

The relationship between being organization of learning on effectiveness of organization a case study : Faculty of Dentistry, Mahidol University

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Objective: The purposes of this study were 1. to evaluate the level of being a Learning Organization (LO) and the level of the organizational effectiveness, 2. to compare the level of being a LO as classified by personal factors, and 3. to study the relationship between being a LO and the organization effectiveness.

Materials and Method: Three hundred and eleven completed questionnaires were received from the staffs of the Faculty of Dentistry, Mahidol University. The data were statistically analyzed according to frequency, percentage, mean and standard deviation. T-test and F-test were used for two-groups and three-group comparisons respectively. LSD test was used in the case of comparing the different factors. Spearman rank-order correlation coefficient was used for analyzing the relationship between the learning organization and the organization effectiveness. One-way ANOVA was also used in the study. All tests were performed at a critical value of $p=0.05$

Results: The level of Faculty of Dentistry, Mahidol University, as a LO evaluated in five disciplines, was high. The overall organization effectiveness, assessed in four dimensions, was also high. The educational background and work type of faculty staff significantly affected their perception regarding a LO at p -value <0.05 . An overall high positive correlation was found between LO and organizational effectiveness (p -value <0.001). Both null hypothesis were thus rejected.

Conclusion: Faculty of Dentistry, Mahidol University as a LO and the organization effectiveness was high. Two individual personal factors among the staffs, educational background and work category, affected their perception of a LO. In this study, a high positive correlation between LO and organizational effectiveness was presented.

Key words: Correlation, Effectiveness of Organization, Faculty of Dentistry, Organization of Learning, Personal factor, Senge

How to cite: Chanapanchai S, Sonsri G. The relationship between being organization of learning on effectiveness of organization a case study: Faculty of Dentistry, Mahidol University. M Dent J 2018; 38: 147-157.

Introduction

Learning is important for staffs development so that they are able to keep up with the changes in a country's development. In this era of rapid change, organizations have to adapt themselves socially, economically, and politically. They also have to understand the importance of information technology and to strengthen their management

systems and adapt various structures. Development processes have to be quickly implemented with the cooperation of all organizational staffs. Moreover, the organizational implementation considerably affects the competition. The correct implication of technology enable competitive advantages. Educational institutions are in general very aware of the educational changes. The Learning Organization

(LO) concept is a new organizational management model described by Senge [1], The administrators have to create a LO to enable staffs to learn new things by increasing their capability and potential to continuously improve their performances at the individual, group, and organizational levels so that they are able to create performances that can bring about new mental models. Staffs have to continuously learn in the LO by concretely promoting learning under the five disciplines of Senge as follows: personal mastery, mental models, shared vision, team learning, and systematic thinking. As educational institutions provide instructional service and produce skilled graduates, they are the LOs growing in the integrated model of adaptation, goal attainment, integration, and latency. These model are the four dimensions to determine the effectiveness of organization as described by Hoy and Miskel [2].

The development of a LO is an important driving force that stimulates the state and private sectors to quickly adapt themselves for survival. These sectors are integarted with the important use the national capital and the use of social capital, economic capital, natural resources capital, and environment in integrated ways to make preparations for change. They are also integrated with the development of staffs and society to have physical and mental qualities, values, intellectual, knowledge, skills, ethics, and critical thinking so they are able to perceive changes, face situations, solve problems, and rely on themselves amid the changes. LO enables the organizational staffs to continuously develop themselves, think systematically, determine vision to be consistent with the strategies, be capable to work in a team, continuously share knowledge, and create the highest benefits to the service users, These lead to efficient development of LO and organizational effectiveness. The organizational administrators have to stimulate organizational staffs to be aware of the importance of quality, learning, self-development, and create a LO.

Core competency on achieving staff motivation has to be developed, which in turn, enables them to use their utmost potential to enable new creative ideas as well as self- and organizational-development.

