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Managerial Learning from the Perspectives of Individual and Organization Level Learning

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The purpose of this research paper is to empirically investigate managerial learning from the perspective of individual and organization level learning by managers in the organizations they work for. On the premise that all organizations are learning organizations this research draws upon the data collected using an instrument developed by Moilanen (2001b) in a Malaysian scenario. Analysis of the data collected on whether there was significance difference between individual and organization level learning led to a decisive conclusion that the managers feel strongly that most learning in the organization they work for was at the individual rather than at organization level. This decisive conclusion, using stringent statistical analysis, has deep implication in that learning by managers must relate to the overall development and sustainment in building their organization as learning organizations, and not for benefits at micro level with individual effort or interpersonal level. Some suggestions are given for overall development of the learning organ

ization through managerial learning.

Field of Research: Managerial learning, Individual level learning, Organization level learning

1.0 Introduction

It was extremely difficult to find a consensus on the definition or the "conception about learning organizations" (Moilanen, 2001c). According to Easterby-Smith (1997) literature in the field of learning in organization was focused on "organizational learning and not on learning organizations" per se. Viewing learning organizations in holistic manner involve the inclusion of "various elements covering the whole", thereby capturing the "strategic and human aspects of learning organizations" (Moilanen, 2001c). Based on the works of Pedler *et al.* (1988, 1989), Senge (1990a) and Argyris & Schon (1978, 1996), as in Moilanen (1999a), Moilanen suggested that the five key elements of learning organizations consisting of "managing and leading", "finding purpose", "questioning", "empowerment", and "evaluating" need to be measured in order to assess the learning of the organization as a whole or as a holistic learning entity. Considering these elements, Moilanen (1999a, 1999b, 2001a, 2001b) constructed a tool (questionnaire instrument), that was further developed and tested on how organizations measure up as holistic learning entities. The same tool was also used to measure the learning organization in this research.

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The key member in any organization who drive such interactions was the manager. The role of the manager in "building and sustaining a learning organization" was well articulated by Teare & Dealtry (1998). According to Teare & Dealtry (1998), "the first step in diagnosing the interactions that occur in the 'learning environment' was to examine the active roles of managers and the related behaviours". In this research the active role of managers was explored by doing an in depth study of managers' perception on their learning at workplace from the viewpoint of their individual learning and organization level learning. Furthermore, as change agents, managers carry the role of change "catalyst", "solution giver", "process helper" and "resource linker" (Havelock, 1973) that involve massive amount of learning at managerial level as well as at subordinate level to bring about organization development by way of building, sustaining and developing the organization they work for as a learning organization, that ultimately leads to increased growth, stability, productivity, innovativeness and profitability for the organization.

As almost all the researchers in the field of learning organizations argued that the responsibility to conceptualize and operationalize in mobilizing an organization as a learning organization was anchored upon managers, the interest to know on managerial learning grows much deeper. Research by Van der Sluis (2000) has highlighted, to a very large extent, on factors contributing to learning at managerial level, that can be connected to building and sustaining the learning organization.

2. Research Objectives

Three specific objectives of this research are: (i) to identify the managers' perception on the OOLL in the organization they work for, (ii) to determine the significance of differences in mean scores among the factors within the OOLL and (iii) to determine the structure of learning amongst managers.

3. Literature Review

3.1 Definition of a Learning Organization

Defining the term or concept of the learning organization has been an arduous task in the past. Even the world acclaimed guru of learning organizations, Peter Senge, was said to have not been able to provide a "short and precise definition of a learning organization in his works. …" (Moilanen, 2001c). Many scholars have forwarded their definitions on what constitutes a learning organization. For the purpose of this research, a learning organization was defined as a "holistic concept" that was used to address an organization as a "learning environment or as an infrastructure" (Moilanen, 2001c). The definition includes viewing the organization as an entity that has expertise at creating, acquiring, and transferring knowledge, and at modifying its behaviour, as well as that of its managers and subordinates, to reflect new knowledge and insights as a result of

learning process and outcomes, deliberately developed, monitored and modified on a continuous basis.

Hence, a learning organization is viewed as a learning infrastructure or learning environment where managers, as change agents, play the key role in managing and leading 'the learning of the organization as a whole'. This is facilitated holistically and continuously by managers as they build and sustain the organization as a learning organization.

