Effects of Knowledge Management Competencies of School Principals' to Quality Studies in School

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Abstract

The purpose of the study is to determine and compare the Knowledge Management (KM) competencies of principals of schools in Antalya Province- Turkey which have won Total Quality Management (TQM) Award in national level and which have not. Also to find an answer to the question "what is the effect of KM capacities of principals' on school quality and planned school development process?". This study was carried out in Antalya - Turkey on teachers working at state schools. "Judgment Sampling" method was used to select sample. 12 awarded schools' teachers and 12 equivalent schools' teachers were invited to the research. In the study both quantitative and qualitative research methods were used. The quantitative data was gathered via a Questionnaire which applied to 557 teachers. Seven teachers who had actively worked in TQM system from awarded schools were interviewed and also documents about TQM System were analyzed to gather qualitative data. The findings support there is a relation between KM competencies of school principals' and success in TQM Awards. As a result of the study it can be suggested that, schools should develop a quality management system and run KM process very actively for sustainable and planned development.

Key Words: Knowledge Management Competencies, Total Quality Management, School Principals

1. Introduction

The beginning of the management activities goes back to very early ages. Since the existence of mankind human found himself in the term of management. It can be said management activities can be seen even in very primitive societies. This term effected people's and nations' lifes deeply. Because people founded organizations to make easier their lifes or to manage things that they couldn't manage to do alone. Organizations can be successful and can survive when they give answers to the needs of the age and their members' wishes. So they have to have knowledge to make their decisions.

Knowledge has fatal importance for organizations since it is the base of organizational decisions (Düren, 2000). According to Barutçugil (2002) basic productivity factor is knowledge. Decrease in knowledge of organizations causes decrease in productivity. Knowledge is seen as a strategic source when change fastens (Barca, 2002).

Organization should select KM to compete in their sectors effectively (Akyüz, Görmüş & Bektaş, 2005). KM is determination and use of knowledge that organization gained via its competencies and experiences (Celep & Çetin 2003). Managers should determine their management strategies by knowing each organization must be a learning centre with the development in learning habit via structural transformation that ICT created (Öğüt, 2001).

In Turkey TQM implementation studies go back to 1995 but it started to be implemented in schools with the "Ministry of National Education Directive of Implementation of TQM" which was declared in November 1999.

With this directive all the schools in all levels of education were responsible to implement TQM at their institutions. EFQM Model was selected to be implemented in all schools in Turkey. 208 schools from twenty three provinces in Turkey were identified as Curriculum Laboratory Schools (MLOs) where new management philosophies and educational approaches were applied to serve as models to other schools before the spread of new system. With the Ministry of National Education Provincial Organization Total Quality Management Implementation Project in 2001, TQM application was aimed to spread to all educational and instructional services all through Turkey. With the declaration of "National Ministry of Education Directive of Awards of Implementation of Total Quality Management" in January 2005 schools applied for awards in two categories as "Team" and "Institution". Since than many pre-primary, primary and high schools applied for the awards and 12 schools in Antalya Province won the Total Quality Management Award in national level.

Those schools are known as the best schools in Antalya province where there are 1336 schools that depended to the ministry and have to implement TQM. So they are good samples to study the effects of TQM and KM.

2. Literature review

2.1 Total Quality Management

Many schools are employing Total Quality Management (TQM) techniques to improve quality, increase productivity, and decrease costs. The TQM process involves the complete transformation to a quality orientation and requires top-level commitment followed by substantial and comprehensive re-education of all personnel. In addition, the administration must develop a cooperative climate for change and recognition.

Seven basic Total Quality Management (TQM) implementation methods currently are being used in education. Three of them are Deming, EFQM and Baldrige awards that are adapted from manufacturing industry to higher education by using benchmarking. (Gençyılmaz ve Zaim,1999).

The EFQM Excellence Model is a framework for organizational management systems, promoted by EFQM (European Foundation for Quality Management). This model consists of nine areas of management activities. Five of them are enablers as leadership, people, strategy and politics, partnership and processes; four of them are results as people, customer, society and key performance results.