The organizational effectiveness will occur if the organization is able to utilize the environment until it has achieved the goals. An organization with high competency is able to have operational systems and create resources and security to deal with external crisis [3]. Qualified staffs are important resources, who are able to create organizational advantage. However, corporate values have to connect staffs with the organization to bring about organizational commitment. These values are shown in the form of corporate culture, values, and pattern of behavior which staffs have and jointly perform [2] A successful educational institution require theoretical concepts, devotion of related persons, clear goals, adequate resources, and vision on instructional management. The administrators and staffs have to mutually accept and trust. Any evaluation of an organization has to consider three main principles: 1) As for time, the effectiveness evaluated in short and long term, 2) multi-organizations of the stakeholders, and 3) multi-criteria evaluations of the input, process, and output.

There are many studies concerning the application of learning organization in primary schools or in higher education to enhance the effectiveness of those institutes [3-8]. Mostly, positive results were found. In the Faculty level, however, there are greater number and more varieties of staff members, perception of being LO of the personal are probably different according to their background. Faculty of Dentistry, Mahidol university has been developed to be LO for many years. These were done through many programs of both short and intensive courses of knowledge management, human resource development. The strategic planning of the Faculty in the year 2017 is "To be a leading School of Dentistry at international

level with universal standard for the benefit of society under a sustainable administration". One of the strategy is to develop the organization to be excellent in administration, lean process, human resource development, and information technology. These strategies had been established and continuously provided for many years to the staff members of the Faculty according to their work and responsibilities. There are, however, no study concerning the perception of the staff member of the Faculty as the LO and no evaluation of how effectiveness of the organization in relation to the level of being LO.

Therefore, it is interesting to evaluate the relationship between being the learning organization and its effectiveness at the Faculty of Dentistry, Mahidol University in the aspect of organization personal. The result of this study will be a useful information for the Faculty to improve the status of being learning organization and keep it up with the rapidly changes of new technologies. This study will also assist to develop the knowledge and the understanding in the personal roles of the organization in terms of building more team work, sharing, transferring and exchanging the experiences to the others in the organization. Moreover, it may helps to promote the being of LO in the other government organizations.

The purpose of this study is thus to evaluate 1. the level of being the LO classified by personal factors, 2.the level of the organizational effectiveness and 3. the relationship between being the LO and organization effectiveness. The null hypothesis were 1. personal factors had no influence on the preception of being the LO and 2. being the LO was not related to the organization effectiveness.

Materials and Methods

The study protocol as well as questionnaire used were approved by the Institutional review

board of Faculty of Dentistry and Faculty of Pharmaceutical, Mahidol University (Ethical approval : MU-DT/PY-IRB 2017/017.1003). A questionnaire was developed following the concepts of Senge, Hoy and Miskel and consisted of four parts as follows:

Part 1. General information on personal factors consisting of gender, age, education, working duration, and worker category (academic or support staff). There were check list questions. Part 2. Being a LO in accordance with the concept of Senge consisting of personal mastery, mental models, shared vision, team learning, and systematic thinking. The researcher used Likert scale by allowing the respondents to select from five levels of perception consisting of highest, high, moderate, low, and lowest.

Part 3. Organizational effectiveness in accordance with Hoy & Miskel, concluded into four-aspect integration guidelines as adaptation, goal attainment, integration, and latency. A five-level rating Likert scale response was used as described in Part 2.

Part 4. An open-ended section regarding the relationship between being a LO and the organizational effectiveness, where the respondents expressed their opinions and recommendations for improvement and organizational effectiveness.

Methods

The research population consisted of 1,390 staffs of the Faculty of Dentistry, Mahidol University. The research sample group consisted of 311 staffs who were divided into academic and support staffs. Taro Yamane formula [9] was used to determine the sample size. The reliability was determined as 95% with an error of 0.05.

The researcher used a questionnaire for data collection. The steps for creating the data collection tool were as follows:

1. The researcher reviewed relevant literatures from textbooks, documents, journals, and thesis to create the research conceptual framework and the guidelines of creating a questionnaire in consistent with the research goals.

2. The researcher created the tool to be consistent with the objectives and the research conceptual framework to be the tool structure, as advised by the advisor to examine accuracy and give recommendations for improvement.

3. For analysis of validity, the researcher asked three experts to examine the questionnaire accuracy and content validity. According to calculation, IOC was 0.98 with the questionnaire reliability of 0.67-1.00.

