

## TEACHERS' METAPHORIC PERCEPTIONS OF COVID-19 AND SCHOOL IN THE PROCESS OF COVID-19

**Abstract:** The study aims to reveal teachers' perceptions of "Covid-19" and "School in the Covid-19 Process" through metaphors. The differences between the covid-19 perceptions of those who had Covid-19 disease in the participants' families and those who did not were examined. Phenomenology design, one of the qualitative research methods, was used in the study. Participants consist of a total of 100 teachers, 80 in Hatay and 20 in Gaziantep. The content analysis method was used. It was seen that teachers had 45 different metaphors in the perception of 'Covid-19' and were collected in eight categories. The most produced metaphors' codes related with covid-19 were "Flu", "Cancer", "Illness", "War", "Flu-pneumonia". Categories created according to metaphors were "Similar to other diseases", "Infectiousness", "Damaging", "Fatal", "Uncertainty", "Social order", "Immunity", "Isolating". Participants created 56 different metaphors in the perception of "School in the Covid-19 Process," and these metaphors could be gathered in seven categories. The most produced metaphors were "Dangerous zone", "Abandoned building", "Pandemic point / Virus slot", "House".

**Keywords:** Covid-19 perception, Isolation, Metaphor, Pandemic, School perception.

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## INTRODUCTION

Covid-19 infection is a disease caused by a new coronavirus called SARS-CoV-2. It was reported that this virus, which spread to almost every region of the world at high speed, was first seen in Wuhan, China (Question and Answers Hub, 2021). Due to this disease caused by the new type of coronavirus, which reached an epidemic dimension quickly, it was declared a “pandemic” by WHO on March 11, 2020 (Covid-19 Data, 2021; Duban and Şen, 2020).

Countries have started to take measures with the detection of coronavirus cases within their borders. Social isolation was the basis of these measures, and steps were taken to reduce the contact and distance between individuals (Bozkurt et al., 2020). In this context, many countries preferred to shut down the whole educational process to combat Covid-19 (Gençoğlu and Çiftçi, 2020; Jameson et al., 2020).

According to the data of UNESCO (Covid-19 Educational Disruption and Response, 2020), approximately 1.5 billion students in the world could not benefit from educational services in this process. In Turkey, the schools closed as of March 16, 2020, and the pandemic formal education is seen as one of the most aspects of life affected. About 25 million students have had their education interrupted due to Covid-19. (Bakioğlu and Çevik, 2020). To compensate for this interruption for the right of education was quickly began to distance the education process in Turkey (Bozkurt, 2020). Ministry of Education reinforced Education Network Computing’s (EBA) infrastructure and cooperated with Turkey Radio and Television Association to broadcast educational programs (Ozer, 2020).

Teachers who create a virtual classroom on EBA (Education Network Computing) and teach their students lessons with the video-speaking system try to ensure the continuity of education during the pandemic process. Teachers who work with younger age groups as a branch are more likely to encounter obstacles due to their students being in a substantial period and not having the discipline to study individually (Kantos, 2020). Besides, the low-level interaction between students and teachers in distance education and the limited level of peer sharing causes a lack of motivation for both teachers and students (Çetin et al., 2004; Uzoğlu, 2017). In the research conducted by Çakın and Akyavuz (2020) on the effects of Covid-19 on education, school administrators reported that they were intense over the EBA system and that students and teachers faced technical problems in accessing the internet. In the study of Arı and Arslan (2020), secondary school students’ metaphoric perceptions towards Covid-19 were examined; it was determined that Covid-19 disease created negative perceptions on students, and it was suggested that teachers should eliminate these perceptions. During the Covid-19 pandemic, there were technical problems in the field of education, and the teachers and students who handled the education and training process were negatively affected. Teachers continued their education and training during the pandemic process thanks to the distance education program despite all technical issues. When distance learning is considered an educational opportunity, together with the quality of distance learning, the process of distance learning has also changed the perception of school and education (Demirli, 2002; Winthrop, 2020). With the change of this perception, teachers may regard themselves as more responsible vocationally because they are used to face-to-face learning, preventing them from adopting distance learning (Serçemeli and Kurnaz, 2020).

