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**Original Article** 

# The study of nurses' viewpoint on the use of learning organization principles

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# Abstract

**Introduction:** Nowadays due to the dramatic speed of improvements in medical sciences, the use of learning organization approach is essential to make hospitals dynamic. Therefore, applying the learning organization is beneficial as it has practicability. From the viewpoint of Senge, an organization would be a learner if the five principles of personal mastery, mental models, common vision, team learning, and systems thinking are taken into account. According to the central role of nurses in making positive changes in professional nursing activities and responding to patients' needs, the aim of this study was to assess the nurses' viewpoint on the use of learning organization principles in Imam Reza hospital in Sirjan city. **Methods:** In this cross–sectional study, all staff nurses of Imam Reza hospital constituted the sampling. Senge's learning organization questionnaires, after applying the necessary changes and determining its reliability and validity, was used to gather data. All participants were informed of the goals of the study. Finally, 141 questionnaires were analyzed by SPSS software.

**Results:** The average scores of learning organization for all parameters were higher than the average score of each parameter. There was a significant difference between contract-based nurses with permanently employed nurses and tarhy nurses in the light of the total score of questionnaire, team learning, and systems thinking (P < 0.05). There was also a significant difference between women's viewpoint of mental models, shared vision, systems thinking with those of men (P < 0.05). There was no significant relationship between the age and work history of women with average scores (P > 0.05).

**Conclusion:** Based on the results, the rate of applying learning organization principles in this hospital was more than the average. This indicates the importance of positive perspectives, reinforcement of information, team work, creating a shared perspective of the future, and systems viewpoint. Therefore, stabilizing the employment conditions, having hopes for the future of work, and recruiting younger staff are all highly beneficial in the application of learning organization principles.

Keywords: Learning organization, Hospital, Senge, Nurses

# Introduction

The present era is called the era of knowledge, information, dynamic and increasing changes. Due to the changes and dynamics of environment existing in the present era, controlling the current organizations is a complex task and the former strategies for controlling the organizations are no longer effective (1). Constant changes make organizations use models and strategies to be dynamic and powerful in their activities. One of these approaches is to create a learning organization that aims to empower the managers and staff to deal with turbulent situations as well as providing the desirable services and organizational dynamics (2). Experiences of the last decades show that during the third millennium, the most successful organizations are those that are among the learning organization. The implication of the learning organization is distinct from the conventional and traditional processes. Learning organization is a new managerial theory that began with the idea of designing organizational learning by Argris and then by providing the comprehensive quality management theory and engineering. Again the required field was provided to learning organization in 1980s.

The learning organization was introduced by Peter Senge with the publication of "the fifth discipline" in 1990. Afterward, the learning organization approach was modified and revised by Siret and March (3). A learning organiza-



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tion is one that searches its future itself and considers the learning as a creative and current process for its members, its progress, and its changes. It is organized to respond to the needs and desires of the people within the organization and outside of it (4). Learning organization is an organization in which all goals, strategies, objectives, and activities are parallel with staff learning and organization as a whole. This helps the employees to achieve their goals by constant learning and on the other hand it is a competitive excellence for the organization (3).

From the viewpoint of Senge, a learning organization is one in which people try to increase their capabilities constantly to make the best result (5). Senge's learning organization is an organization that continually develops its capacity to create the results they truly seek. In this organization, new and valuable patterns of thinking are formed. There is a free public space and people find out how to learn from each other continually (6). From the viewpoint of Senge in order to transform the organization into a learning organization the five principles of personal mastery, mental models, shared vision, team learning, and systems thinking are essential (5). These principles are described briefly as follows:

# Learning organization principles from the view point of Senge

Personal mastery: Organizations cannot learn unless their members start learning. Learning is the development of the individual capacity to produce more favorable results and creating an environment in which all individuals are encouraged to develop their capacity to achieve their goals and targeted objectives. The learning organization staff should gain skills in the field of thinking, research, solving problems, and social matters. These people should have a positive attitude and think that their existence is useful for the organization. The organization tries to help people acquire and reinforce their capacity to perform tasks (7,8). Senge states that organizations will not be learners unless their members start learning. Learning promotes the personal capabilities in order to achieve desired goals. It also provides the option of living actively rather than living passively (9). Personal competence means being capable, having innovative and creative attitude, living actively and not being passive. This capability can be assumed as clearing mastery and continuously deepening the personal vision. The person tries to deepen and clear his personal viewpoints continuously by comparing the existing ideals and realities he/she recognizes. He also considers the distance between goals and his/her place and tries to pave the way to achieve objectives by the use of thought and creativity. This person has responsibility for learning and does not fear about learning and working.

Mental scheme principle describes how a person thinks and acts. This principle reflects the person's internal images of the real world that its clearness is increased and improved constantly. The learning organization states that these are the mental models that form the personal mea-

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surement and decision (7). In other words, each person sees the world from his/her viewpoint. This principle tries to direct the ideologies of all people about the success of an organization in the same way. The member interaction of an organization causes that the persons select the best presented viewpoint as a shared vision and work based on it so that the unity and integration occurs in the organization (5).

The shared vision directs the people to a common sight to acquire valuable organizational goals and creates a shared vision of desirable future. Senge states that the feeling of responsibility can be increased in the people and groups of the organization by creating a shared image of the favorable future and by regulating the principles and facilitating its fulfillment (5). Every person in the organization is aware of the facts regarding his/her background, experience, and knowledge and presents an exclusive interpretation reflecting his/her mental pattern. By having interaction and free conversations among people, the mental models are exchanged, discussed, and adjusted. Therefore, a shared perspective is created. This shared perspective is the result of public learning created in different levels of strategy and is considered as a learning reason in the level of function (7). As Senge states, when there is a shared vision, people have better learning and mystery as they have a desire for it (4). He believes that a shared vision and viewpoint is created by awareness in terms of organizational goals and personal viewpoint (9).

The team learning principle encourages people to team learning (5). It includes improvement of the team for thinking, creating the shared implication, and doing the work effectively (4). Team learning is the mystery of public conversation and thinking. In this term, people can increase their intelligence and their capabilities. It must be said that public intelligence and capabilities are considered as a collection of people's talents (7). Senge states that the world is full of talented people. He has mentions two components in the learning: one of them is conversation and the other is function. Team learning is critical because team is the basic unit of education in modern organizations not the individuals (9).

The systematic thinking principle makes people recognize the general view of organization prophecy and think about task result instead of doing the process and see the organization as part of a larger organization. Senge believes that the system thinking is the heart of learning organization (9). System thinking is a way of thinking and it is a language to describe and understand the other forces and principles. This principle explains the interaction between various commands and principles that shape the behavior of the system. According to the principle of systems thinking, we can say that shared vision is developed and identified in the levels of groups and within organization (7). Studies within various organizations indicate that there is a gap between these organizations and the learning organization. For instance Ghadamgahi and Ahanchian (10) in a research entitled "Assessment the condition of Mashhad schools according to components of learning organization" found that there is a gap among the current status of the schools in the light of learning organization with ideal condition based on the five components of learning organization. The study conducted by Hoveida et al (11) at the University of Isfahan indicated that the applying rate of learning organization principles in all principles but one of them was less than supposed mean rate. The results of the study done by Taghizadeh and Soltani Fasghandis (12) about the assessment the level of learning organization in Islamic Azad University of Tabriz showed that the learning organization score in this University was average. The results of Jenevi et al (13) research about the rate of organizational learning in central libraries of Universities affiliated to the Ministry of Science, Research and Technology indicates that there is a low level of organizational learning in Tehran University. The findings also suggest that these libraries are not learner-centered. Several studies regarding the learning organization principles have been done in different organizations but the number of these studies regarding this matter in hospital environment is low. Due to the dramatic speed of improvement in medical sciences, there is a constant need for learning in hospitals and health centers and these centers as an organization also need to follow the learning organization principles. Hospitals, in addition to their main goals which is to promote and provide the health, are learning organizations which interact with their surrounding environment and create new knowledge. It should be mentioned that University hospitals have a special role in educating students. They are also responsible for training and research tasks as well. Therefore, their success in such tasks requires the improvement of processes, training, and using more efficient approaches such as learning organization. Similarly, Tucker et al (14) have pointed to the necessity of implementing the learning organization principles in hospitals especially among medical staff. On the other hand, the viewpoint of learning organization pragmatism suggests a supportive infrastructure for creating a learning culture to motivate nurses in order to promote the evidence-based nursing care. The learning organization principles and philosophy lead to provide noteworthy creative models for health care organizations and conceptual structure required to evidence-based activities (15). On the other hand, nurses play a pivotal role in the learning organization to create a positive change in the professional nursing activities (16-18). Nurses as one of the largest groups among health care professionals have critical roles in the health care team to provide health care services to patients in hospitals. Therefore, nowadays there is a need for nurses who are knowledgeable and updated based on the latest information about their majors. It should be noticed that lack of attention to this matter causes problems in the field of health care. Jeong et al (19) evaluated the effect of learning organization principles by nurses on the effectiveness of the organization in hospitals. The results obtained from Asghari's study entitled "the relationship between nurses'

