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Teacher Opinions Concerning The Leadership Competencies of School Principals[1]

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The aim of this study is to reveal the perceptions of the teachers about the technological leadership competencies of school principals in solving the problems encountered in the technological use process. Concordantly, it is aimed to analyze the views of the teachers on the technologial leadership of the school principals in the process of using technology, adapting to technological changes and solving problems. The study is designed in accordance with the phenomenology pattern, one of the qualitative research approaches. This research was conducted with 20 teachers serving in state secondary schools in İstanbul Province, Sultangazi and Üsküdar districts in the 2021-2022 academic year. In the selection of the study group, outlier sampling method, one of the purposive sampling methods was preferred. In the research, the data were collected using a semi-structured interview form. Throughout the research, the data obtained with the semi-structured interview form were evaluated by content analysis. As the data were analyzed according to the research findings, 3 different themes were revealed. The themes coming out from this research are determined as "technological leadership roles", "variables affecting leadership competence" and "proficiency in solving problems". According to the results of the research, about half of the participating teachers opined about solving financial, infrastructural and technical issues whereas other participants stated that the tehcnological leadership competences of the school principals come into prominence in solving the problems encountered during the practices, in solving the cyber security problems and guiding on the proper use of technology. In reference to the results of the research, it has come to the fore to enchance the opportunities for developing the technology and attach importance to trainings in order to provide technological leadership competence to school principals.

Keywords: School Principals, Technological Leadership, Qualitative Research

INTRODUCTION

The scope and boundaries of technology use cover a vastitude. This concept ought not be limited to the provision of technological materials to schools. As for the technological leadership, tasks such as ensuring equal oppotunities for all students in accesing to technology, providing age-appropriate opportunities for teachers and students to develop theirs skills in this aspect, eliminating demographic differences that prevent students from using technology and the obstacles created by the system spring to mind (Balcı, 2001).

A tecnological leader is the person who motivates the employees to use technology and enables them to use technology (Can, 2003). School principals ensure that educational technologies are used in the most appropriate and most efficient ways by following the latest innovations in the field of technology. Accordingly, they should be able to guide the education staff in the matter of developing their knowledge and skills (Başaran, 2000). In this respect, the need for school principals with advanced technological competencies who will encourage the effective use of technology in schools in the education system is increasing. Just as it is important to provide the necessary infrastructure for the use of technological opportunities in educaational institutions, the need for technology leadership is equally important for the efficient use of these infrastructures and technological materials. This is because there is a need for technological leaders who will implement the existing technological infrastructure in educational institutions and guide all stakeholders to take the advantage of these opportunities.

The purpose of the education management can be expressed as ensuring that the schools which will respond to social needs achieve their pre-determined goals and managing the change and innovation movement (Başaran, 2000). School principals are responsible for ensuring that the primary function of schools, which is teaching, is fulfilled. School take part in the center of school management (Aydın, 2002). School principals fulfill the responsibility of creating educational environments that teachers and students need and making plans that will ensure its effiecient use. Principals should provide the suitable conditions where more students can learn more efficiently in less time. Therefore, methods and techniques that will create a more productive learning environment should be perpetually followed and developed (Çelikten 2002). Hence, it has become inevitable to include educational technology tools in schools. In order for educational technology tools to be used effieciently in the teaching environment, skills and willingness of school principals for technological leadership come into prominence. It can be stated that teachnolgy leadership for school principals is an educational leadership which facilitates the integration of education with technology, uses existing school resources effectively for the provision of education and management

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Technologies and resources when necessary, closely follows teachers' mastery of educational technologies and their professional development in this field, monitors and evaluates the teaching activities in their schools and student success in technological environment, adequately includes technological communication tools in the process (Banoğlu, 2011, s. 202).

