| Research Article / Araştırma Makalesi|

Analysis of The Quantum Leadership Behavior of School Principals Through Metaphor

Metafor Yoluyla Okul Müdürlerinin Kuantum Liderlik Davranışlarının Analizi

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Abstract

Purpose: This research aims to reveal the perceptions of school principals working in different school types about their quantum leadership behavior through metaphors.

Design/Methodology/Approach: This study was prepared by analyzing the data obtained by using qualitative research patterns to determine the current situation. Qualitative research methods were used to collect, analyze and interpret the data obtained during the research process. The study group of the research consists of a total of 40 public schools and 42 volunteer teachers from preschools, primary schools, secondary schools, and high schools in Çankaya district of Ankara in the 2020-2021 academic year.

Findings: The teachers in the study group were asked to complete the sentence in writing as "The school principal is like ..., because ..." as a quantum leader, together with the information form that was prepared in advance and included "quantum leadership behaviors". Participants were also asked to write down their gender, type of school they work at, branch, and professional seniority.

Highlights: As a result of the research, it was seen that school principals, unlike in other fields, created more *"interaction areas in the leader-tracker dilemma "* and produced the most metaphors in this direction.

Öz

Çalışmanın amacı: Bu araştırma ile farklı okul türlerinde görev yapan okul müdürlerinin kuantum liderlik davranışı sergileme durumlarına ilişkin öğretmen algılarının, metaforlar aracılığı ile ortaya çıkarılması amaçlanmıştır.

Materyal ve Yöntem: Bu çalışma, mevcut durumun belirlenmesi amacıyla nitel araştırma desenleri kullanılarak elde edilen verilerin analiz edilmesiyle hazırlanmış bir araştırmadır. Araştırma sürecinde elde edilen verilerin toplanması, bunların analizi ve yorumlanmasında nitel araştırma yöntemleri kullanılmıştır. Araştırmanın çalışma grubu; 2020-2021 eğitim-öğretim yılında Ankara'nın Çankaya ilçesine bağlı okul öncesi, ilkokul, ortaokul ve liselerden toplam 40 devlet okulu ve burada görev yapan 42 gönüllü öğretmenden oluşmaktadır.

Bulgular: Önceden hazırlanan ve *"kuantum liderlik davranışlarının"* yer aldığı bilgi formuyla birlikte çalışma grubundaki öğretmenlerden bir kuantum lider olarak *" Okul Müdürü ... ya benzer. Çünkü …."* şeklinde verilen cümleyi yazılı olarak tamamlamaları istenmiştir. Katılımcılardan ayrıca, cinsiyetleri, görev yaptıkları okul türü, branş ve meslekteki kıdemlerini yazmaları istenmiştir.

Önemli Vurgular: Araştırma sonucunda okul müdürlerinin diğer alanlardan farklı olarak daha çok *"lider-izleyen ikileminde etkileşim alanı"* oluşturdukları, en fazla metaforu bu yönde ürettikleri görülmüştür.