3.2 Forming and Measuring the Learning Organization.

There are a number of instruments forwarded by various authors in the field of learning organization used to measure the holistic level of learning taking place in the organization being measured. In this study, the works of Moilanen (2001a) on learning organizations was identified to be the most suitable and hence, used in depth. The roots of the study by Moilanen (2001a) to explain the nature of learning in organizations are based on several holistic views by Pedler *et al.* (1991; 1997) and Senge (1990a), although certain aspects of their views have their origin based on the work of Argyris & Schon (1978; 1996). This research used the instrument developed by Moilanen (2001a), named as The Learning Organization Diamond (TLOD), to measure the status of an organization as a learning organization. The instrument consists of five major elements, and each has two-sided concept – first the more holistic aspects of a learning organization measured at organizational level and secondly the more individual-based managerial level views. Hence, in total, there are ten elements to diagnose or measure the learning organization learning holistically based on the five key elements. The five major elements identified by Moilanen (2001a) are presented in the following paragraphs.

I. **Driving forces**. The element of driving forces refers to how managers will almost always manage and lead in the organization they work for in developing it as a learning environment. The organization side was named by Moilanen (2001c; 1999b) as "managing the whole … best defined by stating that a manager is taking care of, or at least being conscious of, all organization-wide systems, processes and structures which could enable or hinder learning." It can be deduced that another safe way to refer a learning organization in an interchangeable manner was 'the learning of the organization as a whole'. As for the managerial level of driving forces, "managers lead learners and their learning [by] taking care of individuals and groups for as long as they need assistance in becoming better learners or masters of the learning processes" (Moilanen, 2001c). Hence, the union of all other key elements of a learning organization rests much, to a large extent, with the managers' driving forces focused at building, maintaining, supporting and developing a holistic learning infrastructure in the organization they work for (Moilanen, 1999b).

II. **Finding purpose** refers to the need to identify the intended direction that an organization wants to take based on or guided by the vision and strategy built by a learning organization, as Moilanen (1999a) puts it: "Strategy and vision direct

companies in their operations, and should also direct learning." As vision and strategy direct the learning organization at organizational level, it was the "motivation" and willingness to learn new things and processes that guides the managers' learning at personal level, which ultimately links to learning for organization-wide purpose, "concentrating on the most crucial needs of the company [organization]" (Moilanen, 1999a).

III. **Questioning** was the reflective element in the manager that involves "inquiring, doubting and asking for the value of the present state [of learning in the organization]" (Moilanen, 2001a). The need for "… questioning organization-wide routines" constitutes the learning taking place at organization level and at the managers' personal level, it was his/her own routines, "mental models and patterns" that were questioned on a continuous basis reflectively (Moilanen, 2001c; Senge, 1990a).

IV. **Empowering** was a concept used by Moilanen (1999a; 2001c) to describe the combinations of various "organization-wide arrangements and support systems" that can help in effecting "learning climate and providing self-development opportunities for all (Pedlar *et al.* 1997)". According to Moilanen (1999a) organizations can exercise learning via direction of empowerment to make changes to the whole organization infrastructure. Managers also can exercise the power of empowerment at personal level by organizing, for example, "social learning, training, listening, reading, … and job rotation" that can enhance or develop learning in organization (Moilanen, 1999a).

V. **Evaluating** was a necessary element in that it helps the management of the learning organization to gain accurate information on the progress of the organization in relation to organization-wide learning taking place. At the organization level, evaluation was meant to assess the results achieved "in the field of learning and development" of the whole organization (Moilanen, 2001c). At the managerial level, "this might best be characterized by self-assessment and group-based evaluating systems" (Moilanen, 2001a). The TLOD questionnaire consists of 40 statements; 20 statements focused on the organization level learning (OLL) and the remaining 20 on the individual level learning (ILL). The statements are presented in two sections for answering, but during the analysis phase they are combined according to the overall model of the Learning Organization Diamond (driving forces, finding purpose, questioning, empowering and evaluating) which was referred to as Overall Organization Level Learning (OOLL) in this research. The statements were formed to operationalize the above mentioned two levels and elements with the aim to formulate the statements in such a clear and simple way that filling the questionnaire could be possible for everyone in different kinds of organizations and at different levels (Moilanen, 2001c). The core of the tool was in creating a holistic picture of an organization and seeing the present state of learning among managers in the organization they work for.