viewpoint on learning organization principles with organizational commitment" revealed that strengthening the people's attitude toward learning organization principles can reinforce the organizational commitment (20). Study of Yaghoubi et al (21) entitled "A correlation study on organization learning and knowledge management in staffs in selected hospitals of Isfahan University of Medical Sciences" revealed that there is a significant and direct relationship between organizational learning score and the staff knowledge management. There are reports about the positive results of applying learning organization principles that reduce medical errors and patients bedsores. These reports support the idea that learning organization is a systems vision to implement the patient safety culture and is a potential solution for reducing the medical errors and harm to patients (16,22,23). According to the mentioned cases and the necessity of applying the learning organization principles in hospitals in order to respond to the needs and desires of people within and outside the organizations, and considering the critical role of nurses in achieving the hospital goals, the present study aimed to survey the nurses' viewpoint on applying the learning organization principles in Imam Reza hospital in Sirjan city.

## Methods

This descriptive study was conducted on all employed nursing staff of Imam Reza hospital in Sirjan in 2014. Senge's learning organization standardized questionnaire was used to collect data regarding the rate of learning organization principles. As this questionnaire is typically constructed to assess the views of teachers in schools (24), the researchers changed the items of the questionnaire to measure the nurses' viewpoints. The learning organization questionnaire consists of 43 items in 5 domains of personal mastery (10 items), mental models (9 items), shared vision (8 items), team learning (9 items), and systems thinking (7 items). The questionnaire is developed according to a 5-point Likert scale (5=strongly agree, 1= strongly disagree). So attainable scores for domains of personal mastery, mental models, team learning, shared vision, and systems thinking were 10-50, 9-45, 8-40 and 7-35, respectively. In order to determine the content validity of the questionnaire, the opinions of experts were taken into account. For the stability purposes, the questionnaire was pilot tested through a preliminary study with 20 people from the original population. The correlation coefficient for the total questionnaire was 0.94 and for domains of mental models, personal mastery, team learning, shared vision and systems thinking it was 0.74, 0.85, 0.88, 0.79, and 0.74, respectively. In order to collect the demographic data, a self-administered questionnaire was used. After obtaining permission from the hospital authorities and doing needed coordination, questionnaires were distributed among all employed nurses who tended to participate in the study. The voluntary participation and the confidential nature of information as well as anonymity of responses were guaranteed. Questionnaires were distributed in early shifts and were collected in late shifts. Incomplete questionnaires were discarded. Finally, out of 160 distributed questionnaires, 141 questionnaires were completed and analyzed. Data were analyzed by SPSS version 20 software. Descriptive statistics, t test, analysis of variance (ANOVA), and Spearman correlation coefficient tests were used as appropriate.