On the other hand, Yalçın and Yıldırım (2014) have examined the perceptions of teachers towards school principals and have concluded that 69.8% of the teachers perceived as the school principals were the ones who had the only power in administration and were all decisions makers and wanted to be obeyed with their decisions. Therefore, it can be thought that teachers’ not being in the same environment with school principals during distance learning may change their perception of school. With all of these components, the whole education system must reveal the teachers' perceptions, who are one of the most essential school members during the

education process, about Covid-19 and the school during the pandemic process in which way and how the education process has been shaped. It is thought that all of these can ideally be revealed by metaphor work.

Metaphors can put forward simulations of how people make sense of organizational structure and how they perceive it and clues about their association with the organization (Arı and Arslan, 2020). According to Saban (2008), metaphors are a pedagogical tool that can reveal people's mental images or create a specific phenomenon. Metaphors represent a concept that forms an individual's labels, meanings, or conceptual expressions (Eraslan, 2011). Explanation of new and complex ideas for people through metaphors increases the ability to be understood for target areas. Therefore, the analysis of metaphors can be a proper scientific research method, especially in researching new and complex issues (Güneş and Fırat, 2016).

Metaphors are beneficial for both researchers and participants because metaphors are a method by which the participants can give creative and sincere answers and put forward the reality that researchers cannot predict. Consequently, it has been stated that participants express their thoughts and opinions more freely and clearly; researchers get the data on affective domains that are difficult to be determined (Koç, 2014). It is seen that the studies on education about the Covid-19 pandemic by using metaphors (Bozkurt, 2020; Arı and Arslan, 2020) are pretty limited. In this context, it is thought that teachers suggest some critical ideas in terms of giving a new path for the educational system after the pandemic as well as they contribute to putting forward the perceptions of Covid-19 and school during the Covid-19 pandemic when the whole education system is interrupted and understanding of education change.

This research aims to reveal teachers' perceptions of Covid-19 disease through metaphors and seeks some answers to the following questions

1. What are the metaphorical perceptions of teachers about Covid-19?
2. Which categories are teachers' metaphorical perceptions of Covid-19 disease grouped in terms of standard features?
3. What are the metaphorical perceptions of teachers towards school during the period of Covid-19?
4. Which categories are teachers' metaphorical perceptions toward school grouped in the period of Covid-19 in terms of their common characteristics?
5. Are there any differences between those who have undergone Covid-19 and those who have not among the metaphors created for Covid-19?
6. Are there any differences between those who have undergone Covid-19 and those who have not among the metaphors created for schools in the period of Covid-19?

## METHOD

This research was designed as a phenomenology pattern, one of the qualitative research types, as it allows teachers to express their opinions about the effects of the Covid-19 process on education. This pattern forms a basis for searching for the phenomenon we are aware of but cannot completely understand (Fetah et al., 2014). With the usage of this pattern, it aims to produce information and uncover the truths behind a phenomenon (Arı and Arslan, 2020). The phenomenology research aims to reach the core of experience by questioning the experiences related to the phenomenon. Therefore, experience plays a critical role in this research (Ersoy, 2019).

### STUDY GROUP (PARTICIPANTS)

Phenomenology is a method that evaluates and takes advantage of human experiences to gain information about a phenomenon. (Onat Kocabıyık, 2015). The study group for this study was chosen with a purposeful sampling method. It consists of 80 people from Hatay and 20 people

from Gaziantep for the 2020-2021 education fall term and involves teachers from pre-school (21), primary school (46), other branches (33), 73 female and 27 male, in total 100.

The participants of the phenomenology research sampling should be generally chosen among the ones with a particularly characteristic feature and the ones who experienced the phenomenon or related with the ones who experienced it before. The outcomes of participants' experiences and determining the theme would be more accessible. Therefore, when the collected data is examined, it has been thought that 100 teachers would be enough for the study (Baltacı, 2018).

The 100 teachers who participated in the study group are detailed in Table 1 below (age, gender, educational background, branch, professional seniority, and the province of duty).

Table 1. Demographic Characteristics of the Participants Evaluated

Variable	Features	f	%
Age	20-30	25	25
	31-40	49	49
	41-50	23	23
	51-60	3	3
Gender	Female	73	73
	Male	27	27
Educational Background	Associate Degree	2	2
	Bachelor's Degree	88	88
	Post Graduate	9	9
	Doctorate Degree	1	1
Branch	Pre-school Teacher	21	21
	Primary Teacher	46	46
	Other branch teacher	33	33
Professional Seniority	0-10	41	41
	11-20	44	44
	21-30	15	15
Province	Hatay	80	80
	Gaziantep	20	20
Total		100	100

The answers to the question: “Has anyone in your family ever suffered from Covid-19?” are given in Table 2 below.