2.2 Knowledge Management

Knowledge has various types. These are in organizations and they are classified in different terms. These are explicit and tacit, deep and shallow, declarative and procedural, esoteric and exoteric, functional and interpretive and critical knowledge (Courtney 2001; Ponelis & Fairer-Wessels, 1997; Nonaka,1999). But most of the researchers use terms explicit and tacit knowledge classifications (Bhatt, 1998; Dağlı & Uzunboylu, 2007; Kidwell, Linde, & Johnson, 2000; Nonaka, 1999; Nonaka & Takeuchi, 1995; Özmen, 2002; Petrides & Guniney, 2002; Polanyi, 1975; Rosenberg, 2001). Most knowledge is initially tacit in nature (O'Dell & Grayson, 1998). Explicit knowledge exists in the form of words, sentences, documents, organized data, computer programs and in other explicit forms (King, 2009).

According to Empson (1999) data is objective realities without comment and concept. When data is classified, analyzed, summarized, and moderated for an aim it becomes information. When information is used for comparison, evaluation of results and building links it becomes knowledge. According to Fullan (2002)' when information is added to social life it is knowledge. Theirauf (1999) defines knowledge as "information about information". Information thus paints a bigger picture; it is data with relevance and purpose (Bali, Demirtaş & Levy, 2009). Essentially information is found "in answers to questions that begin with who, what, where, when, and how many" (Ackoff, 1999).

KM is about making the right knowledge available to the right people. According to Drucker (1999), it is the coordination and exploitation of organizational knowledge resources, in order to create benefit and competitive advantage. Davenport and Prusak (2000) state that KM "is managing the corporation's knowledge through a systematically and organizationally specified process for acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value." Terms like Learning Organizations, Strategic Management, Strategic Planning, Total Quality Management are very popular recently. Now KM is added to this group (March & Simon, 1975). It is generally believed that if an organization can increase its effective knowledge utilization by only a small percentage, great benefits will result (King, 2009).

KM is defined as "the explicit control and management of knowledge within an organization aimed at achieving the company's objectives" (Van der Spek & Spijkervet, 1997) and "the ability of organizations to manage, store, value, and distribute knowledge" (Liebowitz & Wilcox, 1997). Technology specialists prescribe KM as heavily leveraged on information technology (Hansen, Nohria, & Tierney, 1999; Ruggles, 1998).

2.3 Knowledge Management and Total Quality Management

Dick (2000) reported that organizations with a strong Total Quality Management environment have better business performance improvement. Total Quality Management, Learning and KM are closely related as they are based on one common notion organizational development (Zetie, 2002). Learning involves accumulating of knowledge and it helps organizations to create new knowledge-related capabilities. These capabilities are knowledge intensive, tacit and dynamics in nature (Nielsen, 2005). Although knowledge is a powerful tool for organizations' competitiveness, building a learning organization is neither an easy task. Organizations are encouraged to learn and acquire skills, products, technology and knowledge that are unique to the relationship through value creating activities (Spekman, Spear, Kamauff, 2002).

Many researchers had acknowledged the importance of quality in long-term sustainability and future competitiveness (Talib, Rahman & Qureshi, 2002, Phusavat, Kanchan, 2008). Both TQM and KM aim to improving the work-processes of organization. While Total Quality Management focuses on quality improvement in all functional areas and at all levels in a organization, KM practices are key to continuous performance improvement which embed learning processes, before, during and after execution of plans, into the way teams plan, execute and assess performance (Lyons, Acsente & van Waesberghe, 1999). Zetie (2002) claimed that Total Quality Management and KM are closely related. It is claimed that integrating these two concepts are useful to organizations because it increases the implementation options particularly for those seeking for organizational changes (Ju, Lin, Lin & Kuo, 2006). Ruzevicius (2006) has identified four fields of commonality between TQM and KM; similar aims, areas receiving particular attention, the position of organizations in regards to management and issues concerning the financial benefit of implementing these systems. The TQM process involves the complete transformation to a quality orientation and requires top-level commitment (Chaffee, Earle & Lavrence, 1992).