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INTRODUCTION

It is generally accepted that schools can be efficient if school administrators have necessary qualities and communication skills. It is also stated that students at such schools have the desired education and can be successful. Schools have been the places where younger generations acquire all types of knowledge, skills and values. It is school administrators who manage all procedures at schools. Therefore, their significance in the functioning of schools cannot be neglected. Based on this fact many countries have set up several competency areas which are must for the school administrators. These areas are taken into consideration in the selection of school administrators. Educational administration, which is an unique part of public administration, is the process of conducting educational activities under the supervision and control of the state. The school administration, which is a sub-unit of educational administration, has been established to realize the education policies of the state and the general and specific objectives set by the authorized bodies within the framework of these policies. (Kaya, 1991, p. 43). It is possible to argue that the efficiency of school administrators is closely related to their performance both in school and out of school. The school administrators have the highest responsibility in ensuring the procedures in the legal ground in schools. Bursalıoğlu argues that administration in the content of schools include the following: (1982, p. 54) (a) development of the major policies towards the main objectives of education, (b) development of the policies related to practice, (c) technical and business aspects of these policies and (d) making use of administrative processes. Given that changes will affect schools in future (Yavuz, 2016, p. 4) school administrators cannot be excluded from this change and transformation process. They are also regarded as the leaders of schools, and when they focus on their tasks and have a clear understanding of their tasks they have an opportunity to improve their schools as a result of the changes (Schlechty, 2005, p. 4). School management is an important task that requires keeping up with the current conditions of the period and prioritizing professionalism. Although it has been defined as a secondary job in addition to teaching in the regulations of the Ministry of National Education (MEB) which caused its deterioration, it should be redefined to make it a primary job (Bursalıoğlu, 1991, p. 15) which is needed for the development of society. In addition to the legal tasks school administrators have there are also unwritten expectations from them. Bergman (1998) argues that the major task of school administrators is that of being an education leader. Therefore, it can be stated that they have very significant effects on the improvement of schools, their culture and on the student achivement in addition to other points. Although all school principals are given the same level of legal authority and responsibility, it is possible to encounter different processes, practices and results at schools. Responsibility becomes active at the moment of action and is independent of one's moral qualities. When analyzed in terms of values, the leaders character in the organization is directly related to their charisma and organizational morality or moral climate. If organizations are moral orders, they are so because of the moral values of their leaders (Hodgkinson, 2008, p. 220). Based on these statements it is possible to argue that "*the key to success is school principals.*" School principals are also the leaders of the stakeholders around them and also, of the schools. Both employees and students and all other people in the school's ecology have many expectations from the school principal in regard to the effectiveness, efficiency and success of the schools. It is the responsibility of the school principals to operate the education management process in the school in the most reasonable way. They are expected to exhibit many leadership types such as moral leader, instructional leader, ethical leader, transformational leader, educational leader and so on. New findings and evaluations and new analyzes are needed in the third millennium with the new paradigm that emerged as a result of the disruption and depression process. As a result of the acceptance of the necessity of being connected to a paradigm due to the nature of ordinary science (Kuhn, 2018, pp. 184-193), it seems inevitable to make evaluations using a Quantum contemporary perspective, where many paradoxical issues can be explained much more easily than the classical leadership understandings which are based on the Newtonian principles. There are significant changes in our perspectives on management and, accordingly, on educational administration In terms of school principals, new leadership approaches have emerged as a result of the needs that are different from the classical leadership types. One of such contemporary approaches is quantum leadership (Erçetin et. al. 2018, p. 110). Many problems can be explained more easily using a quantum point of view of which the basic principle is uncertainty and probability after Newton's process in which events and phenomena were handled with a precise and predictable understanding of the laws of nature and mechanically and mathematically (Taslaman, 2008, Erçetin, 2000 Serway, 1996, Crease and Goldhaber, 2016, pp. 16-22). The Newtonian structures of classical organization concepts are seen as an important obstacle in the development and transformation of organizations (Yavaş and Polat, 2013). Therefore, management scientists have developed concepts such as quantum system, quantum organization, quantum thinking and quantum leadership following the assumptions based on quantum physics. The concept of quantum leadership has been developed as a type of leadership behavior in order to cope with the chaos, complexity and crisis situations that arise in organizations with scientific methods and to cope with uncertain and unpredictable events and phenomena (Turan, 2017). There are relatively less studies on the quantum leadership. These studies are as follows: Çelik (2021), Kosa (2020), Tufan (2019), Üzüm and Uçkun (2019), Erçetin, Çevik and Çelik (2018), Şenses and Temoçin (2018), Turan (2017), Keskinkılıç Kara (2013) and Kayman (2008). It is planned to provide much more insight about the topic to the existing findings. Given that qualitative analysis was used in the study the findings are significant. Schools lay the foundations of the socialization and development of the society and can fulfill the missions they undertake if they are run with the scientific and effective management.

School principals have acquired contemporary management skills and internalized them and should manage schools with these skills. It is thought that the management styles that school principals exhibit while managing the schools affect the views and work of students, teachers and parents, who are important elements of the school. This effect can be determined by revealing how their management styles are perceived by the teachers working at the schools. Metaphors, which are applied to enrich perceptions in educational phenomenology and emerge as a creative result of theoretical thinking, can be used as a tool to determine how principals are perceived (Cerit, 2008, p. 5). In this study, teachers' perceptions of the quantum leadership behavior exhibited by the school principals are analyzed through metaphors. Quantum leadership was evaluated through the following four dimensions developed by Erçetin (2000) based on the basic assumptions regarding quantum physics.

1. Leadership is the **interaction between leaders and followers**.

2. Leadership **cannot be structured and predicted.**

3. Leadership phenomenon is **interrupted**.

4. The impact of leadership is **based on interaction**.

A school principal who exhibits quantum leadership is more likely to achieve the goals set and achieve a desired organizational ecology at the school. Therefore, these principals are more likely to be a wanted and desired administrator. They are expected to exhibit behaviors similar to those given below:

✓ They work with the others having a team spirit for the success of the school and convince all school stakeholders for this purpose.

