performance and innovativeness specifically in the Malaysian context of PIHE. In achieving the nation's aspiration to be a fully developed nation in future, Malaysian aspiration as a hub of education excellence, PIHEs need to stay relevant and be on the new heights in becoming the centre of education excellence. Thus, adopting a culture of learning organization is vital in ensuring high performance and innovativeness are attained.

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References

- Akhtar, S., Arif, A., Rubi, E., & Naveed, S. (2011). Impact of learning on organizational performance: Study of higher education institutes. *International Journal of Academic Research* 3(5), 327-331.
- Bontis, N., Crossan, M., & Huallnd, J. (2002). Managing an organizational learning system by aligning stocks and flows. *Journal of Management Studies*, 39(A), 437-469.
- Chen, S.-H., Wang, H.-H., & Yang, K.-J. (2009). Establishment and application of performance measure indicators for universities. *The TQM Magazine*, 21(3), 220-235.
- Garvin, D. (1993). Building a learning organization. *Harvard Business Review*, 71(4), 78-91.
- Grapragasem, S., Krishnan, A., & Azlin, N. M. (2014). Current trends in Malaysian higher education and the effect on education policy and practice: An overview. *International Journal of Higher Education*, 3(1), 85-93.
- Hannah, S., & Lester, P. (2009). A multiple level approach to building and leading learning organizations. *The Leadership Quarterly*, 20(1), 34-38.
- Hult, G. T., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management*, 33, 429-438.
- Hurley, R. F., & Hult, G. T. (1998). Innovation, market orientation and organizational learning: An integration and empirical examination. *The Journal of Marketing*, 62, 42-54.
- Islam, M. S., & Mohamed, S. (2011). Organizational learning, innovation and performance: A study of Malaysian small and medium sized enterprises. *International Journal of Business and Management*, 6(12), 118-125.
- Jyothibabu, C., Farooq, A., & Pradhan, B. B. (2010). An integrated scale for measuring an organizational learning system. *The Learning Organization*, 17, 303-327.
- Kalsom, S., & Ching, C. H. (2012). *Proceedings from ICIKM 2011*. Paper presented at the The 8th International Conference on Intellectual Capital, Knowledge Management & Organizational Learning, Bangkok, Thailand.
- Kandekar, A., & Sharma, A. (2006). Organizational learning and performance: Understanding Indian scenario in present global context. *Education and Training*, 48(9), 682-692.
- Kieser, A., & Koch, I. (2008). Bounded rationality and organizational learning based on rule changes. *Management Learning*, 39(3), 329-347.
- Kumar, N. (2005). Assessing the learning culture and performance of educational institutions. *Performance Improvement*, 44(9), 27-32.
- Lawrence, J. J., & McCullough, M. A. (2001). A conceptual framework for guaranteeing higher education. *Quality Assurance in Education*, 9(3), 139-152.
- Lin, Y. Y. (2006). *An examination of the relationships between organizational learning culture, structure, organizational innovativeness and effectiveness: Evidence from Taiwanese organizations*. Doctoral Dissertation, University of Minnesota, USA.
- Lin, H. F. (2008). Empirically testing innovation characteristics and organizational learning capabilities in e-business implementation success. *Internet Research*, 18(1), 60-78.
- Lopez, S. P., Peon, M. M., & Ordas, V. J. (2005). Organizational learning as a determining factor in business performance. *The Learning Organization*, 12(3), 227-245.
- MOHE, M. O. H. E. (2013). Public Institutions of Higher Education (PIHE). Retrieved from <http://www.mohe.gov.my/portal/en/institusi/ipta.html>
- Nordin, A. R. M., Fauziah, W., Rohana, I., & Norlina, U. (2013). A comprehensive innovation management model for Malaysian public higher learning institutions. *International Journal of Software Engineering and Its Applications*, 7(1), 44-55.
- Norashikin, H., & Ishak, N. A. (2006). *Human resource practice and organizational learning capability: A proposed framework*. Paper presented at the Third Human Resource Management Langkawi, Malaysia.
- Norashikin, H., Amnah, M., Fauziah, N., & Noormala (2013, 3-5 December 2013). *Learning organization and its effect on organizational performance and organizational innovativeness: A proposed framework for Malaysian public institutions of higher education*. Paper presented at the International Conference on Marketing and Retailing, Selangor, Malaysia.
- Nunnally, J. C. (1967). *Psychometric theory*. New York: McGraw Hill.
- Patnaik, B., Beriha, G. S., Mahapatra, S. S., & Singh, N. (2013). Organizational learning in educational settings (technical): An Indian perspective. *Organizational Learning*, 20(2), 153-172.
- Power, J., & Waddell, D. (2004). The link between self-managed work teams and learning organizations using performance indicators. *The Learning Organization*, 11(3), 244-259.
- Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of Learning Organization* New York: Doubleday.
- Stainer, A. (1999). Productivity, performance and paradise. *Management Services*, 43(6), 8-11.
- Stankard, M. F. (2002). *Management systems and organizational performance: The search for excellence beyond ISO9000*. Westport, CT: Greenwood Publishing Group.
- Sukboonyasatit, K., & Thanapaisarn, C. (2011). Key Performance indicators of public universities based on quality assessment criteria in Thailand. *Contemporary Issues in Education Research*, 9(9), 9-17.
- Tohidi, H., Seyedaliakbar, S. M., & Mandegari, M. (2012). Organizational Learning Measurement and the Effect on Firm Innovation. *Journal of Enterprise Information System*, 25(3), 219-245.
- Ussahawanitchakit, P. (2008). Impacts of organization learning on innovation orientation and firm efficiency: An empirical Assessment of Accounting Firms in Thailand. *International Journal of Business Research*, 8(4), 1-12.

- Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the Learning organization: Lessons in the art and science of systematic change*. San Francisco: Jossey-Bass.
- Watkins, K. E., & Marsick, V. J. (1999). *Facilitating learning organizations: Making learning count*. Aldershot: Gower Publishing Limited.
- Watkins, K. E., & Marsick, V. J. (1996). *In action: Creating the learning organization*. Alexandria: ASTD Press.
- Yang, B., Watkins, K. E., & Marsick, V. J. (2004). The construct of the learning organization: Dimensions, measurement, and validation. *Human Resource Development Quarterly* 15(1), 31-55.
- Zare, R., Jajarmizadeh, M., & Abbasi, N. (2010). Relation between job characteristics model (JCM) and Learning Organization (LO). *World Applied Sciences Journal*, 8(10), 1253-1259.