The purpose of this study is to determine and compare the KM competencies of principals of schools which have won TQM Awards and which have not. Also to find an answer to the question "what is the effect of KM capacities of principals' on quality and planned school development process?". Therefore, the research questions of this study are:

1. What are the levels of KM competencies of school principals according to teachers?
2. Is there a difference between KM competencies of principals of schools which have won Quality Awards and which have not?
3. Are the KM competencies of principals necessary and important for school quality?
4. What are the effects of school principals KM competencies on quality of education?
5. What are the teachers' opinions on what school principals do about KM at school?

3. Methodology

This study was modeled as a hybrid study. Both qualitative and quantitative research methods were used. Qualitative research is a method of inquiry employed in many different academic disciplines, traditionally in the social sciences (Denzin & Lincoln, 2005). Qualitative researchers aim to gather an in-depth understanding of human behavior and the reasons that govern such behavior (Mayring, 2000). The qualitative method investigates the *why* and *how* of decision making not just *what*, *where*, *when*. Hence, smaller but focused samples are more often needed than large samples (Yıldırım & Şimşek, 2008). For the first and second questions of the study a survey based descriptive scanning model was used. In order to gather quantitative data KM Questionnaire was used. When researchers found differences between those schools, a qualitative research designed to investigate the causes of differences. The third and fourth subproblems designed after finding the differences. In order to gather data for those questions, interview method was used. For the fifth subproblem interview method and document analysis were used together. For the qualitative research Semi-structured interview form which includes six open ended questions was used. Interviewed teachers were coded as T1, T2, T3, T4, T5, T6 and T7.

Qualitative data was analyzed by SPSS 20,0 packet program. T Test was used to find difference between awarded and not awarded schools. The data collected via interviews was analyzed by qualitative techniques. First themes were identified by researchers depended to the research questions and literature. Then coding technique was employed. Coding is an interpretive technique that both organizes the data and provides a means to introduce the interpretations of it into certain quantitative methods. Each segment was labeled with a "code" When coding was completed, the report via a mix of: summarizing the prevalence of codes was written.

3.1 Instruments

In the research a five point Likert type scale questionnaire including 32 items which is developed by Kayıkçı and Metli (2009) was used. To determine the appropriateness of the data for the explanatory factor analyses, the results of KMO and the Bartlett's test are analyzed and data found to be suitable for the factor analysis. The KMO of the scale was identified as .97 and the result of The Bartlett's test 17140. The scale consists of four dimentions. The factor loading values varied between .530 and .783. The questionnaire consists of four dimensions: "Providing Information Sources and Putting into Service" (13 items), "Recognition and Reaching Information Sources" (7 items), "Storing and Sharing Information" (6 items), "Using ICT in Instruction" (6 items). Cronbach Alpha values of the dimensions varies between 0,92 and 0.95. Total variance explained is %71.46.

For the interviews a Semi-structured Interview Form which includes six open ended questions was used. For the reliability of the study at the coding stage both researchers coded the data interactively. For the validity results of the study was sent to interviewed teachers and they agreed that results overlap with their experiences. Also the results of the study fit to both researchers' experiences who worked for a long time as TQM counselor in the Ministry of National Education.

3.2 Participants

This study was carried out in Antalya Province- Turkey on teachers working at state schools. We invited a non-random sample of 12 teachers of awarded schools and 12 equivalent schools teachers in Antalya province. KM Competencies Questionnaire was applied to 700 teachers and 557 questionnaires returned as filled. Seven teachers who were actively worked in processes of TQM system from awarded schools were interviewed. 281 teachers from the Primary schools, 167 teachers from the high schools and 109 teachers from the pre-primary schools participated to the study. In this study "Judgement Sampling" (also known as purposeful sampling) method is used. The researchers actively selected the most productive sample to answer the research question. This can involve developing a framework of the variables that might influence an individual's contribution and will be based on the researcher's practical knowledge of the research area, the available literature and evidence from the study itself. This is a more intellectual strategy than the simple demographic stratification of epidemiological studies, though age, gender and social class might be important variables (Marshal, 1996).