Table 2. The status of the Covid-19 cases in the families of Participants Evaluated

		f	%
Has anyone in your family ever suffered from Covid-19?	YES	41	41
	NO	59	59
Total		100	100

DATA COLLECTION TOOL

In the research, an electronic form by taking expert opinions created on google was used to collect data which consists of two parts. In the first part, the teachers were asked to answer age, gender, educational status, branches, professional seniority, the city where they work, and whether there is any Covid-19 in their family.

In the second part, teachers were asked to complete these sentences with their free thoughts; “Covid-19 (Coronavirus) is like ..... because .....” and “During Covid-19, school is like ..... because .....”. The second part consisted of open-ended questions. Also, directive explanations for the participants were attached to the forms.

DATA COLLECTION PROCESS

The form that was created taken expert’s opinions was sent to 30 teachers via email, to 100 teachers via Whatsapp, and they were asked to fill out the form in 15 days. A hundred responses were received at the end of 15 days. For metaphorical studies, two concepts are given to the

participants, such as “like” to state the relation between the context and subject of the metaphor more clearly, and “because” to the reason for their metaphors. The study aims to determine the perception of the concept “school” during the pandemic and the metaphors that participants specified by including the concept “because” (Saban, 2009).

#### DATA ANALYSIS

This study asked teachers to create a metaphor related to the concept “school” during Corona Virus and Covid-19. The data acquired from hundred teachers inform different branches in this research were analyzed by the content analysis system. The content analysis gathers data involving standard information with certain concepts and groups and interprets it comprehensibly (Ekici, 2016).

Thus, it aims to specific themes that explain the data and acquire the concepts that can explain and organize them. The analysis and interpretation of the information obtained in this study are made according to the stages created by Ekici (2016).

In this study, the analysis and interpretation of the metaphors determined for the two research questions asked to the teachers were organized in the following stages. These stages are respectively; (1) the stage of examining the data obtained from Google forms, (2) enumerating the data in the forms from the participants from 1 to 100 according to the time stamp, (3) the stage of determining the metaphors from the answers that are suitable for evaluation, (4) the development stage of the categories, (5) determination of distribution to categories by analyzing metaphors, (6) the stage of providing validity and credibility, (7) calculating the frequencies of metaphors, (8) interpreting the data and (9) reporting the study stage.

#### RELIABILITY AND VALIDITY

One of the essential criteria of scientific research is that its results should be convincing. Therefore, validity and reliability are the two most commonly used criteria in studies. Analyzing obtained data to ensure validity and reliability, one of the essential processes in qualitative research, has been explained in stages. Examples of metaphors in teachers’ explanations under the specified categories are included in the results section (Ekici, 2016). Besides, from the beginning of the study, expert opinion has been sought at the stages of determining the subject of the study, designing the study, preparing the survey, determining the method and analyzing the data, categorizing the results, and discussing the results.

The data analysis process was explained in detail to ensure the validity and reliability of the study. “A total of 45 different metaphors under eight categories related to Covid-19 perceptions” and “A total of 56 different metaphors in seven different categories determined for school perceptions in the Covid-19 process” to check whether the metaphors represent the categories or not, the metaphors and sample sentences sent to each other by email are compared in the tables where the categories are marked with numbers in brackets, the tables filled with the category numbers next to the relevant metaphor are compared to ensure reliability. Frequency tables were created due to the expert opinion on the category under which metaphors should be included (Güveli et al., 2011). The number of consensus and disagreement was determined in the comparisons, and the reliability of the study was calculated by applying the Miles and Huberman’s (2002) formula separately for both metaphor justifications; [Reliability of the Study=Agreement/(Agreement+Disagreement)x100]. In qualitative studies, the desired level of reliability is achieved when the alignment between evaluations is 70% or above (Saban, 2009). Accordingly, the calculation made according to the Covid-19 perception: Reliability=94/(94+6)\*100=94%. In the calculation made according to the perception of school in the Covid-19 process; Reliability=96/(96+4)\*100=96% agreement has been achieved. Besides, in the results section, teachers’ views on both metaphors are encoded as T1-Woman, T2-Man.