4. As analysis of reliability, the researcher evaluated the questionnaire with 30 staffs of the Faculty of Science, Mahidol University. Following which, the researcher analyzed the questionnaire validity by calculating Cronbach's Alpha Coefficient, which should be over 0.7. The questionnaire reliability was 0.95.

Statistically analysis

After receiving the returned questionnaires, the researcher examined the questionnaire completeness and retrieved 311 sets of the questionnaires. Then, the researcher used SPSS to analyze statistical information of the questionnaires. The data on personal factors classified by gender, age, education, working duration, and work category were calculated for

frequency and percentage. Data on the level of being a LO and the organizational effectiveness were calculated for the mean and standard deviation. The researcher was then analyzed and compared the level of being a LO classified by personal factors by testing differences of the mean of two sample groups utilizing t-test. F-test for three groups of independent variables with one-way ANOVA. Least Significant Difference of Scheffe was used to compare each pair. The relationship between being a LO and organizational effectiveness was analyzed by calculating Spearman Rank-order Correlation Coefficient with statistical significant level at 0.05.

Results

The results of this study on Faculty of Dentistry, Mahidol University as a LO and its organizational effectiveness could be concluded as follows:

1. As for the level of being a LO, the researcher found that the faculty was at a high level in 5 aspects with the mean in descending order as follows: mental models, personal mastery, shared vision, team learning, and systematic thinking. (Table 1.)

2. As for the level of organizational effectiveness, the researcher found that it was at a high level in four aspects with the mean in descending order as follows: adaptation, goal attainment, integration, and latency. (Table 2.)

Table 1 Means and standard deviation of being learning organization in total and each topic evaluation.

No.	Topic evaluation	Mean	(S.D.)	Level
1.	Intellectual	4.04	(0.48)	high
2.	Thought Pattern	4.06	(0.46)	high
3.	Shared Vision	3.85	(0.52)	high
4.	Team Learning	3.78	(0.60)	high
5.	Systematic Thinking	3.76	(0.59)	high
	Overall mean of learning organization	3.90	(0.41)	high

Table 2 Means and standard deviation of Organizational effectiveness in total and each topic evaluation.

No.	Topic evaluation	Mean	(S.D.)	Level
1.	Adaptation	4.00	(0.53)	high
2.	Goal Attainment	3.91	(0.58)	high
3.	Integration	3.70	(0.55)	high
4.	Latency	3.67	(0.58)	high
Total average organizational effectiveness		3.82	(0.48)	high

3. According to the comparison of the level of being a LO classified by personal factors, Different genders, ages, and working duration do not cause different opinions about being a LO. Different educational background and work category, however, significantly led to different opinions regarding being a LO.

4. According to analysis results, being a LO positively and significantly correlated with the organizational effectiveness in general and each aspect in the same direction at a high level or a moderate level at p-value <0.001.

The details of relationship between being a LO and the organizational effectiveness are in Table 3. The pairs with the relationship in descending order were as follows: Being the Learning Organization (1) on shared vision

positively correlated with the organizational effectiveness in the same direction at a high level, (2) on team learning positively correlated with the organizational effectiveness in the same direction at a high level, (3) on systematic thinking positively correlated with the organizational effectiveness in the same direction at a high level, (4) positively correlated with the organizational effectiveness in the same direction at a high level, and (5) on personal mastery positively correlated with the organizational effectiveness in the same direction at a moderate level. The pair with the lowest relationship was that being a LO on mental models positively and significantly correlated with the organizational effectiveness in the same direction at a moderate level at p-value <0.001.

Table 3 The Relationship between being a learning organization and its effectiveness (Spearman Rank-order Correlation Coefficient)

Learning Organization (LO)	Organizational Effectiveness (OE)	Adaptation	Goal Attainment	Integration	Latency	Total (OE)
Personal Mastery		.956**	.833**	.730**	.723**	.804**
Mental Models		.941**	.845**	.708**	.703**	.786**
Shared Vision		.842**	.891**	.850**	.821**	.973**
Team Learning		.795**	.847**	.931**	.895**	.943**
Systems Thinking		.783**	.837**	.954**	.916**	.923**
Total (LO)		.905**	.860**	.736**	.725**	.825**