4. Findings and Results

Findings on levels of KM competencies of principals according to the teachers' views.

Table.1 Mean and standard deviations of opinions of awarded and not awarded schools' teachers' on KM competencies of school principals.

	N	%	1. Dimension		2. Dimension		3. Dimension		4. Dimension		General	
			$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S
Not Awarded	383	69	3,59	,749	3,73	,669	3,92	,697	3,96	,650	3,75	,619
Awarded	174	31	3,82	1,02	3,91	,974	4,08	,969	4,08	,916	3,94	,945
Total	557	100	3,70	,884	3,82	,821	4,0	,833	4,02	,783	3,85	,782

Dimensions: 1- Providing Information Sources and Putting into Service 2- Recognition and Reaching Information Sources 3- Storing and Sharing Information 4- Using ICT in instruction

As it is seen in the table 1, total number of the participants is 557, 383 (%69) are from not-awarded schools and 174 (%31) are from awarded schools. As seen in the table 1, scores of awarded schools are higher than scores of not awarded schools. The scores in the dimensions are awarded schools in the first dimension ($\overline{X}$ =3,82) and not

awarded schools ($\overline{X}$ =3,59;): in the second dimension awarded schools ($\overline{X}$ =3,91) and not awarded schools ($\overline{X}$ =3,73); in the third dimension awarded schools ($\overline{X}$ =4,08) and not awarded schools ($\overline{X}$ =3,92);); in the fourth dimension awarded schools ($\overline{X}$ =4,08) and not awarded schools ($\overline{X}$ =3,96). When it is evaluated as a whole scores of awarded schools; ($\overline{X}$ =3,94) are higher than not awarded schools ($\overline{X}$ =3,75).

Table 2. T-test results of KM competencies of award winning and not award winning school principals.

Dimensions		N	$\overline{X}$	S	Sd	t	p
Providing Information Sources and Putting into Service	Not awarded	383	3,59	0,74	555		
	Awarded	174	3,82	1,02		22,754	,003
Recognition and Reaching Information Sources	Not awarded	383	3,73	0,669	555		
	Awarded	174	3,91	0,974		31,172	,004
Storing and Sharing Information	Not awarded	383	3,92	0,697	555		
	Awarded	174	4,08	0,969		34,824	,05
Using ICT in instruction	Not awarded	383	3,96	0,650	555		
	Awarded	174	4,08	0,916		31,021	,07
Outcomes of Questionnaire in General	Not awarded	383	3,75	0,619	555		
	Awarded	174	3,94	0,945		43,972	,005

As it is seen in the table 2, there is a significant difference between the teachers view about school principals' KM competencies at awarded and not awarded schools [t(555)= 22,754, p<.05]. Teachers who work at awarded schools ($\overline{X}$ =3,82) gave higher marks to the principals in "Providing Information Sources and Putting into Service" dimension compared with the teachers ($\overline{X}$ =3,59) at not awarded schools.

Also there is a significant difference between the teachers view at awarded and not awarded schools [t(555)= 31,172, p<.05]. Teachers who work at awarded schools ($\overline{X}$ =3,91) gave higher marks to the principals in "Recognition and Reaching Information Sources" dimension compared with the teachers ($\overline{X}$ =3,73) at not awarded schools.

Findings on comparison of KM competencies of principals' of schools which have won quality awards and which have not.

There is a significant difference between the teachers view at awarded and not awarded schools [t(555)= 34,824, p<.05]. Teachers who work at awarded schools ($\overline{X}$ =4,08) gave higher marks to the principals in "Storing and Sharing Information " dimension compared with the teachers ($\overline{X}$ =3,92) at not awarded schools.