4. Research Design

This study was a one-shot study design incorporating a cross-sectional survey using quantitative techniques. The descriptive research approach was used to explore the

current status of the subjects' perceptions on quantitative variables in this study without manipulating or influencing any variables viz. individual level learning and organization level learning. For this research the selection of study population was based on top two industries in manufacturing and services sectors each in Kuala Lumpur and Selangor, as per reports by Malaysia Productivity Corporation, Malaysia Industrial Development Authority and Bank Negara Malaysia. A target sample of 600 managers, involving a total of 120 organizations selected to seek these respondents. From the stratified random selection of 120 out of 403 organizations, with a sample size of 600 people, and 95% confidence in the results, the margin of error would be $\pm$ 1.96%.

5. Instrument Validity and Reliability

The validity of the instrument with the 40 statements was ascertained by five specialists in the field of human resource development prior to testing for reliability. The results of reliability tests shown in Table 1 below indicate a Cronbach α = .9106 (quite similar to previous research), exceeding 0.7, which is the convention for reliability of instruments acceptable for behavioural science research, recommended by Nunnally & Bernstein (1994). The statements in the instrument used ten-point Likert scale on a continuum of 1=strongly disagree to 10=strongly agree.

Table 1: Results of Reliability Test

Instrument component	Cronbach's Alpha Value	
	Previous research (Moilanen, 2001)	Current Research
Overall Organization Level Learning (OOLL)	.9500	.9106
Individual Level Learning (ILL)	.9566	.7661
Organization Level Learning (OLL)	.8672	.9210

6. Findings and Discussions

6.1 Research Objective 1: Findings for Managers' Perception on OOLL

Results: Analysis for the first research objective involved descriptive statistics on data collected (see Table 2), to identify the level of managers' perception towards OOLL. The median OOLL rating value was 7.16 with a standard deviation of 1.40. The mean OOL rating was 7.26 implying that overall the level of OOLL is good. The combination of scores between 25th to 100 percentile of the OOLL shows that 99% of the respondents (306 managers) have a OOLL rating of 6.5 or above. In accordance with the ratings of below 4.5 is ranked low, 4.6-6.4 was moderate, 6.5-7.9 is high and above 8 is very high as the indication of satisfaction, the management staff appeared to have been rather satisfied or felt positively with their level of OOLL.

Table 2: Descriptive Statistics for Overall Organization Level Learning

Descriptive Statistics	Overall Organization Level Learning	No of respondents
Mean	7.26	
Median	7.16	
Standard Deviation	1.04	
Minimum	3.78	
Maximum	10.0	
Interquartile Range	1.40	
Skewness	.042	
25^{th} Percentile	6.50	
50^{th} Percentile	7.16	72 (high)
75^{th} Percentile	7.90	166 (high)
90^{th} Percentile	8.56	68 (very high)

Discussions: In Moilanen's (2001a) study, based on the mean score of 2.68 for 686 managers, the percentage of actual score against possible maximum score is 67% (measured on a five point Likert scale) for OOLL. In other words the mean score of 2.68 shows that the OOLL level was high in previous research. In this research the percentage of actual score against possible score for OOLL is 72.6%., which also shows high level of OOLL among 309 managers.

Conclusion: This shows that managers have a strong lead in the organization they work for when it comes to learning and it conforms to what Havelock (1973) has affirmed in that managers do bulk of the learning as they are the change agents who are the catalyst in learning new knowledge for the progress of the organization they work for.

6.2 Research Objective 2: The Significance of Differences in Mean Scores of Factors within the OOLL

Results: A paired samples *t*-test was conducted to evaluate the impact of learning levels (ILL and OLL) on the OOLL. The results of the tests are given in Table 3 and Table 4. There was a statistically significant difference in ILL scores (M=7.95, SD=1.11) to OLL scores (M=6.81, SD=1.27), t(308)= - 15.42, p = .0001. Although it was found that a statistically significant difference exists between the two sets of scores, there is a need to assess the effect size of this result by calculating for the Eta-squared value. The value obtained in this study is .44. Using the commonly used guidelines proposed by Cohen (1988), whereby 01 =small, .06=moderate, .14=large effect, this result suggests a very large effect size, indicating a substantial difference in the ILL and OLL scores obtained for the same group of respondents.

