

# Relationship of team learning with knowledge management in second grade high school teachers in Saveh city

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Doi:10.5296/ijld.v5i4.8576 URL: <http://dx.doi.org/10.5296/ijld.v5i4.8576>

## Abstract

The purpose of the present research was to study the relationship of team learning with knowledge management in teachers of the second course of high schools in Saveh city in 2014. The method used in this research was practical in terms of objectives and correlational-descriptive in terms of data collection method. The statistical population consisted of 160 individuals including all the second grade high school teachers in Saveh city. In this regard, 113 individuals (65 males and 4 females) were considered as a sample size using the Cochran formula and the Stratified random sampling method. In order to collect the data, two standard questionnaires of team learning of Bresó et al. (2008) and knowledge management of Fong & Choi (2009) were employed. In order to assess the reliability of the questionnaires, the Cronbach's alpha method was used and the related coefficients were 0.84 and 0.94 respectively for each of the questionnaires. Moreover, in order to assess the validity, the content validity was used, and the questionnaires were confirmed by the relevant experts. The analysis of the obtained data was performed through SPSS software in the two sections of descriptive and inferential (Pearson correlation and multivariable regression). The research findings indicated that there was a significant relationship between team learning and knowledge management. The findings also demonstrated that the variables of team learning can predict the variable of knowledge management.

**Keywords:** Team learning, knowledge management, acquisition of knowledge.

## 1. Introduction

In today's postindustrial society, knowledge has turned into a key source. However, organizations face numerous challenges in training and knowledge management. In today's era which is called knowledge era, organizations witness environments that get more dynamic and challenging day by day. Change and transformation is an inseparable part of today's world, in other words, the only constant part is change. Today, knowledge which is the intangible and spiritual capital is considered as an important and vital factor. In other words, the successful organizations against changes and transformations are the ones that can improve and develop their intangible and spiritual capital (Massa & Testa, 2009). In information era, knowledge is the most important factor of long-term success for an individual and an organization. Because of its intangibility which makes it hard to be copied and imitated, today, knowledge is considered as an important resource for growth of organization (McElroy, 2003). In this regard, in a research titled "senior managers' understanding of knowledge management in Finland's vocational educational organization", Syysnummi and Laihonon (2014) found out that knowledge management is related to the process of value creation in organizations so that it should be considered as a basic part of modern educational organizations. Based on this subject, researchers state that more emphasis is needed on mastery of knowledge, which is related to educational tasks, and creation of empowerment of a knowledge structure supporting this task.

In fact, Druker (1993) believes that one of the reasons causing more efficient organizations and a basic key known in today's global economic environment is the knowledge of an organization (Zhao et al. 2012).

Knowledge management is a process through which organizations gain skills in the fields of learning (internalization of knowledge), coding of knowledge (externalization of knowledge), and distribution and transfer of knowledge (Malhotra, 2000). In this pattern, knowledge is organized into four fields which are:

Knowledge creation: it's the behaviors due to entering of new knowledge to human or social system, which provides a wide range including: discovery, acquisition, calling, and development; and it also has a close bind with innovation; Knowledge storage: all the activities leading to survival and maintenance of knowledge after entering to the system. The storage activity includes a variety of behaviors such as: activities due to knowledge credit, updating knowledge and etc. knowledge transfer: including a variety of behaviors such as: relationship, translation, interpretation, refinement, and presentation of knowledge; knowledge application: use of knowledge for decision-makings, performances, and achieving goals (Newman & Conrad, 2000).

Therefore, knowledge management with creation and development of knowledge assets of an organization is related to the attitude of going beyond the objectives of knowledge. This requires systems to create and maintain the knowledge resources and to train and facilitate knowledge and organizational learning. In this regard, the organizations which consider knowledge as an asset and develop the values and organizational norms causing support of creation and sharing of knowledge are successful (Heidari, 2014). In a research titled

"presenting a conceptual model of the impact of implementation of knowledge management on competitive advantage in small and medium enterprises", Ansari et al. (2013) found out that organizational culture and information technology have the most impact on success of knowledge management, and organizational structure has the least impact which can be because of lack of coherent organizational structure in Iran. In a research titled "the relationship between knowledge management and organizational innovation in an insurance company", Taleghani et al. (2013) found out that the indices of knowledge creation, knowledge storage, knowledge transfer, and knowledge application have a significant relationship with organizational innovation. Researchers also state that in order to achieve organizational innovation, managers need the integration of knowledge capitals and having knowledge of internal and external forces. On the other hand, knowledge must be distributed throughout the organization. Better distribution of knowledge increases the possibility of organizational innovation.

