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Teacher Views On School Administrators' Technology Leadership Competencies

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ABSTRACT

This study aimed to identify teacher views on technology leadership competencies of school administrators working in state and private elementary education institutions, and offer suggestions to authorities in this respect. The population of the study consisted of the teachers working in state and private elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year. The sample included 110 individuals who were selected through simple random sampling among the teachers constituting the population. To identify the teachers' views, "Technology Leadership for Educational Administrators Scale" was used, and its Cronbach Alpha reliability coefficient was calculated as 0.95. In overall, the results revealed that the teachers agreed on the statements in the scale at the level of "never" with a low arithmetic mean (X=1.72). This finding can be interpreted as that the school administrators never acted as technology leaders to the teachers. The teachers stated that the school administrators had a positive attitude towards technology, but they did not benefit from school staff, parents and students to enhance the capacity of the usage of information technologies. It was concluded that in order for technology leadership to be institutionalised, cautions that enable administrators to use their positive attitudes in practice should be taken. Based on this result, it is suggested that school administrators should be encouraged to pursue a postgraduate degree, and regulations should be made to enhance the participation of all stakeholders of the school to decision-making processes related to the use of information and communication technologies at school.

Key Words: Technology Leadership, School Administration, Principal, Elementary Education, Technology Leadership Competencies.

INTRODUCTION

The concept of technology can be defined as physical and mental tools that are used to turn the input of an organisation into output. Because organisations having input-output relationship are seen as an necessity of a systematic approach, using technology in teaching and administration activities in all organisation is a natural result of this process.

Educational institutions should not stay behind technology in this process due to paranoia of commitment to traditional methods, and should use technology synchronously. However, in some cases, traditional educational system cannot always be sufficient in the face of technological developments. Individuals whose educational needs cannot be met by traditional educational systems can go towards alternatives to meet these needs and make different requests. These requests of individuals are addressed by administrations and internet-based teaching methods can be applied that use computers and technology that eliminate time and place limitations, ensure equality of opportunities, and are in accordance with student-centred teaching approaches (Gülşen, 2014: 228-241; İşman, 2011b: 136-142).

In this process, education and technology are seen as two basic elements that have an important role in improving human life. Both elements have been two basic tools that humans referred to in their efforts for being dominant in their natural and social environment. Education serves as revealing the latent powers and abilities of individuals from birth, and ensuring their development as more mature, creative and constructive creatures. Technology helps individuals to effectively use the knowledge and skills they gained through education and apply these more systematically and consciously. In this way, education and technology have affected people's perfection, acculturation and development, becoming active and dominant against their nature and environment (Banoğlu, 2011: 199-213). Education can be more determinant in enhancing the power of this effect, which is closely related to the degree of technology it uses.

The use of technology in education arose the concept of educational technology. Educational technology is accepted as a discipline that help educators apply the necessary knowledge and abilities more consciously to produce adequate tools for using the knowledge and skills that they gained through education in a better and more effective way and meeting their needs (Banoğlu, 2011: 199-213; TDK, 2015:1).



Technology applications being increasingly used as an organisational requirement makes instructional design a necessity based on information technologies. This necessity becomes more crucial with the demands of administrators, teachers, students and parents. This situation requires to be thought not only as technology contributing to the development of schools, but also a process that will enable the change and development of societies with a sociological perspective (Abazaoğlu, 2014: 3; Banoğlu, 2011: 199-213; Görgülü, Küçükali & Ada, 2013: 53-71).

Technology applications being increasingly used makes instructional design a necessity based on information technologies in education. This necessity also evoked the Ministry of National Education, and the Directorate General for Innovation and Educational Technologies was founded. Many educational technologies and practices such as MEBSIS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices started to be used in the central and field service centres of the Ministry (Gülşen & Gökyer, 2015: 71, İşman, 2011b, 136-142, Ministry of National Education, 2015: 1).