Table 3: Paired Samples Statistics for ILL and OLL

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	OLL	6.8055	309	1.27044	.07227
	ILL	7.9502	309	1.10970	.06313

Table 4: Paired Samples Test for ILL and OLL

		Paired Differences					T	df	*p* value
		Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	OLL - ILL	-1.1447	1.30542	.07426	-1.2909	-.9986	-15.415	308	.0001

Discussions: In this research the findings are similar to previous research by Moilanen (2001b) in that it showed differences in mean scores for OLL (M=6.81) and ILL (M=7.95), indicating that managers perceive that learning at individual level is higher or better than organization level. Further tests showed that the difference identified in this research had a very large effect size, indicating a substantial difference in the ILL and OLL scores obtained from the managers.

Conclusion: This significant difference indicates that managers think and drive the learning in the organization they for as individuals to a large extent. This was in tandem with literature reviewed in that “managers lead learners and their learning [by] taking care of individuals and groups for as long as they need assistance in becoming better learners or masters of the learning processes” (Moilanen, 2001c). Hence, to a large extent, the managers’ form the driving force leveled at building, maintaining, supporting and developing a holistic learning infrastructure in the organization they work for.

Another conclusion that can be made here is that OLL was weak as managers may be too occupied with job level issues that are concerned with day-to-day operations in dealing with subordinates and other immediate stakeholders. Hence, high chance of oversight on how their daily learning via job experience was connected to the holistic learning at organization level may have occurred.

6.3 Research Objective 3: Findings on the Structure of OOLL

The third research objective was to determine the underlying structure for OOLL. The OOLL consists of individual level learning (ILL) and organization level learning (OLL). Each variable consists of constructs or factors that are measured by specific items or statements, obtained from questionnaires used in previous researches in European organizations (and reused in this research). Hence, the need to explore and determine the factor structure for each major variable through principal component analysis (PCA), as part of factor analysis.

Results: The response to 40 items by 309 managers were subjected to principal components analysis (PCA) using SPSS. Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Olkin value was .94,

exceeding the recommended minimum value of .6 (Kaiser, 1970, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix (see Table 5).

Table 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.936
Bartlett's Test of Sphericity	Approx. Chi-Square	7964.041
	Df	780
	Sig.	.000

Principal components analysis (partially shown as in Table 6) revealed the presence of six components with eigenvalues exceeding 1, explaining 39.39 per cent, 14.03 per cent, 4.46 per cent, 3.11 per cent, 2.85 per cent, and 2.56 per cent of the variance respectively; in total these six components can explain 66.4 percent of the variance. Using Catell's (1966) scree test, it was decided to retain two components for further investigation. Therefore a two factor analysis is required to determine item loadings on components.

Table 6: Principal Component Analysis to Remove Component Items with low Impact on OOLL

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.976	39.939	39.939	15.976	39.939	39.939	11.909	29.772	29.772
2	5.611	14.027	53.966	5.611	14.027	53.966	9.678	24.194	53.966
3	1.785	4.463	58.429						
4	1.242	3.106	61.535						
5	1.141	2.852	64.388						
6	1.024	2.559	66.947						
7	.984	2.461	69.408						
8	.841	2.104	71.512						
9	.815	2.037	73.549						

To aid in the interpretation of these two components, Varimax rotation was performed (see Table 7). It was found that the OLL items load strongly on Component 1 and ILL items load strongly on Component 2, giving a clear picture of the existence of two variables, i.e. ILL and OLL, explaining OOLL. The two factor solution explained a total of 54.0 per cent of the variance, with Component 1 (OLL) contributing 29.8 per cent and Component 2 (ILL) contributing 24.2 per cent.