National and international researches in the literature, Afshari, Bakar, Luan, Samah and Fooi (2009) conducted their study with 30 middle school principals in Iran, in which they analysed the self-efficacy and leadership perceptions of schools principals regarding their use of educational technologies and their actual use of these technologies. Can (2008) aimed to determine the technological leadership proficiency levels of primary school principals and the level of principals' use of technology in their administrative affairs (personnel affairs, student affairs, financial affairs, planning affairs, education and training services, library affairs etc.) He conducted his research with the principals, assistant principals and teachers working in primary schools in Ankara in the 2006-2007 academic year. In her research, Macaulay (2009) attemped to analyze the technology leadership behaviours of school principals according to the views of teachers and themselves, taking into consideration the NETS-A standards. Bülbül and Çuhadar (2012) aimed to reveal the relationship between school principals' self-efficacy perceptions towards technology leadership and technology acceptance with their research. The research was carried out with 269 school principals working in Tekirdağ Province, Çorlu and Çerkezköy in the 2011-2012 Academic Year. When the studies conducted in Turkey and abroad are revised, it was found that the studies carried out abroad are the studies which the technology leadership competencies of school principals are determined based on technology leadership standards. As for in the country, it has been observed that researches which attempt to reveal the level of technology leadership behaviours of school principals are generally conducted. The fact that principals do not have sufficient knowledge and competence about technology leadership causes problems in fulfilling the role of technology leadership. Therefore, in this study, teachers' perceptions of school principals' technological leadership competencies were analyzed. The problem statement of the research was determined as "What are the teachers' perceptions about the technological leadership behaviours of school principals and their technologicalleadership behaviours in solving the problems encountered in the education process?" The sub-objectives of the research are stated below.

What are the technological leadership competencies that teachers expect from school principals?

What do teachers think about the effect of economic level of the schools on the technological leadership competencies of principals?

What are the opinions of the teachers about the technological leadership competencies of school principals in solving the problems encountered in distance education?

METHOD

Research Design

This research was designed in accordance with the phenomenology pattern, one of the qualitative research approaches. Qualitative research is one of the ways of producing knowledge which is used to solve the secrets of people and to reveal the depths of social systems that they have shaped by their own perceptions (Özdemir, 2010). Phenomenology is a qualitative research type that assists us to explore in depth the experiences, circumstances or situations that we encounter in Daily life, about which we do not have in-depth knowledge (Cropley, 2002). In this research, phenomenology pattern was used to create a profund sense of teacher views on the technological leadership behaviour of school principals regarding the perceptions of the technological leadership phenomenon, the technological leadership behaviour that the teachers expect from the principals, and, the technological leadership behaviours exhibited by the school principals in solving the problems encountered in the distance education process.

1.1. Study Group

This research consists of teachers serving in state secondary schools in İstanbul Province, Sultangazi and Üsküdar districts in the 2020-2021 Academic Year.

In the selection of the study group, the outlier sampling method, one of the qualitative sampling methods, was preferred. Although the outlier sampling method is limited in number and requires detailed

analysis, it is preferred in information-rich situations (Yıldırım & Şimşek, 2008). In outlier sampling, a sample is created from contradictory (extreme) situations related to the problem. In the study, teachers serving in two districts with different socio-economic development levels were preferred.

In this part of the research, a study group of 20 people was formed from the teachers determined by the outlier sampling method, adhering to the principle of voluntariness. In this research, the data obtained with the semi-structured form were interpreted and the opinions of the teachers were included. Furthermore, the participants were symbolized such as P_1(T), P_2(T), P_3(T)… by quoting from the interviews.

1.2. Data Collection

The conceptual framework of the reseacrh was shaped by literature review. The interview form to be used in the reseach was prepared based on the information obtained from the literature review. In the research, the data were collected using a semi-structured interview form. These questions were addressed to the interviwees in the same order, and the participants were allowed to respond to them as broadly as they desired during the interview (Yıldırım & Şimşek, 2008). The prepared semi-structured interview form was finalized by making a pilot scheme and having the opinions of the field experts about the questions. Thereafter the pilot study scheme and expert opinion, the questions were revised and applied to 3 people. When the obtained data were analyzed, it was found out that the goals to be measured were achieved. The interview form was applied to the teachers on a voluntary basis. Appointments were made with the teachers in advance in order to carry out the interviews. The interviews were held individually, on appointed days. They were carried out via online interview platforms due to the Covid-19 epidemic and lasted approximately 30 minutes.