As it is seen in the table there is not a significant difference between the teachers view at awarded and not awarded schools [t(555)= 31,021, p>.05] in "Using ICT in instruction" dimension.

When it is evaluated as a whole there is a significant difference between the teachers view at awarded and not awarded schools [t(555)= 43,972, p<.05]. Teachers who work at awarded schools ($\overline{X}$ =3,94) gave higher marks to the principals compared with the teachers ($\overline{X}$ =3,75) at not awarded schools.

Findings on award winning schools' teachers' opinions on necessity and importance of KM competencies of school principals for school quality.

Table 3. Award winning schools' teachers' opinions on necessity of KM competencies of school principals for school quality.

Code	f	%
Exactly Necessary	2	28.6
Really Necessary	4	57.1
Highly Necessary	1	14,3

Teachers who attended our survey agreed on KM competencies of principals are highly necessary for a quality school.

> "Exactly necessary. Because the core of the quality works is to know all sources we have and work them for the school objectives. Productivity can be done by KM. Because KM collects the data evaluate it. Work on it and transforms data. Then classify it and defines who will use and where it will be used. A principal who can run KM truly easily reaches quality at school." (T1)
> "It is really necessary." (T2-T3-T4-T6)
> "Success in quality depends on the true run of processes." (T5)

Table 4. Award winning schools' teachers' opinions on importance of KM competencies of school principals for school quality.

Code	f	%
Important	1	14.3
Very important	2	28.6
Completely important	2	28.6

Teachers who attended our survey agreed on KM is one of the most important processes in TQM. In award winning schools this process runs very actively and regular updates are done on documents and knowledge.

> "It is as important as the importance of hearth for the body. KM means the management of everything. KM must be active all the time. Other vice the institution transforms in to a system which collects documents and writes answers for official letters. So that KM is very important for a quality school." (T1)

> "Very important. When you think about quality schools it is important. But don't think everything is depended to the principal. Principal is of course the leader of the institution but since procedures were designed at the beginning not only the principal but also all leaders of procedures are very important. To evaluate and transform information to knowledge and to share it those leaders of processes are "Very important. It is doubtless that reaching new information and get that information on time are very important for teachers' effectiveness and to develop quality of education. The leadership that principals' act will motivate teachers and effects their performance. For example a principal learn new things about education and share this information with teachers and other staff via meetings or in service training activities that supports organizational learning and makes easier to reach organizational goals." (T2)

> "Completely important. It is very important to reach necessary information to teachers on time for teacher and school effectiveness. For example announcing a seminar that it's' deadline has passed is not mean anything to teachers and also it decreases the motivation." (T3)

> "Completely important. We learn how to run procedures." (T5)

Findings on award winning schools' teachers' opinions on effects of KM competencies of school principals on quality of education at school.

As it is seen in the table 5, Teachers who attended our survey agreed on KM competencies of principal effects educational quality. Because all the plans about school and instruction are made depending on knowledge you have. So KM style of principals is important for all school issues, especially educational activities. If the principal is not experienced enough sometimes he/she can make wrong decisions. So that means waste of time, power and money.

"Totally affects. It has positive effects on education. If the principal is not experienced or not enough for the job teachers live negative experiences. So those supports provided in this school make teachers' works easier." (T4)

"Completely effects. It is important to reach true and real information and for personal development." (T5)

Table 5. Award winning schools' teachers' opinions on effects of KM competencies of school principals on quality of education at school.