Scientific, cultural, and industrial development of the country and the standard improvement of them require the improvement of management in organizations. The improvement of management also requires awareness and proficiency with knowledge management. Today, management has had a great progress as a branch of human knowledge. Training and research in this field has become very widespread. Higher education systems have developed the education and research in the field of knowledge management in quality and quantity terms (Karmi&Kouhbari, 2009). Schools are the most important centers of production and dissemination of knowledge. Creation of innovation and new knowledge, as a result, has been from the most important functions of educational institutions, and in this line, most of the efforts of the educational system have been in improvement of knowledge and intellectual capitals with enjoyment of the resources including teachers. In a research titled "study of the relationship between dimensions of knowledge management and the influencing key factors on it with employee's creativity", Shoghi et al (2012) found out that there is a significant relationship between employee's creativity with knowledge management, dimensions of knowledge management, knowledge organizes, knowledge distribution, and knowledge application and the key factors impacting on it (individuals, technology, culture and process).The findings also indicated that there is a significant relationship between the dimensions of knowledge management and the effective key factors on it.

On the other hand, human is created sociable naturally, and their life is meaningless without cooperation and assistance. They learn many things in society. Team learning method is an approach that involves teachers in self-learning, self-responsibility, and effort. Today, the progressing society needs the responsible and self-sufficient individuals, and teaching the responsibility to learners at all levels requires an especial space in home, school, to university (Kazemi, 1996). Team learning is defined as a relatively permanent change in comprehensive level of team knowledge by the common experience of the team members. The set of behaviors and activities conducted by learner teams are divided into four dimensions: continuous improvement, improvement of communications, collaborative learning, and strategic leadership that improve the team development. We are going to have a brief definition of these dimensions: continuous improvement: refers to the range of team

learning from the past experiences; improvement of communications: refers to improvement of dialogues and open communications due to open and honest relationships in a team; collaborative learning: refers to the team members who are knowledge sources of other team members; strategic leadership: the leader of team has an important role in improvement of team learning. In addition to the improvement of all the mentioned behaviors (continuous improvement, improvement of communications, and collaborative learning), the learning teams must have leaders who think about the development of the team members strategically and actively. For these leaders, learning is not something that just happens over time, but it's an issue that should be searched actively (Breso et al. (2008). In this regard in a research titled "does the team stability have an intermediary role in in the relationship between leadership and team learning?" Savelsbergh et al. (2015) found out that both task-oriented and relationship-oriented leaderships had a positive and direct relationship with team learning. Team stability didn't have an intermediary role in the relationship between leadership and team learning, however, there was a direct and strong relationship between team stability and team learning. In a research titled "self-regulation learning, team learning, and project performance in entrepreneurship education" Harms (2015) found out that learning self-regulation has a positive relationship with evaluation at individual level, and team learning and psychological safety have a positive relationship with evaluation at the group level. In a research titled "the impact of group learning on educational attainment of fifth grade elementary school students in Pars Abad in 2011-2012 academic year", Pourfeizi (2012) also found out that group learning has an impact on interest; satisfaction, cooperation, and stress reduce of the students.

Knowledge management is an important issue, because it's related to the most important organizational capital which is the intellectual capital (Yaghoubi, 2006). Turning human capitals into organized intellectual assets, knowledge management creates value for organizations (Nikbakht et al. 2010; Yousefi, 2006). Today, absorbing knowledge elements and combining them together are important management challenges (Yaghoubi, 2006). Knowledge management is managing the scientific capitals as a process of social learning (Haji Karimi, 2006), it's creating a continuous integration between internal and environmental knowledge and in order to solve the problems, and it's also innovation in development of business (Beige, 2009).

Peter Senge states that team learning is a process through which the capacity of members is increased with desirable results. Teams would learn to learn from their experiences, to learn new approaches, and to publish their knowledge all over the organization quickly (King, 2001). In fact, if the team doesn't learn the organization won't learn, and the team learning is inevitable (Senge et al. 1999). In the study of knowledge management and organizational learning, combining knowledge management and learning has the goal of improvement of organizational efficiency with measuring the production amounts and profitability (Hovland, 2003).

Massingham states that: the strategic importance of learning capacity of organization and the role of sharing knowledge have specified the relationship between knowledge management and the learning capacity of organization (Massingham, 2009).