1.3. Data Analysis

The research was carried out with a study group of 20 teachers, using a semi-structured interview form via online platforms due to the Covid-19 epidemic. Throughout the interviews, the views of the participants were written dowm in detail. In the research, the data obtained with a semi-structured interview form were evaluated by content analysis. Content analysis is a technique that interprets the codes and establishes relationships between coded concepts. Data obtained in content analysis are analyzed by the stages of coding of data, creating categories, finding themes, organizing categories and themes and interpreting the findings (Yıldırım & Şimşek, 2008).

1.4. Validity-Reliability

Miles and Huberman (1994) created a model that explains the reasons for social phenomena. According to this model, social phenomena can be integrated and a sequential relationship can be established between them. This whole relationship of sequency is called 'transcendent realism'. In this model, there are 3 main stages as data reduction, data presentation and result formation (Macdonald & Tipton, 1996; Waffit, 1996; Creswell, 2003; Baltacı, 2017).

Within the scope of validity, the opinions of the participants were elaborated. In the reliability calculation of the research, the reliability critearia of Miles and Huberman (1994) were used. This formula is; Reliability= Consensus (Agreement+Disagreement). As a result of the calculation, the reliability of the study was found to be 81%. The sentences of the active participants are given in the form of direct quotations. The validity and reliability of the research was attempted to be ensured by conforming the content analysis made in line with the opinions of my advisor. The relevance of the data was beheld to ensure internal validity of the research. The consistency of the findings was evaluated. The interviews, which were turned into a written document, were submitted to the approval of the participants. In addition to selecting voluntary participants to ensure and increase reliability, a sincere dialogue was established before the interview in order to reduce anxiety levels. The research data were attempted to be described in detail and presented to the reader by quoting directly as expressed by the participants. Expert opinions were consulted to examine the consistency between different dimensions of the research (aim, method, questions etc.) In order to ensure confirmability, all documents and files created during the data collection process were archieved within a certain system and presented to expert opinion. Three themes were created in line with these research problems.

Results

Table 1. Themes and Categories

Theme 1 Technological Leadership Roles	1.1. Being Innovative 1.2 Technology Mastery 1.2. Being Guding
Theme 2 Variables Affecting Proficiency	2.1 Field of Implementation 2.2 Individual Differences 2.3 Financial Opportunities 2.4 Expectations
Theme 3 Problem Solving	3.1 Infrastructure- Technical Problems 3.2 Implementation Process Problems

The teachers participating in the research were addressed questions that would reveal the technological leadership competencies they expect from school principals. The categories and the theme created based on the data provided by the teachers are shared in detail below.

The theme of technological leadership roles consists of views on the expectations of the teachers related to the technological leadership roles of the school principals. This theme comprises of 3 categories as "Being Innovative", "Technology Mastery" and "Being Guiding".

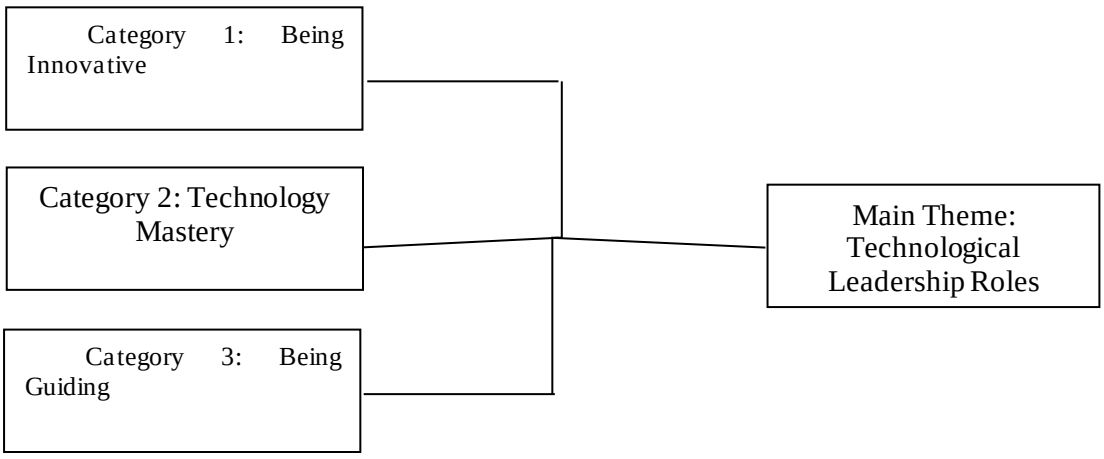

Figure 1: The Theme of Technological Leadership Roles and Categories

The category of Being Innovative consists of opinions on the need for school principals to take the responsibility of developing themselves, being available to innovation, closely following the latest developments and reflecting them on education. To exemplify, a participaant who is a teacher expressed her opinion as follows:

P_2(T): First of all, the school principals need to develop themselves as technological leaders. That is to say, they must interpret the technology, perceive and develop it. If there is no technological development in themselves after all, it is not possible for them to spread or advance it.