** Correlation is significant at p-value <0.001

Discussion

1. Being an LO of the Faculty of Dentistry, Mahidol University

The level of being a LO is at a high level with the mean in descending order as follows: mental models, personal mastery, shared vision, team learning, and systematic thinking, respectively. The LO has to adapt to rapid changes in the economy, politics, society, and culture. At present, staffs need to be developed to be consistent with change. Staffs have to, therefore, develop their knowledge and skills to attain and disseminate knowledge and innovate. Experienced staffs exchange their opinions, bringing about team learning so that they are able to continuously innovate. The creation of motivation for knowledge management is emphasized to create the competency and culture of LO, where there is knowledge accumulation and management to form stable and sustainable development. The results were consistent with the report of the Office of Public Sector Development Commission in 2007 which stated that all organizational staffs continuously developed knowledge and capability on learning and were able to use knowledge to lead a LO with high competency. The results were also in agreement with 12th National Economic and Social Development Plan of 2017 to 2021 of Thailand that reported that staffs who had good discipline, attitude, and behavior, develop their potential to have skills, knowledge, and capability to adapt themselves, and be responsible, could promote development and public interests.

1.1) Mental models were at a high level with the mean in descending order as follows: Staffs with good view in regards to the importance of colleagues. Always exchanged experience, pondered, and reviewed the operation before implementation. The study results were consistent with Saranya Vetchaiyo [5], who studied the relation between being a LO and personal management in

one primary school in Chonburi Province and found that all organizational staffs were enthusiastic to develop the operation. They shared ideas on operation and adapted themselves to internal and external environment by efficiently using the resources for management. All staffs learnt, trained, and worked in a team so they thought of the target and common interests. The research results were also consistent with the research of Aphisit Khunworrpanya [7], which noted that staffs in a LO listened to the opinions of their colleagues about work development by analyzing work problems to solve them. They also reviewed the operation in various situations before deciding to work.

1.2) Personal mastery was at a high level with the mean in descending order as follows: Staffs learnt and were able to adapt themselves to the situations by using new technologies to develop themselves. They were able to learn by themselves through various media. They exchanged opinions and shared knowledge with their colleagues to learn new things. The study results were consistent with Maneerat Khumwongdee [6], who evaluated the relation between being a LO and organization effectiveness in a primary school in Rayong Province and found that staffs were enthusiastic to find knowledge to continuously develop themselves and the organization. They joined trainings and seminars, and disseminated academic performances. They conducted study tours, and joined cooperation network activities to create a LO. They shared knowledge, and opinions and systematically reviewed operational pattern. They also prioritized operation and developmental guidelines.

1.3) Shared vision was at a high level with the mean in descending order as follows: Staffs were determined to work in order to achieve the vision of the faculty. The strategic plans were determined to be consistent with the vision, which was disseminated to all staffs. The results were consistent with the research of Phairoj

Jiraphornphaisan [8], who studied the development approaches for LO of the Naval research and development office of the Royal Thai Navy and found that staffs were enthusiastic to create the vision. They were stimulated to think, exchange learning, and plan. They were also able to use the experience and problems to make the plans to be consistent with the organizational vision and strategies. The results were also in accordance with the research of Thanyanatch Seekhao [4] who evaluated the relationship between learning organization and the effectiveness of schools under secondary educational service area and found that all staffs participated in determination of the organizational vision for joint operation. Staffs participated in solving problems. The organization recognized the importance of staffs, who were encouraged to be enthusiastic to receive trainings and conduct study tours to have creative ideas and develop themselves. Similar results were noted in the study by Aphisit Khunworrpanya⁷ where the staffs were determined to work in order to achieve vision by exchanging idea and knowledge. Staffs exchanged personal vision and information for joint operation in accordance with the organizational vision.

1.4) Team learning was at a high level with the mean in descending order as follows: Staffs were encouraged to work as a team. The organizational staffs were able to substitute for other staffs. They also exchanged their opinions and experience to bring about learning of new things. The results were consistent with the research of Thanyanatch Seekhao [4] in the schools and Aphisit Khunworrpanya at Faculty of Science, Mahidol university [7], which found that staffs developed their knowledge, skills, and capabilities by joining trainings and seminars, self-studies, conducting study tours inside and outside the country. They also use their knowledge to develop work so as to bring about the highest benefit, team learning, and systematic thinking. Each staff expressed vision to exchange perspective and

found the conclusion.