## FINDINGS

In this section, metaphors developed by the teachers in the study group regarding the perceptions of “Covid-19” and the perceptions of “School in the Covid-19 Process”, the different conceptual categories created in line with these metaphors, and the quotations about why the participants developed the metaphors (sample sentences belonging to the participants) are included. As a result of the analysis of the data;

- It was determined that teachers developed 45 different metaphors for Covid-19 perceptions, and these metaphors were grouped under a total of 8 different categories by examining their similar and different characteristics.
- When metaphors for teachers’ perceptions of the “School in the Covid-19 Process” were examined, it was determined that they developed a total of 56 different metaphors. These metaphors are grouped under seven categories by taking similar and different characteristics into account and examining them.

These findings were listed in tables, firstly as Covid-19 metaphors and the categories formed by these metaphors, then the metaphors of the perception of “School in the Covid-19 Process” and the categories developed by these metaphors. Direct quotations from sample sentences related to the reasons for creating metaphors of the participants were included to allow the reader to add his/her interpretation under each category and increase the validity and reliability of the study. In the sample sentences, the teachers were encoded as T1, T2 gender.

### 1. FINDINGS REGARDING TEACHERS’ METAPHORIC PERCEPTIONS TOWARDS COVID-19:

As a result of the data analysis obtained in the study, it was determined that the teachers produced 45 different metaphors. The number of teachers who wrote any metaphor was calculated, and each metaphor’s frequency values were determined. The metaphors and the frequency values of the metaphors produced by the teachers for the Covid-19 epidemic are presented in Table 3.

Table 3. Teachers’ Metaphors about Covid-19

No	Metaphor	f	No	Metaphor	f
1	Flu	37	24	An Economic and Social Mirror	1
2	Cancer	4	25	Prison	1
3	Flu, Pneumonia	3	26	Apocalypse	1
4	Illness	3	27	Fear	1
5	War	3	28	Horror movie	1
6	Grim reaper	2	29	Scary	1
7	An Unknown Situation	2	30	Mushrooms	1
8	Bronchitis	2	31	Fruit Fly	1
9	Monster	2	32	Sloppy Life	1
10	Escape From Self	2	33	Flea	1
11	Small Grain of Sand	2	34	Sars and Mers	1
12	Germ	2	35	A sneaky enemy	1
13	Sars	2	36	Leech	1
14	Plague	2	37	Truck Crash	1
15	Adhesive	2	38	Edge of the Cliff	1
16	AIDS	1	39	Warning	1
17	Friend	1	40	Tuberculosis	1
18	Immune Filter	1	41	Loneliness	1
19	Infectious Disease	1	42	Pneumonia	1
20	Ignorance	1	43	Hellhound	1
21	Dead end	1	44	Poisoning	1
22	Thorny Plants	1	45	A poisonous flower	1



When Table 3 is examined, it is seen that the participants have produced a total of 45 different metaphors regarding the Covid-19 pandemic. Among these metaphors, the metaphors frequently used by the participants are “Flu”, “Cancer”, “Illness”, “War”, “Flu, Pneumonia”. When the metaphors produced by teachers are examined in general, it is seen that most of them create negative metaphors for the Covid-19 outbreak and that the metaphors produced are primarily associated with the disease and lethality characteristics of the pandemic.

*1.1 CATEGORIZING TEACHERS’ METAPHORS FOR COVID-19:*

Forty-five different metaphors produced by teachers were evaluated. After the evaluation, metaphors that represented similar features were brought together and analyzed and categorized. Each category is named to express its characteristics. In this context, it has been organized by grouping under eight categories in total. The metaphors of “Monster”, “Flu”, “Disease”, “Cancer”, “Sars”, “War” and “Plague” have been included in more than one category. During the analysis of the data in the research, it was taken into consideration that the categories may be different from each other but related to each other in a way. The metaphors stated by the participants emphasizing more than one conceptual category were determined as a criterion to detect mutual relationships. In the qualitative data analysis program, the conceptual categories found to be related and the direction of the relationship between them were specified, and quotations describing these relationships were included.

The participant metaphors grouped under the specified categories were explained in order. Conceptual categories related to the metaphors created by teachers for their perceptions of Covid-19 are presented in Table 4.