✓ They see themselves as a member of the school community and share the leadership with their followers.

✓ They regard the leadership as an area of interaction and create common values.

✓ At school they focus on values such as unity, togetherness, integrity and cooperation.

✓ They provide opportunities for teachers to use initiative.

✓ They encourage solving problems by following untested ways.

✓ They create opportunities for the success of the schools from uncertainties.

✓ They avoid using definite statements and instead, refer to possibilities.

✓ They provide the opportunities for others to develop solutions for unexpected complex situations that may occur at school.

✓ They provide colleagues with an opportunity to evaluate their own performance.

✓ They have a flexible administrative approach.

✓ They make use of their legal authority at the minimum level to run the business..

✓ They improve the morale and motivation of teachers and students through their speech (Erçetin, Potas, Açıkalın and Turan 2017).

The dictionary of the Turkish Language Society defines metaphors as figurative expressions (TDK 2021). Metaphors can be defined as a way to define an unfamiliar entity using a much more familiar entity with similar qualities (Cambridge Dictionary, 2020). Metaphor is a semantic field that is constructed between terms or concepts and acquire a creative meaning with the emergence of many important features as a result of the analysis. Metaphors are both important and weird, and the importance of metaphors is weird and their weirdness is also important (Cornelissen, 2005, p. 751). Morgan (1998, p. 14) defines the metaphor as an entity which is used to comprehend any element of experience with another element of experience, as a rhetoric to embellish what we say and a way of seeing and thinking that permeates our understanding of the world. Metaphors are part of society and culture which one of the basic elements of language (Furunes and Mykletun, 2007, p. 986). Through metaphors people can understand the nature and environment and make sense of objects. Therefore, they make the people's perspectives and experiences meaningful (Yıldırım and Şimşek, 2006, p. 208). Metaphors that we use to explain an abstract and ambiguous object, phenomenon or event and their purposes are an inseparable part of our lives. Although metaphors are widely used in scientific research, literature, and everyday life, surprisingly little is known about their origin and psychological background (Gentner et. al. 2001, p. 199). We can read, understand and explain events, facts, concepts and perceptions of individuals from a wider perspective

with the help of metaphors. There are quantitative studies on revealing the level of quantum leadership behavior of school principals. In this study, the perceptions of teachers about the school principals' quantum leadership behavior were analyzed through metaphors using qualitative research methods.

Aim of the Study

In this study it is aimed to reveal teachers' perceptions about the school principals' quantum leadership behavior through metaphors.

METHOD

This study analyses the data obtained using a qualitative research design in order to determine the current situation about the study topic. Qualitative research methods were used in the collection, analysis and interpretation of the data. Using the phenomenological pattern the data were analyzed through the content analysis approach based on the approaches suggested by Wolcott concerning the analysis of qualitative data (Yıldırım and Şimşek, 2006, pp. 70-227).

Cerit, argues that people generally use metaphors when they attempt to explain a situation of which concepts and terminology are not familiar to them or are less known by them. Because metaphors can uncover unfamiliar events and facts through familiar ones (Yıldırım et. al. 2011, p. 99). It is expected to present a different perspective on this concept as a result of revealing teacher perceptions regarding the concept of quantum leadership by using metaphors, which has not been studied in detail.

Participants

The participants of the study are teachers working at public schools in Çankaya district of Ankara during the school year of 2020-2021 who participated in the study voluntarily. Ethical permissions were taken from Hacettepe University's Ethical Committee dated 28.12.2020 and nr. 1376855. A further ethical permission was taken from Ankara Provincial Directorate of National education dated 11.02.2021 and nr 20545768 in regard to the data collection. At the beginning of the selection of the participants a total of 40 schools was chosen. The teachers were selected among those who were working at these schools.

Data Collection

The participants were given an information form covering the "*behavior of quantom leaders".* They were asked to fill the blanks in the following statement: **As a quantom leader** *"school administratırs are like ... . Because ...."*. Participants were also asked to write down their gender, type of school they were working at, their teaching field and professional experience. Due to the Covid-19 pandemic experienced all over the world, the data were collected through the electronic data collection tools.