P_7(T): To me, school principals must be aware of the latest software and they must be able to use them effectively with teachers and students in the educational environment. Meanwhile, it is important for them to be able to master and use these tools as well.

Above are some examples of the Being Innovative category. Another category of this theme is Technology Mastery. This category consists of the opinions related to the tecnological leadership roles expected from the school principals, from their being knowledgeable and effective in the use of technology, being an effective user as well as being able to solve problems or direct them to solutions when necessary. For instance, a participant who is a teacher exoressed her views as follows:

P_6(T): In my opinion, one of the technological leadership behaviour charecteristics that school principals should have is a comprehensive knowledge of technology. They must be able to underfollow the technoloical innovations.

P_{16}(T): With the use of technology in live lessons, the role of the teacher needs to change completely. The teacher still has the role of lecturing while the student has the role of just listener and remains passive.

P_{19}(T): I think the technological leadership behaviour that the school principal should have is to be able to predict which situations may arise in the process, which problems may be encountered or which innovations may eventualised. Above, the expectations of school principals, as participatory technological leaders serving as teachers in the category of Technology Mastery, regarding the efficiency of helping teachers with new implementations to be used in teaching and with the solutions of potential problems have been emphasized.

Being Guiding category is another category of the theme of technological leadership roles. This category consists of the views on the technological leadership roles expected from school principals and the views that they need to motivate other stakeholders to use technology and lead them. For instance, a participant who works as a teacher opined as follows:

P15(T): If a principal can demonstrate technological leadership in the daily routine of meetings, which will teacher to learn not only to children but also to staff, that is to teacher fellows, her staff will immediately pattern themselves after her.

P9(T): In other words, she must be able to use technology both in her academic and daily life. She must be competent on this respect.

P4(T): That is, principals need to equip their personnel technologically in this manner. She must not be afraid of technology either as behavioral traits or as technological behaviour traits.

When evaluated in general, it has been found that the technological leadership roles that teachers expect from school principals are to use technology effectively, to encourage their staff to use technology, to guide the solutions of problems, and to follow the innovations closely by being available to improvement. It was concluded that 7 of the teachers participating in the research expressed the technological leadership roles they expected from the principals as being innovative, 8 as having a good comand of technology, and 5 as being a guide on technology use. It was found that the majority of the teachers participating in the study expected the school principals to take the role of technological leaders, to have the necessary knowledge about technology, to have the required competencies in the use of technology, to display technologh mastery such as being a guide in solving the problems encountered in this field. As the research data were analyzed, it was pointed out that leadership competencies that teachers working in Sultangazi district expect from school principals are the categories of Being Guiding and Being Innovative while on the other hand, teachers working in Üsküdar district explained their views in the context of Technology Mastery and Being Innovative.

The Theme of Variables Affecting Competence consists of teachers' perceptions of the effect of the school's economic level on the technological leadership competencies of school principals. This theme comprises of the sub-themes as "Information Infrastructures" and "School Environment". Information infrastructures sub-theme consists of 2 categories as "The Field of Implementation" and "Individual Differences". The School-Environment Interaction Theme comprises of 2 categories: "Financial Opportunities" and "Expectations".