1.5) The systematic thinking was at a high level with the mean in descending order as follows : Staffs' performance were continuously monitored. Result-based performance was evaluated. Responsible people clearly organized the operation system and were aware of the importance of staffs duties and responsibilities. Staffs developed operation guidelines to keep up with various changes, leading to continuous development. The research results were consistent with the research by Narumon Boonpim [3] who studied the relationship between being a LO and organization effectiveness in schools in Kanchanaburi area and found that staffs had knowledge, capability, and skills in seeking new information. They had good attitudes toward the operation, were responsible for their duties, and had good human relations. The operation system was organized to be consistent with the roles of each person to bring about correct decision. The research results were also consistent with the research by Saranya Vetchaiyo [5], which found that staffs had good relationships to develop policies and plan the operation. Staffs were capable to systematically connect various issues beneficial to the operation, so as to bring about cooperation and unity to solve various problems.

2. Organization effectiveness

According to the results, the level of the organizational effectiveness was at a high level with the mean in descending order as follows: adaptation, goal attainment, integration, and latency, respectively. Organizational effectiveness will incur if it is able to use the environment and achieve success in accordance with the specified goals. This showed that the administrators of the Faculty of Dentistry continuously developed the organization in each aspect to lead the organizational effectiveness on management, instruction, service,

research, academic service, and innovation by creating knowledge and understanding roles and duties. They encouraged staffs to have knowledge, ethics, and capability to adapt themselves to coexist with the society inside and outside the organization, solve the operational problems, and economically use the existing resources.

2.1) Adaptation was at a high level with the mean in descending order as follows: Staffs were determined to continuously improve themselves, and they were able to adapt themselves to the internal and external environment and the operation to the changes in innovation. The results were consistent with Witchasarat Thammaratjinda [10] who studied the relationship of being a LO and school effectiveness in Suphanburi area and found that staffs continuously developed themselves and the organization to lead its management effectiveness. The organization encouraged staffs to attain knowledge and understanding of their roles and duties and develop knowledge and capabilities, so as to adapt themselves to the society, be able to solve the problems, and use the information technology. The results were also consistent with the research of Maneerat Khumwongdee [6], which found that staffs sought knowledge and developed occupational progress to improve themselves, work more efficiently, use the knowledge to solve the problems and develop management, and be able to adapt themselves to the environment in the current society with rapid changes by using technologies for management. The results were in agreement with the concept of Arnold and Fedman [11] which stated that staffs had to adapt under various conditions to be able to exist in the current environment.

2.2) Goal attainment was at a high level with the mean in descending order as follows. The vision and mission were clearly determined. Staffs participated in the most economical use of the resources. The result-based management system was provided to attain the goals. The results were

consistent with the concept of Steers et.al [13] which stated that for the organizational capability, staffs used the existing resources and were able to exist in the changing environment to attain the organizational goals.

2.3) The integration was at a high level with the mean in descending order as follows: atmosphere or areas beneficial to the operation, rewards, or activities were created to improve work satisfaction. There was power distribution in accordance with the operation characteristics to achieve success in management. The results were consistent with the research of Thanyanatch Seekhao [4] which found that staffs loved and had faith in their careers, so they worked enthusiastically. Staffs were able to analyze, make decisions, and found reasons to support decision to work. They paid attention to the operation, and were responsible for their duties, so they worked efficiently, devoted themselves to work success, and were satisfied with the operation. The results were consistent with the concept of Hoy & Miskel [2], which observed that the organizational security and survival enabled staffs to be satisfied with operation and organization atmosphere. The organizational operation management success consisted of communication and capability to solve the problems to achieve success in satisfying the service receivers.

2.4) Latency was at a high level with the mean in descending order as follows: Staffs had loyalty and commitment to the organization. They accepted different opinions to work in the same direction. If staffs work incorrectly, they could still solve the problems. The results were consistent with the research of Witchasarat Thammaratjinda [10], which found that staffs attentively worked to achieve the goals, promoted unity, and provided assistance to colleagues by creating motivation on work development and work satisfaction. The results were also consistent with the research of Narumon Boonpim [3], which found that all staffs

joined the activities. The operational ethics was promoted by creating motivation on work development and performance satisfaction. Power was distributed by attaching importance to all staffs. All organizational work was successful because the organizational staffs cooperated until they achieved the organizational goals.