Data Analysis

As stated earlier the data were collected using the qualitative methods and examined in accordance with the following four-step content analysis(Yıldırım and Şimşek, 2006, p. 227). These steps are given as follows:

(1) Since there was no opportunity for face-to-face communication and data collection due to the pandemic, the information form and questionnaire form were sent to the teachers on Google Forms working at schools in Çankaya district and who wanted to participate in our study. A total of 86 form were returned. The statements were analysed, and metaphors detected were coded. The statements were excluded if they did not include any metaphor or did not provide a justification. Those which were repeated or did not refer to the qualities of school administrators were also excluded from the sample. At the end 42 data sets were taken into analysis, and 40 metaphors were found. Each of these metaphors were coded using the gender, schools, teaching field and Professional experience of the participants. In the coding process male participants were coded as (M) and female participants (F). Coding of the Professional experience was as follows: 1) for 1-5 years of professional experience, 2) for 6-10 years of professional experience, 3) for 11-15 years of professional experience, 4) for 16-20 and 5) for 21 years or more years of professional experience. Teaching levels of the participants were coded as follows: PS for pre-school, PriS for primary schools, ScS for secondary schools and HS for high schools.

(2) The analysis of the metaphors produced six themes. Following this reliability and validity analyses were carried out. Concerning the validity the data obtained were reported, and the results of the data analysis were given in detail. To obtain valid results from the data obtained and to ensure consistency, it is necessary to use reliable classification procedures. Independent and different individuals should be able to code the same texts in the same way (Weber, 1990). Concerning the reliability the percentage of agreement among the encoders/classifiers developed by Stemler (2001) was

calculated. For this purpose, the classification of metaphors about school principals as quantum leaders was repeated by two faculty members from Hacettepe University and Hacı Bayram Veli University. As a result of the analysis it is found that there is an intercoder reliability at the level of 95%.

(3) Metaphors found, the related themes and their correlations are given in Tables. The frequency of the metaphors is also presented. Direct quotations are also given in the discussion of the findings. In addition, the teaching field, school type and Professional experience of the participants are added to the quotations.

(4) The discussion about the metaphors and themes is given using the related previous findings.

FINDINGS

In this section, first, the information about metaphors produced by teachers about school principals and the information about related themes are given.

Table 1. Demographical characteristics of the participants

Gender	*Female*	30	71,4
	Male	12	28,6
Professional experience	1-5 years	1	2,4
	6-10 years	2	4,8
	11-15 years	8	19,0
	16-20 years	7	16,7
	21 years or more	24	57,1
Teaching level	Pre-school	6	14,3
	Primary school	10	23,8
	Secondary school	12	28,6
	High school	14	33,3
Teaching field	Physical training, chemistry	2	6,9
	Biology, Religious Culture and Ethics, Literature, Science, Visual Arts, Music, Counselor, Social Studies	1	3,4
	Foreign languages	4	13,4
	Mathematics	8	27,6
	Classroom teaching	3	10,3
	History, Turkish language	5	17,2
	Physics	6	20,7
	Pre-school		
Total	42 teachers	40	Metaphors

Metaphors about school administrators:

The metaphors produced by the participants about school administrators were categorized under the following themes. These metaphors are about those who were reported to exhibit the *quantom leadership.*
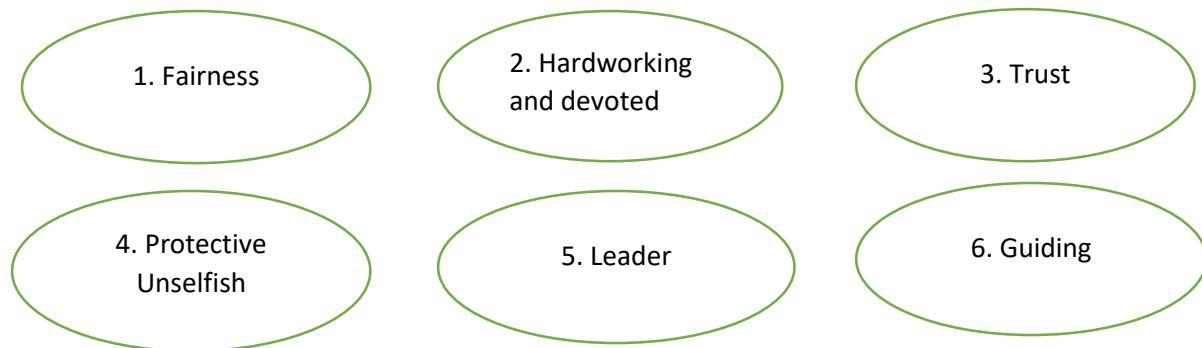

Figure 1. Themes

Table 1 presents the details of these metaphors produced by the participants about school administrators are given in Table 2.