#### Results

Of 160 distributed questionnaires, 141 questionnaires were analyzed (response rate 88%). In light of demographic characteristics, most participants were in the age range of 30–39 years, and with the work experience of 3–10 years. The majority of nurses were married women. In terms of their employment, most participants were official workers and regarding the workplace, most of them were employed in the public wards. About shifts, 135 nurses had rotating shifts. The demographic characteristics of the samples are shown in Table 1.

The results of descriptive analysis showed that the average scores of learning organization and the principles of "personal mastery, mental schemes, shared vision, team learning, and systematic thinking" were higher than the average score for each principle. The mean and standard deviation of the total score for learning organization questionnaire, the sub-scale "Principles of Learning Organization", and the limitations of high and low scores are shown separately in Table 2. Nurses' viewpoint on the use of learning organization principles based on demographic characteristics were taken into account and the results of ANOVA test indicated a significant difference for the to-

| Table 1. | . The | demographic | characteristics | of | nurses | participating | in the |
|----------|-------|-------------|-----------------|----|--------|---------------|--------|
| study    |       |             |                 |    |        |               |        |

| Variable                     |                   | Number (%)          |  |
|------------------------------|-------------------|---------------------|--|
|                              | 20-29             | 51 (36.2)           |  |
| Ageª                         | 30-39             | 78 (55.3)           |  |
|                              | >40               | 12 (8.5)            |  |
|                              | <3                | 27 (19.1)           |  |
| Work experience <sup>b</sup> | 3-10              | 90 (63.8)           |  |
|                              |                   | 24 (17)             |  |
|                              | Tarhy             | 32 (22.7)           |  |
| Employment status            | Contracted        | 28 (19.9)           |  |
|                              | Official          | 81 (81)             |  |
| Sex                          | Male              | 81 (81)<br>12 (8.5) |  |
| Jex                          | Female            | 129 (91.5)          |  |
| Marital status               | Single            | 47 (33.3)           |  |
| mantai status                | Married           | 94 (66.7)           |  |
| Ward                         | Public care units | 91 (64.5)           |  |
| waiu                         | Intensive units   | 50 (35.5)           |  |
| Shift                        | Rotating          | 135 (95.07)         |  |
| SIIII                        | Fixed             | 6 (4.3)             |  |

<sup>a</sup> Mean: 31.21, standard deviation: 6.1, median: 32.

<sup>b</sup> Mean: 6.77, standard deviation: 4.4, median: 6.

tal score of nurses' viewpoint and the principles of team learning and systems thinking in terms of employment status (P < 0.05). Tukey test was used to assess the differences between groups and the results showed a significant difference between the viewpoints of contracted nurses in comparison to official and tarhy nurses (P < 0.05). As can be seen from Table 3, the mean scores of contracted staff is higher than official and tarhy staffs. To examine the relationship between demographic variables with the mean scores of assessing nurses' viewpoints, t test and Pearson correlation test were used. The results showed a significant difference between the views of male and female nurses regarding mental models, shared vision, and systems thinking. As can be seen from Table 4, the mean scores for women were higher than men in terms of learning organization principles. In addition, there was a significant difference between the mean scores of nurses' viewpoint on team learning in public section and that of nurses in other sections (P < 0.05). It should also be noticed that the mean score of the public units about this principle was higher than that of nurses in intensive care units (Table 4). Pearson correlation coefficients did not show any significant relationship between the mean scores of nurses with age and work experience (P > 0.05).

#### Discussion

In the present research the use of learning organization principles in Imam Reza hospital of Sirjan city was studied. According to the mean scores of the learning organization questionnaire (Table 2), the applying rate of the learning organization principles in Imam Reza hospital in Sijan city based on nurses' viewpoints was higher than the mean. According to the results, we can say that Imam Reza hospital in Sirjan city is a learning organization. For a organization, having this characteristic can be as a strength point for conducting its internal and external interactions. The results of our study are consistent with the studies of Asghari et al (20), Yaghoubi et al (21), and Maleki Avarsin (25). Conversely, our findings are not in line with the results of Ghadamgahi and Ahanchian's study in Mashhad (10). We could not also find similar results in the study of Hoveida et al in Isfahan University and Jenevi et al (13) regarding the rate of organizational learning in central