Table 7: Varimax Rotation of Two Factor Solution for OOLL Items

Items for Comp1 (Organization Level Learning)	Load	Items for Comp 2 (Individual Level Learning)	Load
D_12: learning & development are valued in the firm	.84	D4: learn from own and others' mistakes	.84
D_8: discuss changes & impacts in good time	.82	D2: keen on learning new things	.84
D_10: good learning & development outcomes praised	.81	D20: support/encourage others in their learning	.83
D_11: excellent LOP offered to employees	.80	D5: learning and development awareness	.81
D_7: OL is directed by shared picture of development	.80	D15: feel satisfied when learning new things	.79
D_5: development targets are monitored	.80	D18: can solve problems several different ways	.78
D_20: individual & teams assess their own development	.77	D19: can teach and coach others	.75
D_19: new technique mastering well coached	.77	D7: want to be involved in development	.73
D_15: successful development ventures rewarded	.76	D9: take part in courses & educate myself actively	.71
D_16: always identify obstacles to learning	.76	D14: apply what I learn to develop my work	.70
D_1: learning facilities developed systematically	.75	D3: not scared of big changes	.69
D_3: learning obstacles in the firm eliminated	.71	D12: purposive in my learning	.69
D_6: invest a lot in building a LO	.70	D10 : as group member I can assess work results	.67
D_14: critical thinking, varied work ways support	.68	D13: continuous development is more vital than routine work	.62
D_17: learning is vital part of competitiveness	.67		
D16: feel bosses appreciate my learning	.64	D_9, D_18 (loadings below 0.60)	
D_2: Lrg guided by what's vital for bus success	.62		
D_4, D_13, D11, D1, D 17, D6, D8 (loadings below 0.60)			
No of items loading on Comp 1	17 items	No of items loading on Comp 2	14 items
% of variance explained	29.8%	% of variance explained	24.2%

Note: Only loadings above .60 are displayed.

Discussions: The findings in this research was similar to Moilanen's (2001b) mean score results in that the use of ILL items and OLL items as separate scales in measuring OOLL via The Learning Organization Diamond instrument is appropriate. In Moilanen's (2001b) research, it was reported that the mean score for OLL was 2.43 and ILL was 2.93 based on responses to all the 40 items using a five-point Likert scale. In this research, upon PCA, items with loadings below .60 are removed. In this way the instrument measuring ILL and OLL is refined, thereby retaining those items that make-up the underlying structure of the variables being measured. With items removed and clear pattern shown with most items loading on to respective variable from which they originally belong to, it can be said that generally the instrument is acceptable (with items removed) to measure ILL and OLL, for further correlational studies. In other words the interpretation of the two components (ILL and OLL) was consistent with previous research on the OOL scale, with ILL and OLL measurable on separate scales, moreover Therefore, the results of this analysis, at best, support the use of the items identified in separate scales, albeit items removed.

Conclusion: The above analysis revealed the relevant or important items that actually create the learning in organizations albeit there could be other items present. For example, at organization level, managers feel that the organization they work for do value learning and development. However, at individual level managers feel that they learn more from own mistakes as well as due to their keenness on learning new things. The weaker items related to questioning and leading elements at organization level were found to be irrelevant or not emphasized by managers.

6.3.1 Further Structure Breakdown Analysis

Results: Based on the items loaded given in Table 7 a further analysis is necessary to view the structure of OOLL in detail. The items are regrouped into the five elements for each component of OOLL i.e. OLL and ILL, as shown in Table 8 below. Subsequently, mean score analysis was done to identify the main variables that constitute each of the OOLL components (see Table 9).

Table 8: Items Loaded According to Elements of Learning

Organization Level Learning		Individual Level Learning	
Elements	Items	Elements	Items
1. Managing	D_1, D_6, D_11, D16, D_16	1. Leading	No loading
2. Finding Purpose	D_2, D_7, D_12, D_17	2. Finding Purpose	D2, D7, D12
3. Questioning	D_3, D_8	3. Questioning	D3, D13, D18
4. Empowerment	D_14, D_19	4. Empowerment	D4, D9, D14, D19
5. Evaluating	D_5, D_10, D_15, D_20	5. Evaluating	D5, D10, D15, D20

Discussions: For OLL, similar to previous research findings, managers in this research feel that finding purpose depicted by focus on vision and strategy essentially direct leaning and development in their organization as a whole. This is followed by evaluating, empowering, managing and questioning in descending order of learning at OLL level. Managing the organization in the perspective of learning organization involving handling of organization-wide systems and processes is one of the least enabler of learning.