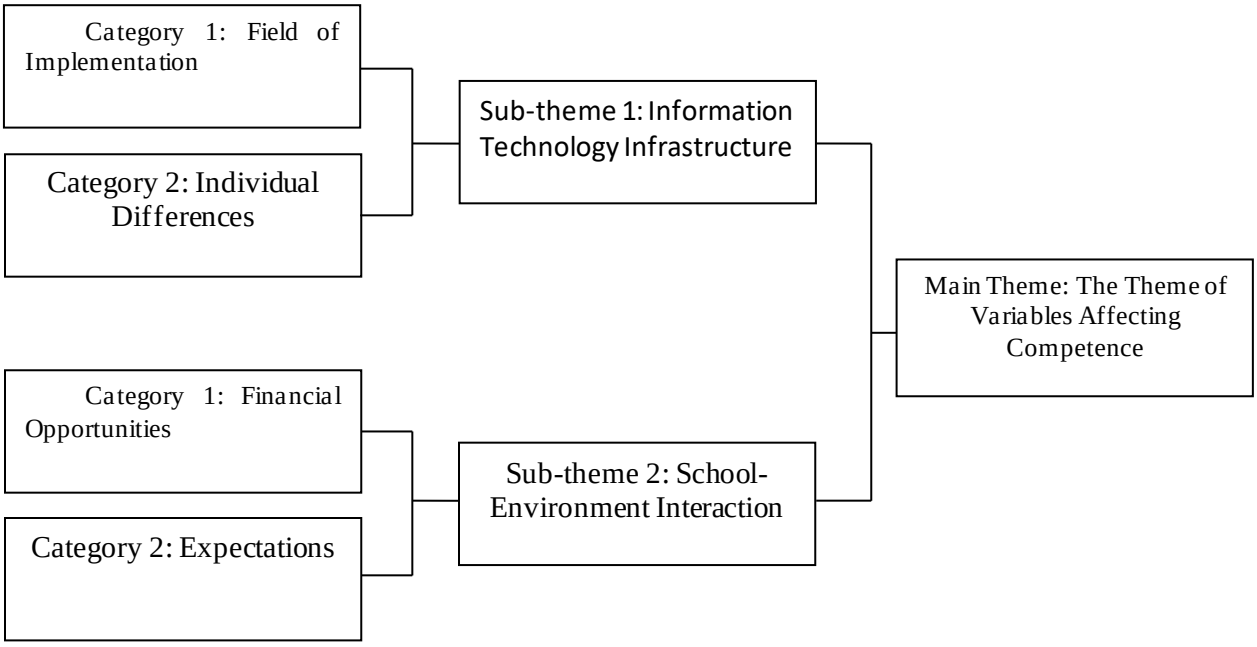

Figure 2: Themesand Categories of Variables Affecting Competence

The information infrastructure sub-theme of the variables consists of teacher opinions on the impact of the information technology infrastructure of the schools on the technological leadership competencies of school principals. The information infrastructure theme comprises of 2 categories: "The Field of Implementation" and "Individual Differences.". The field of implementation is created by the opinions that the existence of an information technology infrastructure in the school leads school principals to use technology applications; thus, provides the opportunity to demonstrate their technological leadership competencies and enables them to develop these competencie. For instance, a participant who serves as a teacher expressed her views as follows:

P_9(T): Since there is a lot of deficiency here, as a matter of course, this is something that affects their leaderships on the basis because there is no field they can use it. Perhaps she has an interest in something like this.

P_{18}(T): It would be a lie to say that information technology infrastructures did not affect the technological leadership competencies of the principals.

P_6(T): In my opinion, the information infrstructure of the schools and the leadership abilities of the principals increase in direct proportion. I think that the more technological equipment the school has, the more leadership validity of school principals increases accordingly. Supposing that there are no technologies in the schools, there are not used under any circumstances.

Another category used to explain the information infrastructure sub-theme below is the category of individual differences. This category was referred to point out the views that the information technology infrastructure in schools on the technological leadership competencies of school principals has a positive effect in some circumstances, while it has no effect on others, depending on personal interest and curiosity. To illustrate, a participant who works as a teacher opined as follows:

P7(T): I think that the technology can be used more actively if the technology infrastructure of the school is strong. I honestly think that principals would use technology more actively then.

P11 (T): It effects positively. The technological infrastructure of the schoolis something that contributes in the affirmative to your technological leadership skills if you are a person inclined to learn, available to learning and if you feel delighted as you learn.