**Table 2.** Mean and standard deviation of the total score for learning organization questionnaires and sub scales of the learning organization principles

|  | Low<br>limitation<br>of the score | High<br>limitation<br>of the score | Mean   | SD    |
|--|-----------------------------------|------------------------------------|--------|-------|
| The total score of learning organization | 73                                | 196                                | 151.19 | 24.49 |
| Personal mastery                         | 16                                | 46                                 | 35.33  | 5.7   |
| Mental schemes                           | 18                                | 42                                 | 30.42  | 5.16  |
| Shared vision                            | 12                                | 52                                 | 28.34  | 6.64  |
| Team working                             | 12                                | 44                                 | 30.99  | 6.51  |
| Systematic thinking                      | 9                                 | 35                                 | 26.11  | 4.73  |

|  |                    | Tarhy staff | Contracted staff  | Official staff |
|--|--------------------|-------------|---|----------------|
|  | Mean               | 148.1       | 162.11  | 148.65         |
| The total score of learning organization | Standard deviation | 23.58       | 22.68   | 24.67          |
|  | Ρ                  | 0.03ª       | 0.03ª   | 0.03ª          |
|  | Mean               | 34.69       | 37.36   | 34.88          |
| Personal mastery                         | Standard deviation | 5.34        | 4.87  | 6              |
|  | Р                  | 0.1         | 0.1   | 0.1            |
|  | Mean               | 30.16       | 32.21   | 29.91          |
| Mental schemes                           | Standard deviation | 4.66        | 162.11       14         22.68       2         0.03°       0         37.36       3         4.87       0         0.1       0         32.21       2         5.5       9         0.1       0         30.82       2         5.33       0         0.86       3         0.08       0         33.86       3         5.3       0         0.03°       0 | 5.15           |
|  | Р                  | 0.1         | 0.1   | 0.1            |
|  | Mean               | 25.16       | 30.82   | 27.55          |
| Shared vision                            | Standard deviation | 6.7         | 5.33  | 6.89           |
|  | Ρ                  | 0.08        | 0.08  | 0.08           |
|  | Mean               | 30.12       | 33.86   | 30.35          |
| Team learning                            | Standard deviation | 6.44        | 5.3   | 6.7            |
|  | Р                  | 0.03ª       | 0.03ª   | 0.03ª          |
|  | Mean               | 24.94       | 27.86   | 25.96          |
| Systematic thinking                      | Standard deviation | 3.43        | 4.79  | 5              |
|  |                    |             |   |                |

0.05ª

<sup>a</sup>Significant level: *P* < 0.05

Table 4. The comparison of nurses' viewpoint on the total score and learning organization principles based on demographic characteristics