Table 4. Conceptual Categories Created Regarding Covid-19 (Coronavirus)

<b>Metaphor Category (f:8)</b>	<b>f</b>
Resembling Other Diseases	42
Infectiousness	15
Damaging	12
Fatal	12
Uncertainty	11
Social Order	4
Immunity	2
Isolating	2
Total	100

When Table 4 is examined, it is understood that the participants' metaphors regarding Covid-19 perceptions are grouped under eight different conceptual categories. These categories are respectively “Resembling Other Diseases”, “Infectiousness”, “Damaging”, “Fatal”, “Uncertainty”, “Social Order”, “Immunity”, “Isolating”. It is understood that the category with the highest frequency of metaphors is the category of ‘Resembling Other Diseases’. The metaphors in each conceptual category that teachers created for the Covid-19 pandemic were explained in detail within their own categories. Sample sentences related to each metaphor that were created by teachers are also included.

*1.1.1 RESEMBLING OTHER DISEASES CATEGORY:*

Forty-two of the metaphors which the participants created were associated with the quality of Covid-19 perceptions showing *Similar Effects with Other Diseases*. The metaphors and frequency values created under this category from the highest to the lowest are “Flu”, “Cancer”, “Disease”, “Sars, Truck Stroke, Pneumonia from each of these metaphors.” Some of the metaphors which are related to this category and the reasons for their development were stated as follows by the teachers:

“Covid-19 is like severe flu because the signs and symptoms are similar to each other.” (T57, Male)

“Covid -19 is similar to sars because most of the symptoms are common.”(T91, Female)

“Covid -19 is like the flu because it causes headaches and bone pain.”(T33, Female)

“Covid -19 is similar to cancer because there is also no cure or solution for cancer yet.”(T48, Female)

“Covid-19 is similar to flu because you experience the same symptom when you have severe flu.” (T50, Female)

#### 1.1.2 INFECTIOUSNESS CATEGORY:

Fifteen of the metaphors created by the participants were associated with the easy spreading and infectious qualities of the Covid-19 outbreak. That is why these metaphors have been collected under the *infectiousness* category. The metaphors and frequency values created under this category from the highest to the lowest are: “Germ”, “Adhesive”, “Flu”, “Aids, Friend, Infectiousness Illness, Ignorance, Fruit Fly, Sloppy Life, Flea, Leech, Black Death from each of the metaphors”. Some of the metaphors which are related to this category and the reasons for their development are stated as follows by the teachers:

“Covid-19 is like a germ because it spread quickly.” (T44, Female)

“Covid-19 is like ignorance because it is infectious.” (T58, Male)

“Covid-19 is similar to leech because it sticks to human.” (T100, Male)

#### 1.1.3. CATEGORY OF DAMAGING:

Twelve of the metaphors that the participants created were associated with the qualities of the covid-19 outbreak, such as sickening and poisoning. Therefore, these metaphors have been grouped under the category of *Damaging*. The metaphors and frequency values which were created under this category are from the highest to the lowest and one from each of the metaphors of “influenza, pneumonia”, “bronchitis”, “Monster, spiny plant, Apocalypse, fungus, Sars and Mers, insidious enemy, a poisonous flower”. Some of the metaphors which are related to this category and the reasons for its development are stated by teachers as follows:

“Covid-19 is similar to pneumonia because it damages all organs, especially the lungs.” (T83, Female)

“Covid -19 is similar to bronchitis because it reaches the liver.” (T67, Female)

“Covid -19 is similar to mushrooms because it multiplies all of a sudden.” (T8, Woman)

#### 1.1.4 CATEGORY OF FATAL:

Twelve of the metaphors which the participants created were associated with the lethal nature of the Covid 19. Therefore, these metaphors have been grouped under the category of *Fatal*. The metaphors and frequency values created under this category are from the highest to the lowest and one from each of the metaphors of “Azrail”, “Monster, disease, cancer, fear, Sars, war, plague, tuberculosis, Demon, poisoning”. Some of the metaphors which are related to this category and the reasons for its development are stated by teachers as follows:

“Covid -19 is similar to the Azrail because it claims many lives.” (T38, Male)

“Covid -19 is like a monster because it is a monster that has taken our health from us.” (T13, Female)