The school-environment interaction sub-theme of the variables affecting competence below consists of teacher views on the effects of the schools' financial environment on technological leadership competencies of school principals. This sub-theme comprises of two categories: "Financial Opportunities" and "Expectations". The category of financial opportunities emphasizes the opinions that the fact that high financial opportunities of the school's economic environment/level has an effect on increasing the technological leadership competencies of principals and that (especially with the distance education process)

it affects these competencies in designing and implementing the plans for the materials needed in the process. For instance, a participant who works as a teacher remarked on this as follows:

P18(T): When we think in terms of the environment of our school, we only provide a certain infrastructure and equipment for technological leadership competencies to our principal, administrators and teachers.

P6(T): The better the environmentof the school, the economic level of the school, the better the environmental conditions, the better the physical conditions of the school.

Another category of the school-environment interaction sub-theme is the category of expectations stated below. It consists of the views that the schools' economical environment level affects the demands of parents from the school principals, that school principals prompted themselves to research and development in order to meet these demands and that the environmental expectations are effective in determining the order of needs. For example, the views of a participant who works as a teacher are as follows:

P17(T): Namely, since people with sufficient power and good socio-economic levels have more expectations to catalyze the job, you have to keep yourself updated in order to meet them.

P15(T): As the economic level increases, the demands and expectations rise. This, thereby, positively affects the technological leadership competencies of principals.

P5(T): It affects a lot. Every principal means the best for their school, but as I mentioned, without the budget, technology is usually expensive, which limits us. So, if we think of it as parents, it is also impactful. First of all, we desire to study in distance education. All the parents participate.

Taking all these into consideration, it has been found that teacher views on the effect of the economic levels of the schools on the technological leadership competencies of school principals are as follows: The technological leadership competencies of the principals working in the schools with good infrastructure have developed; however, in some cases, even if the equipment is sufficient, no effect can be observed due to the lack of personal interest and curiosity. It has been found deduced that the economic level/environment where the school is located and the expectations of parents differ, that there will be improvement as the opportunities develop, and that the expectations force principals to improve their competencies in terms of technological leadership. 4 of the teachers who participated in the research stated that the existence of information technology infrastructure in the schools affects the technological leadership of the principals; 4 stated that personal interests of the school principals affect their technological leadership competence; 7 of them insisted that the economic level of the environment where the school is located affects the technological leadership competencies; 5 mentioned that the expectations from the principals affects their leadership abilities in technology. It has been confirmed that the teachers participating in the study mostly stated that the financial oppotunities of the school are crucial. When the research data were analyzed, it was found that the teachers working in Sultangazi district expressed opinions more in line with financial opportunities and the field of implementation while the teachers working in Üsküdar district opined more in line with the financial opportunities, individual differences and expectations.

The Problem Solving Theme consists of teacher opinions about the technological leadership competencies of school principals in overcoming the difficulties arising in the distance education process. This theme comprises of two categories as infrastructural-technical problems and şmplementation process problems.

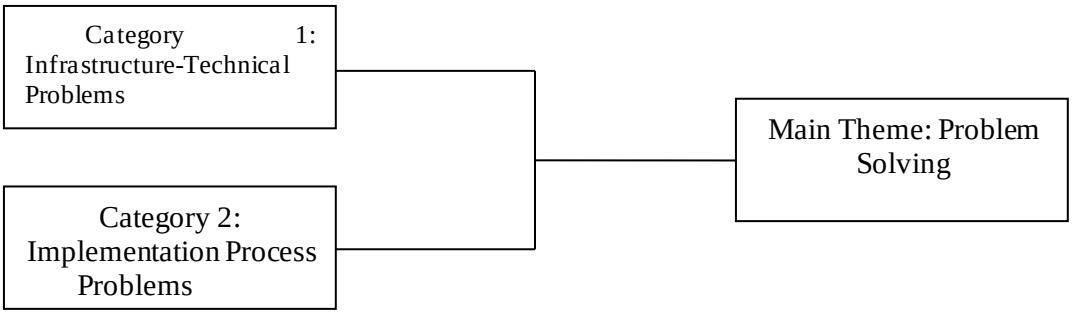

Figure 3: Problem Solving Theme and Categories

Infrastructural-technical problems category is formed of the participant opinions about the technological leadership competencies of school principals against financial difficulties due to the parent profile; physical, infrastructural and technical problems encountered in the distance education process. For instance, a participant who is a teacher expressed his experinces as follows:

> *P1(T): I do not know… There is no tablet, no computer; they cannot connect to the internet. This is more about the environment of the school, that is, about the parent profile, because as we consider the environment, there we a lot of truly needy parents.*

> *P3(T): Especially in the early periods, when the EBA infrastructure was insufficient, courses were appointed and deleted.*

> *P6(T): That is, I'm speaking for all the problems you face. There are students who do not have the Internet connection. The students who do not have the Internet, a tablet or a phone state that they cannot connect.*

Implementation Process Category is another category of the Problem-Solving Theme. In this category, they suggested that school principals should introduce online education applications to teachers, mentor them to solve the problems experinced in practice, provide guidance on cyber security and the proper use of technology, and carry out the process with teamwork. For instance, a participant who serves as a teacher presented her views as follow:

> *P12(T): For example, teachers were given feedback about problems rather than in the form of an inspection, by participating in online trainings in person, even if not each session but by participating in the sessions of these teachers.*

> *P16(T): Some problems in cyber security were encountered in the process. It was quite difficult for us to determine whether the person taking the course was a student or not, since they did not have a camera. That's why we had a lot of problems of sabotaging the sessions.*

Considering in general, it was found that the teachers expressed themselves on the technological leadership competencies of school principals in solving the problems of the distance education process, the infrastructural-technical obstacles and the leadership competencies they exhibited against the difficulties encountered in the online education applications course process. 9 of the teachers participating in the research stated that the technological leadership competencies of school principals come to the fore in solving financial, infrastructural and technical problems, and 11 in solving problems rising during the implementations, in solving cyber security obstacles and in directing them to proper use of technology. It was found out that the majority of the teachers participating in the study implied that school principals attempted to use their technological leadership competencies in solving the problems they encountered while conducting distance education practices and in guiding the solutions cyber security problems during the practices. As the research data were analyzed, it was pointed out that the teachers working in Sultangazi district specified their views mostly in the context of the implementation process problems category whereas the teachers working in Üsküdar district mostly specified within the scope of the implementation process, regarding the technological leadership competencies of the school principals in solving the problems encountered in the distance education process.

DISCUSSION

According to the findings obtained in the study, it is expected from school principals, as technological leaders, to provide the necessary technological support in the light of different variables, to lead in the creation of the needed infrastructures in the educational institution and to carry out various studies thereaway in order to increase the quality of education. Considering that teachers will provide education services at a more effective and efficient level in well-equipped classrooms, it proves itself how significant is it to create technological opportunitiesin pursuit of increasing the the education quality. In accordance with the findings obtained in Chang's (20212) research, in which the effects of school principals with technological leadership qualifications on teachers' technological literacy and classroom activities are intended to be determined, school principals with technological leadership qualifications inform teachers, students and other education stakeholders about the significance and use of educational technologies. In addition, it has been stated that the educational activities prepared by the teachers who are competent in the use of tecnology are of higher quality and that the vision and mission of school principals designated for the school organization prioritize planning and strategies for educational technologies. These results and the findings obtained in the study show paralellism.

Teachers suggested that principals encourage them to use technology in educational institutions, that they are aware of the significance of technology and development in this respect, and that they are less than desirous to use alternative technologies other than those required by the Ministry of National Education. However, it is also among the findings that this situation is related to the age of the principal and that their attitudes differ due to their age.

These findings coincides with the findings which are obtained in the research conducted by Ergişi (2005), that there is a significant difference between the proficiency levels in the use educational technologies of the school principals who are older in their professions and the new ones, that these differences are observed in the favor of the new principals, that these principals engage in motivating discourses and actions to teachers towards technology use since they are aware of the vitality and inevitability of educational technologies due to the transformation generated by the modern age.