The existence of such a large number of technological applications also necessitates the ministerial works to be competent in terms of technological equipment. The technological competencies of ministry official, especially those at an administrative position, would be effective in this change and the institutionalisation of this development. For this reason, technology competencies and leadership of all educational administrators in general and elementary school administrators in particular seem to be crucial for the institutionalisation of change and development in parallel to the development of information technologies. This institutionalisation also requires to lead the social change. As there is a close relationship between innovation, production and centres of using new technologies, and this relationship can be adopted by employees, the transformation of the society would be rapid accordingly, and the effect of social conditions on further innovations would be positive (Castells, 2005: 87-89; Helvaci, 2008:115-133). Computers are the most widely used technologies in education. The ground-breaking development and advances in the information technologies in the 21st century have made computers an indispensable need in all areas of our life. Because of the multifaceted substructures of computers, their characteristic of making our life easier cannot be denied. This multifaceted characteristic and the capability of accessing information through the Internet have made computers indispensable for our education system. By presenting students an interactive and student-centred learning opportunity, computers have urged individuals to take the responsibility of their own learning and have an idea of their learning skill. On the other hand, administrators also have to take a technological responsibility due the intensity of technology usage in administrative processes. The increase in the technology usage of administrators, employees and students necessitates computers and other information technology devices to take the place they deserve at our schools (Helvacı, 2008:115-133; Kayan, 2015: 79-80).

In order for new technological applications to be successfully used in educational institutions, the change should be facilitated, effort should be made as it used to be, and it should be tried to achieve the goal in a faster, more efficient and useful way. This necessity also requires to have some durable and sufficient advantages to overcome the resistance to the change (Kayan, 2015: 2; Kesim, 2011: 6; Mainstone & Schroeder: 1999, 630–631; Özgür, 2013: 170). School administrators have a big influence in the contribution of these advantages to educational institutions to the largest extent. This is because the primary individuals who would enable the effective use of these advantages at schools are school administrators (Kayan, 2015: 2-10).

Administrators who are provided with the new tools and opportunities in accordance with the requirements of the age face different questions regarding the issues of how they can administer their schools better and develop their performances. With a vision supported with a good level of technology knowledge, school administrators are expected to develop their teachers and students, and a positive attitude towards innovation. This requires the school administrators to be powerful in terms of pedagogical and leadership competencies (Scott: 2005: 39). To be able to use information and communication technologies properly, school administrators need to understand how to use decision-making practices along with their pedagogical and administrative competencies. School administrators are expected to know in which steps of administrative actions they can use technology and what they can or cannot do, and use the appropriate technology considering the contextual necessities (Langran; 2006: 6). In this regard, in a school environment that constantly change and expand, it would not be enough for school administrators to be merely computer literate to actualize the integration of an appropriate technology to their instructional aims (Dönmez & Sincar, 2008: 17). The adaptation of schools to a technological integration in accordance with the instructional objectives is only possible with school administrators having high levels of web-based technological competencies. This requires school administrators to act as technology leaders to the school environment which they administer and communicate with (İlğan, 2013: 48; Yiğit, 2013: 41).



As the societies feel the need for development, schools will remain active in the process as one of the dynamics of the development and the change that it brings. It is a fact that as schools affect the change of the society, they are also affected by these changes. The primary elements that affect schools that are constantly renewed today and the school environments are information and communication technologies. Schools using any kind of technology that would enhance the quality of education can be regarded as important. Yet, what is more important is putting individuals in the centre of using technologies, and making plans and decisions considering the needs of all individuals at school. In this sense, trying to make the most of technology in any kind of instructional and administrative activities at school by putting individuals in the centre can be argued to be the duties of school administrators and teachers (Cöğmen & Köksal, 2014: 86). Technological products are very important, but only tools for the administrators of technology schools. What matters is whether administrators can make the educational institution that they lead using these technologies as affective as possible. For this reason, schools, school administrators, teachers and students need to re-define their roles as the members of the network society that is a reflection of technology. When this issue is considered for school administrators, it can be argued that technology leadership will be one of the most functional roles of school administrators in the near future (Dönmez & Sincar, 2008: 17). Therefore, it is of significance to identify school administrators' roles of technology leadership and how they perform the basic behaviours constituting these roles based on teacher views.

METHOD

Significance and Aim of the Study

The use of educational technologies and practices in the Ministry of National Education such as MEBSIS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices to be also used at educational institutions requires school administrators to be well-equipped in this regard (İşman, 2011a: 14; Ministry of National Education, 2015: 1). Based on the necessity that administrators in educational institutions should be well-equipped in terms of technology knowledge, this study was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities in this respect.