Table 2. Metaphors produced about school principals as a quantum leader

Themes	Source of the metaphors	Metaphors	Frequency
1. Fairness		Libra (2), Judge, Mirror, Rainbow, Prophet	5
2. Hardworking-devoted		Ant, Marathon runner, Race Car	3
3. Trust		Unbreakable steel rope, Sycamore tree	2
4. Protector-unselfish	Teachers	Parents, Lion, herbalist, Mother, Pine tree	5
5. Leader		Conductor (2), Vessel, Eagle, Atmosphere, Referee, Locomotive, Migratory Bird, Queen Bee, Penguin, Dancer, Steel Chain, Coach, Politician, Heart, Brain, Captain, Engine Cerebellum, GSM Operator and Eye of RA.	20
6. Guiding		Compass, Lighthouse, Gardener, Book	5
Total	**42 teachers**	**40 Metaphors**	

A discussion of the metaphors and related themes are as follows:

1. **Theme:** *Fairness*

The fairness metaphors are found to include five concepts: Libra, Judge, Mirror, Rainbow, and Prophet. The concept of justice, which is expected to exist in the quantum leader behavior pattern, has been highlighted by the teachers here. We can say that the school principal are expected to prioritize values such as unity, solidarity, integrity and cooperation, to be at an equal distance to everyone and to showa fair behavior pattern towards all employees.

- ✓ A Turkish language teacher (M.5.ScS.) stated that the school administrators who have quantom leadership qualities like judges: "*They provide unity and solidarity among teachers with the justice.*"

- ✓ A mathematics teacher and a classroom teacher (F.4.ScS. and F.5.PriS., respectively) stated that the school administrators who have quantom leadership qualities like a libra. The former stated "*they attempt to create a balance.*" The latter stated "*They not only treats everyone equally and fairly, but also does the right things by being aware of the importance of her work, and establishes a good balance between her work and relations.*"

- ✓ A visual arts teacher (F.5.HS.) stated that the school administrators who have quantom leadership qualities like a "*rainbow*" and that "*They embrace everyone equally.*"

- ✓ A physical training teacher (M.2.ScS) stated that the school administrators who have quantom leadership qualities like a "mirror" arguing "*they reflect their energy, fariness and vision to their collegaues.*"

- ✓ A history teacher (M.5.HS.) employed the metaphor of "*prophet*" arguing that "*they are very fair and indulgent.*"

2. **Theme: *Hardworking-Devoted***

The theme of "*hardworking-devoted*" is found to include three metaphors: marathon runner, ant and race car. The concepts of industriousness and selflessness as an indicator of quantum leader behavior pattern are expected from school principals. These qualities were brought to the fore by the teachers. A school principal who works having a team spirit for the success of the school and convinces all school stakeholders to believe in this means that he has adopted the characteristics of quantum leadership.

- ✓ A mathematics teacher (F.4.ScS.) employed the metaphor of marathon runner arguing "*because it is necessary for them to run on this road without stopping in order to move their school forward. They also need to be followed by students, teachers and parents.*"

- ✓ A classroom teacher (F.3.HS.) employed the metaphor of "*ant*" fort he school administrators and argued "*Because like ants, they work non-stop by planning ahead, and just like ants make preparations for winter, they make all their preparations in advance for each academic year and work non-stop.*"

- ✓ A chemistry teacher (F.5.HS.) employed the metaphor of "*race cars*" arguing "*because they have a lot of work to get done. They spend a lot of time at work.*"

3. **Theme: *Trust***

The theme of trust is found to include two metaphors: "Unbreakable Wire Rope and Sycamore Tree". A school principal who has internalized the quantum leadership behavior has exemplary behaviors. Such behaviors include "*They regard themselves as part of the school community and share the leadership with their followers; they provide their colleagues with an opportunity to evaluate their own performance and they have a flexible administrative approach.*" These lead to mutual trust at schools.

- ✓ A pre-school teacher (F.5.PS.) employed the metaphor of "*Unbreakable Wire Rope*" and stated "*because all stake holders are attached to this rope..*"

- ✓ Another pre-school teacher (F.4.PS.) likened the school administrators to a "*Sycamore Tree*" and argued "*because they embrace all people at the schools (students, teachers, personnel, parents...); they warm them in the cold and keeps them cool in the heat.*"

4. **Theme: *Protector-Unselfish***

The theme of protector-unselfish is made up of five metaphors: parents, lion, herbalist, mother, and pine tree. If school administrators improve the morale and motivation of teachers and students and consider themselves as part of school community creating common values, it can be argued that they have the qualities of quantom leadership.