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| The mean of the                          |                    | Sex    |        | Marital status |        | Section |         |
|--|--------------------|--------|--------|----------------|--------|---------|---------|
| scores                                   |                    | Male   | Female | Married        | Single | Public  | Special |
| The total score of learning organization | Mean               | 139.67 | 152.26 | 150.34         | 152.89 | 152.66  | 148.52  |
|  | Standard deviation | 20.65  | 2461   | 24.6           | 25.52  | 23.35   | 26.49   |
|  | Р                  | 0.08   | 0.08   | 0.6            | 0.6    | 0.3     | 0.3     |
|  | Mean               | 34.25  | 35.43  | 35.14          | 35.7   | 35.76   | 34.54   |
| Personal mastery                         | Standard deviation | 4.83   | 5.78   | 35.13          | 5.96   | 5.32    | 6.31    |
|  | Р                  | 0.5    | 0.5    | 0.6            | 0.6    | 0.2     | 0.2     |
| Mental models                            | Mean               | 27.58  | 30.69  | 30.53          | 30.21  | 30.52   | 30.26   |
|  | Standard deviation | 5.42   | 5      | 5.13           | 5.26   | 4.89    | 5.66    |
|  | Р                  | 0.04ª  | 0.04ª  | 0.7            | 0.7    | 0.7     | 0.7     |
| Shared vision                            | Mean               | 24.25  | 38.72  | 27.94          | 29.14  | 28.64   | 27.8    |
|  | Standard deviation | 4.35   | 6.7    | 6.8            | 6.31   | 5.99    | 7.73    |
|  | Р                  | 0.02ª  | 0.02ª  | 0.3            | 0.3    | 0.4     | 0.4     |
| Team learning                            | Mean               | 30.91  | 31     | 30.73          | 31.51  | 31.78   | 29.56   |
|  | Standard deviation | 3.65   | 6.72   | 6.72           | 6.1    | 6.04    | 7.12    |
|  | Р                  | 0.9    | 0.9    | 0.5            | 0.5    | 0.05ª   | 0.05ª   |
| Systems thinking                         | Mean               | 22.67  | 26.43  | 26             | 30.74  | 25.97   | 26.36   |
|  | Standard deviation | 4.29   | 4.65   | 4.91           | 4.38   | 4.57    | 5.04    |
|  | Р                  | 0.008ª | 0.008ª | 0.7            | 0.7    | 0.6     | 0.6     |

<sup>a</sup> Significant level: *P* < 0.05

libraries. The reason for this discrepancy is probably related to the organization other than hospital. Yaghoubi's study (21) revealed that the medical staff had higher organizational learning scores in comparison to administrative staff. Based on Homayi and Taghizadeh's study (26) entitled "Assessment the achievement level of learning organization dimensions in Isfahan educational system" the mean score of personal mastery principle was average and the mean scores for other principles were less than average. In Taghizadeh and Soltanifasghandis (12) & Sina and Mazini (27) studies, the score of the learning organization was average. Having a positive attitude regarding the situation, enhancing the knowledge and skills in organizations, and meeting the needs is essential for gaining skills, public work, and drawing a common picture of the future in an environment such as a hospital that deals with human lives. Hospitals are constantly trying to improve the patient satisfaction by providing the best quality of care. Perhaps being a hospital is the cause of applying the principle of learning organization in this organization. One justification for the higher scores obtained in our study can be related to the implementation of clinical governance in Imam Reza hospital. As continuous attention to learning is one of the goals of clinical governance, it can be

0.05ª

0.05ª

concluded that this has an effect on promoting the application of learning organization principles. About personal ministry in our study, in nursing viewpoint, this hospital possess capable, active, and creative nurses who clear and deepen their personal viewpoints and concentrate all of their power on accepting the present realities, expand their patience and appreciate the facts impartially. They realize the gap between available facts and goals and try to seek for ways to reach those goals. The results of mental model principle showed that nurses in carrying out their tasks, implement new and creative thinking patterns in order to achieve the ultimate goals of their organization. In addition, by interacting with each other they select the best viewpoint as a shared vision and work on it. Noushel (28) suggested that mental models are effective in the adaptation capacity of organizations to superior technology. According to the gained results in shared vision, we can conclude that nurses were aware of the organization's goals and these goals were consistent with their personal viewpoint. Therefore, a common picture for the future of the hospital was developed. Shared vision is a prominent factor which can be used to change the current status in order to achieve goals. Due to this, it can be acknowledged that in the studied hospital, managers shared their vision with staffs and all of them endeavored to achieve the objectives. In order to create a shared vision within the organization, staff should recognize the long term goals. In addition, the leader ought to deliver the massage clearly and make the staff accountable. It is essential that the vision is not created by the leader alone or be imposed on staff formally by superior managers. So, the leader can help staff by paying attention to their personal ideas in order to achieve a shared ideal. Shared perspective reveals the staffs' desire and wishes and discloses the source of energy. When there is a tension in the organization, the shared vision assists the learning process within the learning organization. People who do not trust each other normally cannot unite and create a shared vision (9).