3. The level of being a LO, classified according to personal factors

In this study, it was found that different gender, age, and working duration, did not lead to different opinions about LO, but different education and work category had different perception of being a LO of the Faculty. The first null hypothesis was thus rejected. These results were different from the research of Aphisit Khunworrpanya [7] which found that different ages led to different opinions about LO as the ages of 41-50 and the age over 50 could indicate various knowledge and experience in the learning from past real event which applied to both internal and external knowledge. Younger staffs may not have the learning experience and culture in the organization. Different education and worker category significantly affected opinions about being a LO. The reasons were different education and worker category could indicate various knowledge and capability to critically think and solve problems at work which may stem from action, observations, and learning experience associated with past real events (tacit knowledge), such as to find and disseminate good operation guidelines to specified target groups, and collect and disseminate the information of the external organizations in writing (explicit knowledge). The Faculty of Dentistry has to, therefore, encourage all staffs to attach the importance to being a LO. The results were coherent with the research of Jittra Suriya [12], which found that staffs with different educational background affected the perception of being a LO. The staffs who graduated with bachelor's degree, were the ones who had

knowledge, capability, and efficiency in working, and were an important power to develop the organization. Their perception was different from the perception of staffs, who had educational background lower than bachelor's degree or with master's degree.

4. Correlation between being a LO and organization effectiveness

Correlation were found between being a LO and organization effectiveness in all dimensions. The second null hypothesis was thus rejected. Learning organization on shared vision and the organizational effectiveness had the highest correlation because staffs were able to create a shared vision between the organizational staffs. The organizational vision could be used for work and was consistent with the strategies. It was also disseminated to all staffs. Staffs used existing knowledge and technology in knowledge management, and they also exchanged idea, knowledge, and experience or problems to find the conclusion. They accept different opinions. There are the process of creating motivation for organizational development and the operational goals in the same direction. The current management focuses on creation and development of excellent products. As for instruction, service, research, academic service, and innovation, staffs expect organizational change and progress under the same goals.

The pair with the lowest relationship was LO on mental models positively correlated with the organizational effectiveness in the same direction at a moderate level. This could have been due to the following reason- some of the staffs that created the operational concept with good attitudes toward work problems, change the organizational vision, concept, and values, but do not listen to the opinions of other people.

From the results of the current study, some recommendations to the administrators of the Faculty of Dentistry, Mahidol university are as follows:

1. The research results found that being a LO on systematic thinking had the lowest mean. The administrators should, therefore, use the information to determine the policy and systematically plan by connecting various issues to be consistent with the organizational strategies.

2. As for the relationship between being a LO and organizational effectiveness, the pair with the lowest relationship was being a LO on mental models correlated with the organizational effectiveness at a moderate level. The administrators should, therefore, encourage staffs to listen to the opinions of their colleagues to develop mental models, exchange experiences, and determine the operation model to satisfy the service users. The administrators should considerably develop technology to support the operation by creating new service channels through technological system so that the users are able to quickly access the service.

Moreover, in the future, the administrators should use the research results to systematically plan the development of systematic thinking in staffs of the Faculty of Dentistry, evaluate the need for staff development on each personal factor to meet the staffs' need and should efficiently organize the service system of the service agency so that the associated staffs are able to exhibit good behavior and attitudes toward the satisfaction of the service users.

Conclusion

As per the time of this study and staffs that participated, the level of the Faculty of Dentistry, Mahidol University as a LO, evaluated in five disciplines, and the organization effectiveness, assessed in four dimensions, was high. There were differences in the meaning of LO that were associated with two individual personal factors- educational background and field of the faculty

staff. Moreover, an overall high positive correlation was observed between LO and organization effectiveness.

Acknowledgments

The researcher would like to thank Dr. Gamolporn Sonsri, principle research advisor, and committee members, Dr. Waruesporn Natrujirote, Dr. Siriporn Yamnil, Dr. Buraskorn Torut, and Dr. Thepparat Phimolsathien. Without their valuable guidance, this study would not have been successfully completed.

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