Code	f	%
Provide necessary information	4	57.2
Useful for plans	2	28.6
Creates difference	1	14.3
Provide personal support	1	14.3
Organize in service training activities	1	14.3
Use experiences of staff	1	14.3
Discover staffs' competencies	1	14.3
Provide necessary documents	1	14.3
Provide educational sources	1	14.3
Make works easier	1	14.3
Provide real information	1	14.3
Support personal development	1	14.3

"As an example; every person who joins our team has their own experiences. First we analyze those experiences. If they need support at the end of analyzes we provide that as in service training activities. When you do this, educational quality easily goes up. We all have objectives for education. While we are planning those objectives we must know what we have. When I consider all these things I define it as KM. For example while we were working on analyzes about the personnel we realized that one of the technical staff has some educational experiences. Now we employ him/her in both ways. We create difference in education via discovering staffs' competencies and use those competencies for school's objectives. If you run that process as a process of collecting documents that doesn't work. But a good working KM system can make people work more productively." (T1)

"Very effective. He/she is the leader of the school. Since we are pre-primary school we need a lot of information and documents. To reach those supportive sources effects educational quality in positive way." (T3)

Findings on what school principals do about KM at school.

Table 6. Award winning schools' teachers' opinions on what school principals do about KM at school.

Code	f	%
Make processes worked well	7	100
Provide useful knowledge	1	14.3
Organize how information will be used	1	14.3
Make sure procedures are defined	4	57.2
Make sure processes are updated	1	14.3
Provide educational sources	2	28.6
Use ICT	1	14.3
Information is stored systematically	1	14.3
Support teachers	4	57.2

In awarded schools it can be said there are well running procedures and processes. Also they have a KM process and it works well. In these schools KM process is very active and provides useful knowledge to management team and teachers. Principals organize all these quality development activities and ensure that quality activities run properly.

"We have a sub process under the process of "source management" It is also called as 4e of EFQM model. Information is managed by that sub process. This sub process organizes how information will be used and who will use it. All the procedure is defined priory how information will join the system, how it will be evaluated and what will happen to that information in the end. Also who will get the feed back and how this feed back will be send is defined. Our principal is the leader of those processes and make sure the system runs well." (T1)

"We have a main process called "Management of Sources" and there is a sub process called "KM" under that main process. There are processes in our school for about 4 years. We use them to run the school's works. The Principal is the leader of this process." (T2-T7)

"All the processes are updated continuously. We have a library and we use it. We don't have any problem to reach information. The principal provide educational sources available every time." (T3)

"Our principal always give support to the teachers. For example we have a library that includes pre-primary education sources and we use it. Official documents are always available in the teachers' room. We can use computers, photocopy and portable storage devices for instructional issues." (T4)

"All the information is stored systematically and it is easily reached." (T5)

"All the works in this school are run by procedures and processes. The principal is the leader of all these things. KM in one of the sub processes in EFQM model. Since we use a version of this model we have this process. KM is very important for decision making. As an example "we wanted to design a gymnastic room for children. That was my dream. I was the principal of that school. I thought that will be useful to develop children's manual dexterity. So we did it. We paid lots of money for that. I was happy to manage that. But later we realized that the scores before the gymnastic room were very high as 93-94 out of 100. After we designed the room it went up to 95-96. There was a problem either our measurement tool or our decision was wrong. Now with the application of procedures and processes we don't decide according to our dreams. We use our system and knowledge to develop our schools and instruction." (T6)

As a result of document analyses in all award winning schools researchers found that they have a process called "Management of Sources" or "Source Management" and also schools have a sub process called "KM" under this main process. For the KM sub process they have procedures where all the issues about the process are described. In these procedures all the schools describe how information will join the system, how it will be registered, how it will be evaluated, how it will be delivered, who will get the information and which forms will be used. Also those schools have "process maps" where all the activities about the KM process are shown. Beside that forms which will be used during the process are designed and described in the procedures. Also researchers found that processes, procedures and forms are evaluated and developed regularly. During the document analysis it is seen that three schools use a packet program which is developed for their KM system. Principals said they paid to develop this program.

As a result of document analysis of procedures and processes, it is found out that school principals are the leaders of all quality development activities including KM. The principals make all works done properly and systematically as it is stated in quality development documents. Also they motivate all staff to work in quality development teams voluntary (MEB, 2002).

5. Conclusions and Recommendations

1- As a result of this study teachers identified school principals' KM competencies levels as "high". It can be said that this situation shows principals are ready to support quality development activities via knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization.