Research Design

General survey model was used in the study. To identify the views, "Technology Leadership for Educational Administrators Scale" developed by the research in Likert format in 2014 was employed.

Population and Sample

The population of the study contained 1252 teachers working at a total of 45 elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year (Aras, Şimşek & Kakırman, 2014: 19). Twenty per cent of the teachers constituting the population, in other words 250 teachers, were selected as the sample group through simple random sampling. Among the questionnaires distributed to the sample group, 220 respondents returned, so the return rate was 88%. This rate is equal to 17.57% of the population.

Sample Group	Resp	onded	Not Re	esponded	TOTAL		
		%	f	%	f	%	
Teachers Working at the Elementary Schools in the Beylikdüzü District	220	88,00	30	12,00	250	100	

Table 1. Participation Frequency (f) and Percentage (%) of the Sample Group

Data Gathering, Analysis and Interpretation

In the study, to identify the teachers' views, "Technology Leadership for Educational Administrators Scale" developed by the researcher was used, and its Cronbach Alpha reliability coefficient was calculated as 0,95. SPSS package program was employed for data analysis, and percentage (%), frequency (f) and arithmetic mean (\overline{X}) were included.

The weights assigned to the extent of agreement for the propositions in the scale and the limits of these weights are as follows: "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00".



Findings and Interpretation

The data obtained in this study, which was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities, was organised in tables and interpreted.

No.	PROPOSITIONS	Never (1)		Rarely (2)		Sometime s (3)		Usually (4)		Always (5)		$\overline{\mathbf{X}}$
		f	%	f	%	f	%	f	%	f	%	
1	Use technology effectively.	80	36,36	120	54,54	20	9,09	0	0	0	0	1.72*
2	Open to technological developments.	0	0	120	54,54	60	27,27	40	18,18	0	0	2,63
3		120	54,54	60	18,18	0	0	40	18,18	0	0	1,81
4	Buy software that would enhance the learning opportunities.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
5	Enable all students to access technology equally.	120	54,54	60	27,27	20	9,09	0	0	10	0	1,81
6	Sensitive to obstacles stemming from gender, social class and other individual differences that would affect students' use of technology.	120	54,54	80	36,36	20	9,09	0	0	0	0	1,54
7	Far-sightedforquantitativelyandqualitatively improvingtheuse of technology at school.	140	63,63	60	27,27	0	0	20	9,09	0	0	1,54
8	Find technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school.	200	90,90	20	9,09	0	0	0		0		1,09
9	Provide opportunities for teachers to participate in in- service trainings to use technology better.	120	54,54	60	27,27	20	9,09	10	9,09	0	0	1,72

 Table 3.1. Descriptive Statistics Related to School Administrators' Technology Leadership

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"



No.	PROPOSITIONS	Never		Rarely (2)		Sometime s		Usually (4)		Always (5)		$\overline{\mathbf{x}}$
			1)	f	%	f (5) %	f	%	f	%	
10	Have positive attitude towards technology.	20	9,09	100	45,45	80	36,36	10	9,09	0	0	3,27*
11	Consider student and teacher needs when equipping the school with educational technologies.	120	54,54	80	36,36	0	0	20	9,09	0	0	1,54
12	Encourage teachers in receiving training on the use of educational technologies.	140	63,63	60	27,27	20	9,09	0	0	0	0	1,45
13	Support the use of Internet services in teachers' communication with each other.	60	27,27	100	45,45	40	18,18	10	9,09	0	0	2,09
14	Enable all stakeholders to benefit from educational technologies equally at school.	100	45,45	80	36,36	40	18,18	0	0	0	0	1,72
15	Have a web site prepared which include students' and teachers' works and on which the events organised at school can be followed.	200	90,09	0	0	0	0	20	9,09	0	0	1,27
16	Enable students to access technological tools.	160	72,72	40	18,18	20	9,09	0	0	0	0	1,54
17	Enable students to use the Internet and tools such as drawing software, word processors, spread sheets and presentation software.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
18	Provide the necessary support for teacher to use technology.	120	54,54	80	36,36	20	9,09	0		0	0	1,54
19	Provide the necessary support to form and develop a computer lab.	80	36,36	140	63,63	0	0	0	0	0	0	1,63
20	Provide an opportunity to use technology in the science lab.	80	36,36	100	45,45	20	9,09	10	9,09	0	0	1,90
General Arithmetic Mean											1,72	