- ✓ A social studies teacher (F.5.ScS.) likened school administrators to *parents* and argued "*because they have a large family. They guide the students and embrace them. They are always with them. All students, teachers and other personnel at schools are their children.*"

- ✓ The literature teacher says(M.5.HS.), "because it protects the region it is in. It patrols its territory every day. It owns its school" using the metaphor of a "lion".

✓ A classroom teachers (F.5.PriS.) employed the metaphor of mother and stated the following: "*because, just like a mother, they are aware of everything and take precautions against problems. They make things right without hurting anyone. They can empathize and most importantly, they are impartial. They are practical. They are successful and knowledgeable in their field. They have a giving and constructive temperament. This is the desired principal model for me.*"

✓ A history teacher (M.3.HS.) used the metaphor of *herbalist* for the school administrators. He provided the following justification for his metaphor: "*because school principals almost do not let all scents or spices lose their essence and allow them to remain hidden in bottles.*"

✓ A classroom teacher (F.3.PriS.) employed the metaphor of "*pine tree*" for school administrators and provided the following explanation: "*because school principals can remain positive regardless of the season or conditions and support us in all circumstances to increase our motivation.*"

5. **Theme: *Leader***

The theme of leader includes the following twenty metaphors: Conductor, Vein, Eagle, Atmosphere, Referee, Locomotive, Migratory Bird, Queen Bee, Penguin, Dancer, Steel Chain, Coach, Politician, Heart, Brain, Captain, Engine, Cerebellum, GSM Operator and Eye of RA. If the school administrators exhibit the following actions, it can be said that they have the characteristics of quantum leadership: they consider leadership as an area of interaction; they share the phenomenon of leadership with the followers; they encourage solving problems by following untried ways; they create opportunities for the success of the school from uncertainties; they always consider the possibilities that may occur at school; they give an opportunity to others to produce solutions for unexpected complex situations and an opportunity to his colleagues to evaluate their own performance.

✓ A pre-school teacher (F.5.PS.) used the metaphor of *"vein"* fort he school administrators giving the following justification: "*because, like veins, school principals carry blood and oxygen in the blood to all organs. In this way, they direct the regular functioning of the organs.*"

✓ A science teacher (M.5.ScS.) likened the school administrators to "*eagles*" and argued "*they can predict all types of risks and advantages in advance.*"

✓ A music teacher (F.3.ScS.) and a physics teacher (F.5.HS.) both used the metaphor of "conductor" and gave the following justifications: "*If the conductor misses the metronome (rhythm), the orchestra will sound messy.*" and "*school principals manage different kinds of instruments in the most harmonious way, creating a magnificent work.*"

✓ A guidance teacher (M.3.HS.) used the metaphor of "*atmosphere*" arguing "*because they are inclusionary.*"

✓ A classroom teacher (M.5.HS.) employed the metaphor of *referee* adding "*Because school principals should consider not only the football players on the field, but also the technical committee, the reserve players, the light of the stadium, the suitability of the ground for football, the safety of the athletes and whether the wages they receive for such a stressful job are sufficient and make the right decision. Most of the time, their heads are not even aware of this situation.*"

✓ A classroom teacher (F.2.HS.) used the metaphor of "*locomotive*" arguing *"because it is the school administrator who is the leader of the school and the person who achive the stated goals."*

✓ A chemistry teacher (F.5.HS.) employed the metaphor of "*migratory birds*" stating "*because school principals change their leaders situationally and join forces. In this way, school principals are the best example of acting in nature in a targeted manner and synergy.*"

✓ A mathematics teacher (M.4.ScS.) used the metaphor of "*queen bee*" giving the following justification "*because school administrators are leaders in addition to their administrative tasks.*"

✓ A physics teacher (F.5.HS.) employed the metaphor of "*Penguen*" stating "*because school principals know that unity is strength. They have no ego and are not selfish. They are leaders and guides. They value their team's thoughts and ideas and know how to benefit from their team.*"

✓ A physics teacher (F.4.HS.) employed the metaphor of "*dancer*" and stated "*because school principals have to dance in different styles in accordance with different music rhytms that are constantly changing.*"

✓ A Turkish language teacher (F.5.ScS.) used the metaphor of "*steel chain*" arguing "*because they bind the teachers and protect them. They keep teacher, student and parent together.*"