2- Also there is a significant difference between KM competencies of school principals whose schools have won "Quality Award" in TQM awards and which have not. In dimensions "Providing Information Sources and Putting into Service", "Recognition and Reaching Information Sources", "Storing and Sharing Information", there is significant difference but in dimension "Using ICT in instruction" there is not significant difference. By these findings it can be said KM competencies of principals' support quality development activities at school. KM is a part of EFQM model that applied in Turkish Educational System (MEB, 2002) and that supports these findings of the study. According to Zhao and Bryar (2001), approaches combining the KM philosophy and quality principles are essential to achieve competitive advantage.

3. All the teachers who work at award winning schools agreed on KM competencies of school principals' are necessary and important for school quality. They claimed that for a sustainable development and quality KM competency of school principal is one of the key dimensions. Also they claimed that if the principals' weren't competent enough on KM schools couldn't reach the success of winning TQM award. This shows teachers realized the importance of KM for quality development. These findings overlaps with the findings of Loke, Downe, Sambasivan, Kalid and Ooi's (2011) findings as TQM has significant positive relationships to KM. High level of TQM practice lead to greater level of KM practice and greater learning among supply chain partners.

4- Teachers who attended the survey claimed that KM competency of principal effects educational quality. KM applications of principals' effect school quality via providing necessary information, useful information for plans, personal support, necessary documents, educational sources, real information, organizing in service training activities, using experiences of staffs, discovering staffs' competencies, making works easier and supporting personal development, Because all the plans about school and instruction are made depending on knowledge you have.

5- Teachers who work at award winning schools state that principals are competent on KM and they always support the system and the staff with their experience and knowledge (T1, T2, T3, T4, T5, T6, T7). With this support well running processes and procedures were designed in those schools. Principals have active duty in these processes. Principals ensure that all the quality development activities are done as they were stated in the quality documents. This finding supports King's (2009) definition as "*The processes of KM involve knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization.* Also those schools have "process maps" where all the activities about the KM processes are shown. Beside that forms which will be used during the process are designed and described in the procedures. That finding overlaps with the findings presented by Davenport and Prusak (2000), which states that *"KM "is managing the corporation's knowledge through a systematically and organizationally specified process for acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value ."*Also processes, procedures and forms are evaluated and developed regularly. Award winning schools use the knowledge that they developed as a source for organizational decisions and learning. Principals use the knowledge that they got from the KM system for their decisions. This finding overlaps with the King's (2009) definition as "*KM is a set of relatively new organizational activities that are aimed at improving knowledge, knowledge-related practices, organizational behaviors and decisions and organizational performance.* Teachers work in award winning schools state that they can easily reach the information they needed. Also they say management provides necessary information to related people. Also in some award winning schools use special computer program for KM system. They store, evaluate and share knowledge via intranet and internet. This finding supports Vera& Crossan's (2013) findings as "*Knowledge/IC and learning are linked in a circular relationship. Learning is the process through which knowledge/IC is created and developed.* This finding also supports findings of Alavi & Leidner's (1999) findings as "*An integrated and integrative technology architecture is a key driver for KM.*

As conclusion principals make processes worked well, provide useful knowledge, organize how information will be used, make sure procedures are defined and processes are updated, provide educational sources, use ICT, store information systematically and support teachers via KM processes to develop school quality. According to study of Dağlı & Uzunboylu (2007) the school principals obtain knowledge by attending meetings with teachers, making personal observation, their personal experience and online resources. Principals always share knowledge with their assistant principals and teachers. Also they store the knowledge mainly using computers and traditional filing techniques.

As a result of the study it can be suggested that, schools should develop a quality management system and run KM process very actively for sustainable and planned development and to reach quality. As it is stated by Dick (2000) institutions that have TQM systems show better development performance than the institutions that just have quality certificates. So if a school principal wants to create a change and carry the school to high levels she/he should design a development system which provides references to all key areas of school and education. Development studies should focus on developing not only the physical environment but also educational quality via effective run of KM process.

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