Table 3.2. Descriptive Statistics Related to School Administrators' Technology Leadership (Continued)

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00" As is seen in Tables 3.1 and 3.2, the teachers perceived the school administrators as incompetent as technology leaders. In overall, the teachers agreed on the propositions in the scale at the level of "never" with a low arithmetic mean (\overline{X} =1.72). This finding can be interpreted as that the school administrators never acted/could not act as technology leaders to the teachers. As is seen in the tables, there were no propositions that the teachers agreed on at the level of "always" and "usually" regarding school administrators' technology leadership. These findings show that the school administrators could not lead teachers in technology usage.

As for the items in particular, the propositions on which the teachers' stated the highest level of agreement was "having positive attitude towards technology". The teachers believed that the school administrators had positive attitude towards technology. The teachers were observed to agree on this proposition at the level of usually with an arithmetic mean of (\overline{X} :3,27). According to the teachers, although the school administrators had positive attitude towards technology, they were not competent in using technology when evaluated with other items. It can be argued that since they could not use technology, they could not act as leaders in this respect.



The propositions on which the teachers stated the lowest level of agreement was "finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school". The teachers believed that the school administrators were incompetent in finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school. The teachers were observed to agree on this proposition at the level of never with an arithmetic mean of

(X:1,09). The teachers stated that the school administrators never received support for technology from the environment, did not look for leaders among parents and students to enhance the capacity of information technologies at school and did not cooperate with them.

In addition, the teachers did not find the school administrators competent in using technology effectively, buying software to enhance learning opportunities, and being sensitive to the obstacles stemming from gender, social class and other individual differences affecting the use of technology Similarly, the school administrators were not competent in being far-sighted to quantitatively and qualitatively improve the use of technology at school, providing opportunities for teachers to participate in in-service trainings on using technology better, considering the needs of teachers and students in equipping school with educational technologies, and encouraging teachers to receive training on the use of educational technologies. The teachers thought that the school administrators were not well-equipped to act as leaders in these areas. The teachers stated to have agreed at the level of never on the issues including the school administrators' enabling all the stakeholders benefiting from educational technologies equally at school, having a web site prepared which includes teachers' and students' work and on which the events organised at school can be followed, and providing an opportunity for students to use technological tools. The school administrators were also found incompetent in enabling students to use tools such as the Internet, drawing software, word processors, spread sheets and presentation software, providing the necessary support for teachers to use technology, and providing the necessary support in forming and developing a computer lab.

The teachers stated that the school administrators rarely led/advised them to develop their skills of technology. They also stated that the administrators rarely provided opportunities to use technology in the science lab, supported the use of Internet services in teachers' communication with each other, and enabling all students to access technology equally.

According to the teachers, the school administrators sometimes had open and positive attitude towards technological developments. The propositions on which the teachers stated the highest agreement levels regarding the school administrators' technology leadership were on their having open and positive attitudes towards technology, and these agreement levels were higher than the level of "sometimes".

RESULT AND SUGGESTIONS

As a result of the study, the teachers' views revealed that;

 \succ the elementary school administrators were sometimes open to and had positive attitude towards technology and technological developments, but incompetent in acting as technology leaders.

 \succ the high school administrators could not integrate information technology tools at schools to learning environment at each grade level.

 \succ environments that would provide every student the opportunity to access information technology tools throughout their education life could not be created.

> although the school administrators had positive attitudes towards teaching students the skills of accessing information, problem solving, processing and presenting information by means of information technology tools, and teaching them how to use information technology tools in daily life, they did not have the necessary qualifications to ensure these.

The following suggestions can be offered based on the results of the study.

> Needs analyses should be conducted on the use of technology in education.

 \succ School administrators should be directed to regular trainings on acting as technology leaders, and then encouraged to pursue postgraduate studies to improve their competency of technology leadership.

➤ Goals should be set towards developing positive attitudes in all stakeholders of the school for using information and communication technologies effectively, and activities should be organised to establish a total quality consciousness.

Studies including the views of different groups should be conducted to reveal more generalisable results.

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