- ✓ A physical training teacher (F.5.Scs.) likened the school administrators to "*coachs*" arguing "*because they think fast, focus on solutions and attach importance to team work.*"

- ✓ A history teacher (M.4.HS.) employed the metaphor of "*politician*" and gave the following justification: "*Because school principals are trying to protect our values in an environment where there is insecurity and social balances are disturbed. They must be good politicians to try to protect justice and national values in the educational environment by trying to stand up among the administrators, who, like most administrators, owe their position to someone or a group.*"

- ✓ A biology teacher (F.5.HS.) employed the metaphor of "*heart*" arguing "*because education is a system consisting of students, teachers and other personnel. The functioning of the system depends on the functioning of the heart. If there is no heart, the system is dead.*"

- ✓ A physics teacher (F.5.HS.) used the metaphor of *"brain"* and stated *"By evaluating and parsing incoming signals and messages, comparing them with the old information in the memory, establishing new connections between the information, it ensures that all necessary work and operations are carried out in place, on time, and also under control.*"

- ✓ A religious culture and ethics teacher (M.5.HS.) likened the school administrators to "*captains*" stating "*because school principals continue on their way by following the rules in a disciplined way and protecting their staff in order to reach their goal.*"

- ✓ A physics teacher (F.5.HS.) employed the metaphor of "*engine*" and argued "*because the engine is the most important part of a vehicle and machine, regardless of the area in the air, on the land or in the sea. School principals are the most important elements that enable the school to gain momentum in terms of education, equipment, merit, vision, idealism, keeping up to date, and administrative justice.*"

- ✓ A classroom teacher (E.5.HS.) employed the metaphor of "*cerebellum"* and gave the following justification: "*because principals are the balance center of the schools. They should provide coordination between students, parents and teachers, and their analytical and strategic thinking skills should be developed.*"

- ✓ A preschool teacher (K.5.ScS.) used the metaphor of "*GSM operator"* arguing "*because they provide communication and coordination.*"

- ✓ A preschool teacher (F.5.ScS.) employed the metaphor of "*the eye of RA*" stating "*because school administrators can see all pieces and the whole through observation*."

6. **Theme: G*uiding***

The theme of guiding is found to contain five metaphors: compass, lighthouse, gardener, books, and navigation. If school principals who manage schools give their teachers an opportunity to use initiative, employ untested ways to solve the problems encountered, offer alternatives to employees with a flexible understanding, and always draw attention to possibilities, it can be said that they have some qualities of the quantom leadership

- ✓ A mathematics teacher (F.3. ScS.) emplyed the metaphor of "*compass*" stating "*because the school principal is responsible for making sure that the school is in the right direction.*"

- ✓ A Turkish language teacher (F.1.ScS.) likened the school administrators to a "*lighthouse*" giving the following justification "*because they guide the people. They are forward-thinking, helpful and resilient.*"

- ✓ A foreign languages teacher (F.3.HS.) used the metaphor of "*gardener"* and argued "*because school principals keep students, teachers and parents with different characteristics together by providing suitable conditions so that they can work together efficiently.*"

- ✓ A pre-school teacher (F.3.ScS) likened school administrators to "*books"* giving the following justification "*because school principals enlighten, inform and guide teachers.*"

- ✓ A classroom teacher (F.3.PriS.) used the metaphor of "*navigation*" arguing "*because with the right guidance and a motivating approach, school principals make the school successful.*"

CONCLUSION AND DISCUSSION

Metaphors can be considered as a tool to have insights about perceptions of people about certain events. In this sense, metaphors are important in terms of revealing the perceptions in our mental infrastructure and reflecting them as a form of expression. Metaphors that reveal our perception about the environment, people and concepts also affect and reflect the way they are understood in our minds and support us to understand any event, phenomenon or concept. In this study, by giving preliminary information about the concept of quantum leadership, it was attempted to reveal the perceptions of school principals about exhibiting quantum leadership behavior. Therefore, the metaphors produced represent both the present and the future situation. In other words, it can be stated that it also points to school principals who are expected to exhibit quantum leadership behavior in the upcoming period. In this research, it is aimed to reveal teacher perceptions of school principals' quantum leadership behavior through metaphors. In the light of the data obtained 40 (forty) metaphors related to the behavior of the school principals which are expected to be followed within the quantum leadership behavior pattern were determined. These metaphors were gathered under six themes. The theme with the highest number of metaphors is "Leader". Under this title, there are 20 metaphors. There are five (5) metaphors each under the themes of "Justice", "Protector-Unselfish" and "Guiding". There are three (3) metaphors under the theme of "Hard-working-devotedd" and two (2) under the theme of "Trust".