CONCLUSION

The teachers participating in the research were addressed some questions that would reveal the effect of the economic levels of the schools on the technological leadership competencies of the principals. The Theme of Variables Affecting Proficiency consists of teachers' perceptions of the effect of the schools' economic levels on the technological leadership competencies of school principals. This theme comprises of "Information Infrastructure" and "School-Environment Interaction" sub-themes. Information infrastructure sub-theme comprises of teacher perspectives on the impact of schools' information technologies on the technological leadership competencies of the school principals. The information infrastructure theme is formed of two categories as "the field of implementation" and "individual differences". The field of implementation category is composed of the views that the existence of the information technology infrastructure in the schools leads the principals to use technology applications, thus creates opportunities to demonstrate their technological leadershiip skills and provides the means to develop these skills. Another category used to express the information infrastructure sub-theme is the category of individual differences. This was used to insist that the effect of information technology infrastructure in schools on the technological leadership competencies of the school principals has a positive effect in some situations, while it has no effect on others, depending on personal interest and curiosity.

Another participant, who is a teacher, pointed out that their expectations from school principals increase as the economic environmental conditions improve. Another participant, who stated that the order of priority in the planning for physical equipment changed in this process, emphasized the effect of the schools' economic levels on the technological leadership competencies of the school principals in planning by analizing the needs properly.When considered in general, teacher views on the effects of the economic levels of the schools on the technological leadership competencies of the principals are as follows: The competencies of the principals serving in the schools with an adequate infrastructure have developed; however, in some cases, even if the equipment is sufficient, no effect can be observed due to the lack of personal interest and curiosity. In addition, it has been found that the economic level environment of the school and parent expectations differ, that there will be improvement as the opportunities increase and that the expectations force the principals to develop their competencies in terms of technological leadership.

4 of the teachers participating in the research stated that the existence of information technology infrastructure in the schools affects the technological leadership competencies of the school principals; 4 of them stated that the personal interests of the school principals affect the technological leadership competence; 7 teachers stated that the level of the economic environment in which the school is located affects the competence, and 5 of them stated that the expectations from the school principals affects the technological leadership competence. It was concluded that the teacher who participated in the research mostly emphasized that financial opportunities of the school environment has a huge impact on the technological leadership competencies of the school principals.

In the research conducted, questions were addressed to the teachers to reveal their opinions about the technological leadership competencies of the school principals in solving the problems encountered in the distance education process. The Problem Solving Theme consists of teacher views on the technological leadership competencies in overcoming the difficulties experienced in the distance education process. This theme is divided into two categories: "Infrastructural-Technical Problems" and "Implementation Process

Problems". Infrastructural-technical pronlems category comprises of the perspectives of the participant on the technological leadeership competencies of the school principals under financial difficulties arising from parent profile, from the physical, infrastructural and technical problems encountered in the distance education process. Implementation process problems category is another category of the Problem-Solving Theme. In this category, they opined that school principals should introduce online applications to teachers, mentor them to solve the problems faced in the practice, provide guidance on cyber security and the proper use of technology, and carry out the process with teamwork. All in all, it was found out that the teachers formed their views on the technological leadership competencies of school principals in solving the problems encountered in the distance education process, the infrastructural-technical problems and the leadership competencies they exhibited against the difficulties experienced in the online courses. It was observed that 9 of the teachers participating in the research claimed that the technological leadership competencies of the school principals come to the fore in solving financial, infrastructural and technical problems, and 11 in overcoming the difficulties experienced during the implementation, solving the cyber security issues and directing the proper use of technology. The findings indicate that the majority of the teachers participating in the research stated that they intended to use the technological leadership competencies of the school principals effectively in solving the problems arising while conducting distance education applications and guiding the solutions of the problems related to cyber security during the practices.

SUGGESTIONS

In this part of the study, recommendations were made to policy makers, practitioners and other researchers based on the findings and results of the research.

Research Recommendations

School principals, who are technological leaders, should create and support innovative learning atmosphere within their organizations; so, they can be able to effectively realize the process of change and development in this respect.

School principals should provide digital age leadership and management to all stakeholders in their school organizations, create and understanding and atmosphere regarding technological integration in education in their schools, and lead the changes and development towards technological innovations that may occur at any time.

Suggestions for Researchers

Considering the importance of technology leadership, the need for more research on the issue comes to the fore. In qualitative research to be conducted in this field, the opinions of all education stakeholders, especially school principals, can be consulted on the level of the use of technological opportunities in education systems, the problems that arise in this regard, and what needs to be done for the greater use of these oppotunities.

*Studies that have been made or being done for the intensive use of technology in the education system in Turkey can also be analyzed.

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DECLARATION OF CONFLICTING INTERESTS

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