On the other hand, most of organizations use the knowledge to enhance the organizational agility. Therefore, development of a framework and a process for identification, acquisition, and dissemination of knowledge by a structured method in a compatible organizational culture is very important. There view of the past researches expresses the fact that organizational culture forms the behavior of employees and impacts on all the organizational aspects generally (Khoramkhah et al. 2013).

According to what is mentioned, in this research, we are seeking to answer this question that is there any relationship between team learning, and knowledge management of second grade high school teachers in Saveh city?

According to this question and the past researches, the following hypotheses were formulated:

There is a relationship between the components of team learning (continuous improvement, improvement of communications, collaborative learning, and strategic leadership) and knowledge management of second grade high school teachers in Saveh city.

The conceptual model of the research is presented in the figure 1:

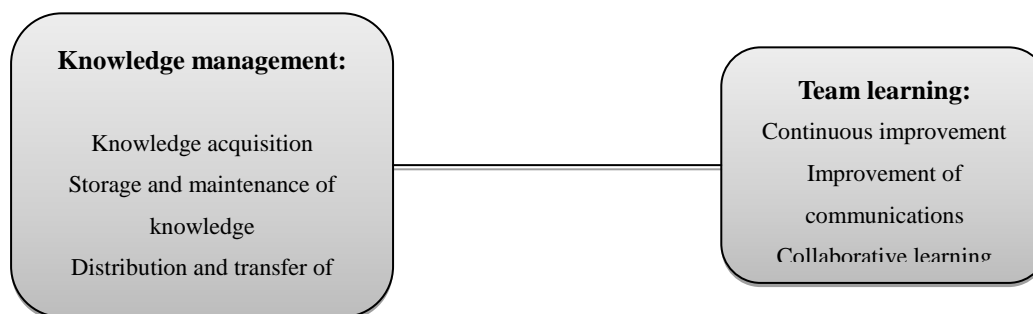


Fig 1. Conceptual model of the research (Breso et al. (2008); Fong & Choi, (2009))

## 2. Methodology

The method used in this research was practical in terms of objectives and correlational-descriptive in terms of data collection method. In this research, the statistical population consisted of 160 individuals including all the second grade high school teachers in Saveh city. In this regard, 113 individuals (65 males and 4 females) were considered as a sample size using the Cochran formula and the Stratified random sampling method. In order to collect the data, two standard questionnaires of team learning of Bresó et al. (2008) and knowledge management of Fong & Choi (2009) were used that the indices are presented in the table 1. In order to assess the validity, the content validity was used, and the questionnaires were confirmed by the related experts, and in order to assess the reliability of

the questionnaires, the Cronbach's alpha was used and the related coefficients were 0.84 and 0.94 respectively for each of the questionnaires. The questionnaires were distributed among a group of second grade high school teachers in Saveh city and after receiving the questionnaires, the analyses were performed based on the descriptive and inferential statistics (Pearson correlation and multivariable regression).

Table 1. Information due to variables and the Cronbach's alpha value of the research variables

Main structures	Components of variable	Author	Number of questions	Cronbach's alpha
Team learning	Continuous improvement	Breso et al. (2008)	1-7	0.84
	Improvement of communications		8-12	
	Collaborative learning		13-16	
	Strategic leadership		17-20	
Knowledge management	Knowledge acquisition	Fong & Choi (2009)	1-8	0.94
	Storage and maintenance of knowledge		9-17	
	Distribution and transfer of knowledge		18-22	
	Applying knowledge		23-25	

### 3. Findings

In order to review the normality of the data, the Kolmogorov-Smirnov test was used and the summary results are presented in the table 2.

Table 2. Summary of the Kolmogorov-Smirnov test (n=113)

Variables	Test statistics	Significance level
Team learning	0.95	0.32
Knowledge management	0.89	0.41

According to the table above, the significance level of all the variables of the research are higher than 0.05. In other words, the data due to the variables of team learning and knowledge management follow a normal distribution.