Regarding team learning principle, the results suggest that there is a strong team work among nurses. The most important principle in team learning is conversation and in order to achieve this principle, the managers should provide opportunities for its flourish. Additionally, staff must discard their thoughts and have respect toward each other as colleagues.

The reasons for higher team work among nurses include group thinking, discussion in critical situations, taking care of patients, and acting on the recommendations provided by teams and groups.

The mean scores of nurses' viewpoints in systematic thinking principle were higher than other principles. Senge believes that system thinking is the heart of learning organization. The perquisite of systematic thinking principle, is looking to everything in relation to each other and systematically, and having this belief that whole is more than parts is essential for managers of such organizations (9). The higher scores of this principle indicate that this hospital is not limited solely to the process but the performed activity is also considered. The nurses observe the effects of care measurements on the whole system because they consider the hospital as a part of a larger organization. As can be seen from Table 3, there was a significant difference between the viewpoint of the contracted staff with official and tarhy staff. It can be seen that the mean score of the contracted staff was higher than that of the official and tarhy staff. The results of our study are consistent with the study of Asghari et al (20). The reasons for the higher mean scores of contacted staff in comparison to tarhy and official staff can be as follows: having a stable occupation and being optimistic toward future. Skuncikiene et al (29) expressed that younger staff are more willing to expand organization while older staff try to maintain the organization. In this study, there was a significant relationship between the viewpoint of contracted nurses on the total score of the learning organization, team learning, and systems thinking principles with that of official and tarhy nurses (P<0.05).

As contracted staffs are younger and newly employed, they have a tendency for public conversation in order to improve their experience and ability. On the other hand, they try to receive more incentive, expand the organization, and improve the quality of care.

Skuncikiene et al (29) expressed that a learning organization is different from a traditional organization. Learning organization is an environment where team working and relationship is free. As can be seen from Table 4, there was a significant difference between the women's viewpoint regarding mental models, shared vision, and systems thinking in comparison to men. The data shows that the mean scores of women were higher than men. The results of the present study suggest that women have more tendency to exchange their professional activities and implement new and creative patterns in order to achieve ultimate goals of the hospitals and provide high quality of care to patients than men.

The results of Sina and Mazini study also showed that women's viewpoint on the fulfillment of the learning organization principle is different from men (27). The results of Yaghoubi et al (21) suggest that the mean score of systems vision for men was higher than that of women. This finding is not consistent with the results of our study.

The results also show that the mean score of nurses' viewpoint on team learning in public wards was more than intensive care units. This can be owing to the fact of team working in providing care in public wards in contrast to case method care in intensive unites.

In this study, the relationship between age and work experience with the mean score of nurses' viewpoint on the use of learning organization principles was examined by Pearson correlation. The results showed that there was not any significant relationship between nurses' viewpoint on the use of learning organization principles with age and work experience. This finding is consistent with the results of Zahbion's (30) study.

# Conclusion

Generally, it can be said that because health care organizations are seeking to enhance the safety and quality of their services in today's changing environment, they should move toward the learning organization. Learning organization can enhance the capabilities of employees, create a shared vision, encourage team learning, and foster a systems vision. In general, efficiency and effectiveness of hospitals depend on the efficiency and effectiveness of their nursing staff. Therefore, it is recommended that managers implement and predict programs for the continuous learning of employees in order to improve the personal mastery as one of the most important principles in professional nursing activities. By the same token, increasing the ability of the hospital staff will create an environment that underlies the tendency to develop creativity and problemsolving. Having a shared vision and purpose in an organization induces more encouragement among nurses and managers. In addition, personal objectives will be integrated with the objectives of the organization. Involving staff in decision making increases participation in learning as well as enhancing creativity in the hospital. Finally, system thinking in an organization enables nurses to look at the issues by having a systems vision. In this case, their responsibility and commitment would be increased.

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# **Ethical issues**

This study was approved by Kerman Medical University. Researchers introduced this research and nurses were informed about the study. Participation of nurses was voluntary so they could withdraw from the study at any time.

# Authors' contributions

Both authors equally contributed to the writing and revision of this paper.

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