As for ILL, managers as individuals find that evaluating depicted by self-assessment and team-based evaluating systems as posing the learning motivations at the individual level. The other variables in descending order of learning motivations experienced by managers are finding purpose, empowering, questioning and leading. Leading, in this research did not receive any loading, hence scored a zero. Findings in previous research on learning at ILL showed similar pattern, except that evaluating is the second highest contributor and finding purpose the first. However, the mean scores for variables in respective components are quite close and as such all tools are important for managerial learning.

Conclusions: As ILL components have a higher score it gives the notion that managers learn better at individual level than organization level. Self evaluation seems to be the key learning tool for managers at the individual level learning which Hendry (1996) describes, from the viewpoint of cognitive theory, that individuals have preference to learn by assessing learning outcomes. Also, Pedler *et al.* (1997) have mentioned that self managed learning and action learning, both incorporating self evaluation, are popular methods of measuring one's learning at work.

At the organization level, managers feel that their organization's focus on vision and strategy are the best enablers of learning. Senge (1990a) alluded vision as one of the main disciplines for development and learning. Pedler *et al*. (1997) presented that strategy was a learning and participative process of learning in organizations. Previous

research by Moilanen (2001a; 2001b) also had similar finding in that finding purpose is the main managerial learning approach at organization level.

Table 9: Descriptive Statistics for OOLL Structure

	N	Min	Max	Std. Dev	Mean	Ranking by Mean Score: Current Research	Ranking by Mean Score: Previous research (Moilanen, 2001)
Organization Level Learning (OLL)							
Managing	30	1.60	10.0	1.57047	6.696	4	4
Finding Purpose	30	1.75	10.0	1.56837	6.876	1	1
Questioning	30	1.00	10.0	1.80839	6.258	5	3
Empowering	30	1.00	10.0	1.64674	6.761	3	2
Evaluating	30	1.00	10.0	1.70737	6.793	2	5
Individual Learning Level (ILL)							
Leading	30	-	-	-	-	5	5
Finding Purpose	30	4.00	10.0	1.17177	8.053	2	1
Questioning	30	4.33	10.0	1.17696	7.936	4	4
Empowering	30	4.50	10.0	1.16208	7.984	3	3
Evaluating	30	4.25	10.0	1.15291	8.071	1	2
Valid N (listwise)	30						

7. Summary and Recommendations for Practice

The level of OOLL among respondent managers was of good standing, with managerial learning at individual level contributing significantly more than at organization level. Since managers feel that it was their individual learning that was contributing to overall organization level learning and not learning at organization level, it can be concluded that team learning or knowledge sharing was weak. Lack of team learning affects OOLL, as one of the disciplines of organizational learning in forming learning organizations means that there must be a sharing of mental models among people working in the organization (Senge, 1990a), more so among managers, in order to facilitate a holistic learning organization (Moilanen, 2001c).

To encourage team learning, more opportunities, workshops or activities must be organized on a regular basis by the management for the sharing of tacit and explicit knowledge. Proper monitoring systems must be developed and implemented to ensure effectiveness of team sharing in contributing to the holistic learning of the organization and contented with individual level learning.

As further analysis showed managers do not emphasise in providing sufficient level of leading in holistic learning in the organization they work for, appropriate interventions by the top management are required to cultivate, coach and mentor the achievement of a strong level of culture amongst managers focused at developing a high level of consciousness in shaping their learning in leading holistic learning. In other words managers must be made aware of the importance of their leadership whereby every individual level learning effort is carried out with the awareness of building learning at organization level as a definite outcome. Support can be given by the top management

in educating managers to this effect by monitoring their performance and providing timely feedback on the success of outcomes of micro level learning to macro level learning.

8. Conclusions

The overall conclusion from the structure analysis of the learning organization showed that managers have good impression on the overall learning taking place in their organization. Although managers are more concerned on their own learning outcomes driven mainly by self-evaluation, they need to develop other ILL tools with emphasis to impacting holistic learning. At OLL level, managers feel that vision and strategy of the organization make the main driving force to enable learning. Managing as a tool for effecting the learning organization was not the main tool as per previous research, rendering the notion that managerial learning takes place with lower consciousness towards holistic learning as managers perform their duties as change agents. Nevertheless, scores on other elements also show that other elements at both levels are still useful to develop learning of the organization as a whole.

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