**There is a relationship between the components of team learning (continuous improvement, improvement of communications, collaborative learning, and strategic leadership) and knowledge management of second grade high school teachers in Saveh city.**

In order to test the first sub-hypothesis, the Pearson correlation test was used between the components of team lessening and knowledge management and the results are indicate din the table 3:

Table 3. Correlation between the components of team learning (continuous improvement, improvement of communications, collaborative learning and strategic leadership)and knowledge management (n=113)

Component	Correlation coefficient (r)	Level of significance (sig)
Team learning	0.584	0.003
Continuous improvement	0.502	0.005
Improvement of communications	0.586	0.007
Collaborative learning	0.603	0.009
Strategic leadership	0.572	0.004

As indicated in the table above, the relationship between the components of team learning (continuous improvement, improvement of communications, collaborative learning, and strategic leadership) and knowledge management is significant at the level of 0.01. Therefore, the null hypothesis can be rejected at the level of 0.01 and with a 99 % confidence level, it

can be concluded that there is a positive and significant relationship between the components of team learning (continuous improvement, improvement of communications, collaborative learning, and strategic leadership) and knowledge management of second grade high school teachers of Saveh city. In other words, increasing team learning and each of its components, knowledge management increases in second grade high school teachers of Saveh city.

#### **4. Conclusion**

The most fundamental characteristic of intelligent organizations in the 21st century is the emphasis on knowledge and information. Knowledge is a powerful tool that can make changes in the world and can make the innovation possible. Today in the era of rapid progress of knowledge and technology that the face of schools is totally changing, the enjoyment of the teachers from knowledge, information, techniques, principles, and educational strategies is not enough, but organizing and correct use of information are necessary in educational environments (Rahimi&Najafi, 2007). Scientifically, knowledge and training management are fundamentals of growth of software movement and producing knowledge in schools in the century of information. The management that begins organizing, retrieval, transfer, and dissemination of knowledge in schools, uses the students' intellectual capitals with creation of strategic motivation in them, and speeds up the cycle of knowledge which establishes the organizational learning basis (Karamipur, 2003, cited in Shoghi&Khoshghiam, 2012). Therefore considering the importance of the subject, this research studied the relationship between team learning and knowledge management of the second grade high school teachers in Saveh city, and based on the hypotheses, we are going to discuss the conclusions as follows:

Findings indicated that there is a relationship between the components of team learning (continuous improvement, improvement of communications, collaborative learning, and strategic leadership) and knowledge management of second grade high school teachers in Saveh city. In explanation of this hypothesis, it can be said that team learning has four components of continuous learning, improvement of communication, collaborative learning, and strategic learning. Continuous learning refers to learning from the past experiences, while knowledge is a combination of experiences, values, information, and systematic peer reviewed attitudes that make a framework for evaluation and enjoyment of new experiences and information. Every organization has the two types of explicit and tacit knowledge. Explicit knowledge is the knowledge understood in writing and speech forms, and tacit knowledge is the knowledge that individuals are usually able to do, but unable to describing or state. The tacit knowledge hasn't been considered enough so far. Organizations must be aware of the benefits of the both types of knowledge and must collect and protect them in different ways. Team learning provides a situation for employees to share their experiences with other members of team. In this way, the long-term interactions of tacit knowledge are shared between the team members. Collaboration is defined as the process of creation and protection of a common understanding from tasks or problems, distribution of responsibilities among team members, and sharing expertise among them, in which the mutual cognition is made and negotiated. In this attitude, a successful collaboration requires improvement of mutual cognition. In fact, the basis of contribution in team behaviors is the relationships



between the team members. In fact, the existence of open Relationships is based on the reliance originating from mutual honesty. Improvement of communications refers to open and honest relationships of team members, which is related to knowledge management.

Collaborative learning refers to the team members being considered as knowledge resources of others. Each member of a team has experiences which are gradually obtained from past times. These individual knowledge resources are important for performance of team. In other words, this component of team learning has greater relationship with knowledge management.

The last component of team learning emphasizes on the important responsibility of team leader in improvement of team learning. In addition to improvement of all of the mentioned behaviors (continuous improvement, improvement of communications, and collaborative learning), the learning teams must have leaders who strategically and actively think about development of their members. The team leader coordinates the members' activities and leads the team to achieve the goals. They should use the conflicts among the team to make effective decisions and to manage the emotional conflicts, and these factors cause the use of other processes of team learning which facilitates the relationship between team learning and knowledge management. The results are consistent with the research results of Savelsbergh et al. (2015), Babnika et al. (2014) and Ghorbanizadeh et al. (2011).

According to the research findings, the following suggestions are made:

1. To use employees' personal experiences to value their suggestions and to use their resources, causing reduce of costs and increase of employees' commitment.
2. To create sympathetic teams causing the improvement of learning levels of organizations.

Finally It is suggested to researchers to continue this research to achieve an appropriate model with more variables and dimensions.

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