The results of the analysis are given as follows:

1- Since the most produced metaphor is under the theme of leader, it is possible to claim that school principals, as a quantum leader, create an interaction area in the leader-follower interactions. In addition, the metaphors found under the theme of hardworking-devoted show that school principals create this area of interaction.

2- It can be said that school principals, who exhibit quantum leadership behavior qualities, give confidence to the employees as a guide and leader regarding their leadership behavior. They also follow a flexible path and try to manage the process by taking into account the events with an unstructured and unpredictable nature.

3- As can be clearly seen in the metaphor of migratory birds, leadership at schools is interrupted. In other words, leadership can change hands in the school environment and pass to other employees when and where necessary.

4- As a quantum leader, it can be argued based on the analysis of the metaphors under the themes of justice and protective-altruistic that school principals interact adequately with all stakeholders.

There are many studies on the metaphorical perceptions related to any event, phenomenon or situation. In the qualitative study conducted by Çobanoğlu and Gökalp (2015), it was aimed to reveal the metaphorical perceptions of student teachers about school principals. In the aforementioned study, it was concluded that the participants mostly used the metaphors of father, lion, mother, dictator and shepherd regarding school principals and that they mostly focused on the aspects of management, leadership, power, negativity and protection concerning the tasks of school principals. In the study similar metaphors were used which are also found in the current study. In the study carried out by Pesen et al. (2015), undergraduate students' perceptions of school principals were examined. The research findings indicated that there were 46 metaphors related to the concept of school principals. The most commonly used metaphors are found to be mother, lion, flower, dictator, wall, ghost, ant, parsley, angel, idol, sugar and cat. It is observed that the metaphors produced in this study, which show similarities with our findings, point to the positive and negative aspects of school principals. In the study conducted by Tüzel and Şahin (2014), the perceptions of primary school students about school administrators were revealed through the pictures they drew and the metaphors they used. In their study carried out by Özdemir and Orhan (2019), teachers' perceptions about the concepts of schools, school administrators and parents were investigated through metaphors. The participants produced 120 metaphors about schools, school administrators and parents, and the most frequently produced metaphors about school administrators are found to be father, brain, president, captain, commander, leader, moderator, orchestra conductor, boss, guide, driver, and director. In the study by Cerit (2008), it was aimed to analyze the perceptions of students, teachers and administrators regarding the concept of school principals through metaphors. According to the results of the study school principals were perceived as researchers, controllers, consultants, education specialists, directors, coaches, conductors and leaders by teachers and administrators. The findings of the study are consistent with the present findings. Akan et al. (2014) tried to determine teachers' perceptions about school administrators through metaphors. They found that the participants produced 24 metaphors about school principals. The major metaphors produced by them were "commander, soldier, computer, pen, manager, father, conductor". The metaphors produced in this study are similar to those found in the current study. In the research conducted by Özçetin (2018), the metaphors used by teachers and administrators regarding teacher leadership were investigated. Hacifazlioglu et al. (2011) aimed to determine the perceptions of school administrators regarding the concept of technology leadership through metaphors. The metaphors produced are listed as "chameleon, brain, sun, bee, sea, cow, commander and pole star". In the study carried out by Korkmaz and Çevik (2018), it was aimed to reveal the perceptions of secondary school teachers about the concept of school principals through metaphors. It is

found that the participants developed 96 different metaphors about school principals which were classified in 11 categories under different themes. These metaphorical perceptions of teachers about school principals were positive. These findings are consistent with the current findings. In the study conducted by Şahin and Sabancı (2018), it was aimed to evaluate the perceptions of the students receiving pedagogy certificate about school administrators and teachers. They found that the most frequent metaphors produced included father, tree, grandfather, Prime Minister, President, leader, commander, captain, conductor, boss, lion and shepherd. These findings are similar to those of the current study.

SUGGESTIONS

In this study, it was aimed to reveal the perceptions of the teachers about the quantum leadership behavior of the school principals by giving them information concerning this specific type of leadership. The following suggestions can be stated based on the findings of the study:

- ✓ Similar studies may be carried out in different provinces.

- ✓ Future studies may analyse other types of leadership at schools.

- ✓ The differences between the perceptions of the current school principal and the school principals who have adopted different leadership type behaviors can be investigated.

- ✓ Further qualitative and quantitative studies can be carried out to have more detailed insignts about the quantom leadership.

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