#### 1.1.5 CATEGORY OF UNCERTAINTY:

Eleven of the metaphors the participants created were associated with the unknown causes of the Covid-19 outbreak, its treatment that cannot be found, and its characteristics, such as the tension aroused among people. Therefore, these metaphors have been grouped under the



category of *uncertainty*. The metaphors and frequency values which were created under this category are from the highest to the lowest; “An unknown situation”, “self-escape”, “little grain of sand”, “dead end, bottomless well, horror film, Scary, cliff-edge” metaphors. Some of the metaphors related to this category and the reasons for its development are stated by teachers as follows:

*“Covid-19 is similar to an unknown situation. Because it is not yet known or it has not been explained what the disease is.” (T35, Male)*

*“Covid-19 is similar to self-escape. Because it is unclear who has the disease and how it can be transmitted to whom.” (T5, Female)*

#### 1.1.6 CATEGORY OF SOCIAL ORDER:

Four of the metaphors which the participants created were associated with the Covid-19 pandemics in terms of their impact on society and society itself. Therefore, these metaphors have been grouped under the category of *social order*. Metaphors and frequency which were values created under this category are from the highest to the lowest; “War”, “An Economic and Social Mirror”, “Warning”. Some of the metaphors which were related to this category and the reasons for its development are stated by teachers as follows:

*“Covid-19 is similar to “war”. Because, during the war, weak people die, and the strong ones survive.” (T26, Male)*

#### 1.1.7 CATEGORY OF IMMUNITY:

Two of the metaphors which the participants created were associated with the relationship of the Covid-19 outbreak with the immune system. Therefore, these metaphors have been grouped under the category of *immunity*. The metaphors and frequency values created under this category are “immune filter” and “Flu”. Some of the metaphors which were related to this category and the reasons for its development are stated by teachers as follows:

*“Covid-19 is similar to an immune filter. Because it filters out people with weak immunity.” (T65, Female)*

#### 1.1.8 THE CATEGORY OF ISOLATING:

Two of the metaphors created by the participants were associated with the Covid-19 outbreak with the nature of keeping people away from everything. For this reason, these metaphors are grouped under *The Category of Isolating*. The metaphors and frequency values used under this category are “Loneliness” and “Prison”. Some of the metaphors related to this category and the reasons for their development were stated as follows by the teachers:

*“Covid-19 is like loneliness. Because you are left alone.” (S56, Male)*

## 2. FINDINGS REGARDING TEACHERS’ METAPHOR PERCEPTIONS ABOUT ‘SCHOOL IN THE COVID-19 PROCESS’

In this section, the metaphors developed by the teachers in the study group regarding the perceptions of “*School in the Covid-19 (Coronavirus) Process*”, different conceptual categories created in line with these metaphors, and sample expressions of the participants about the metaphors are included. In the sample sentences, the teachers were coded as ‘T1, T2... Gender’.

As a result of the analysis of the data gathered in the study, it was determined that teachers produced 56 metaphors that are considered valid. The number of teachers who wrote any metaphor was calculated, and each metaphor’s frequency values were determined. The metaphors and the frequency values that teachers have produced for their perceptions of the “*School in the Covid-19 (Coronavirus) Process*” are presented in Table 5.

It is seen from Table 5 that teachers have produced a total of 56 different metaphors regarding their perceptions of “*School in the Covid-19 (Coronavirus) Process*”. Among these created metaphors, the metaphors that the participants usually use are; “Danger Zone”, “Abandoned Building”, “Epidemic Point / Virus Nest (f: 7)”, “House”, “Orphan Child” and “Empty box, Torment, Chaos, Hospital, Safe area, Torment, Fruitless tree, Unbroken stone from each of the metaphors”. When the metaphors produced by teachers are analyzed, most of the teachers’ perceptions of school during the Covid-19 contain negative metaphors. It is seen that most of the metaphors produced are associated with the abandonment, dangerous environment, and epidemic/virus nest feature of the epidemic.

Table 5. Metaphors of the Perception of “School in the Covid-19 (Coronavirus) Process”

No	Metaphor	f	No	Metaphor	f
1	Danger zone	19	29	Ghost	1
2	Abandoned building	9	30	The nomad who moved everywhere	1
3	Pandemic point/virus slot	7	31	A peaceful place	1
4	House	4	32	Workplace	1
5	Orphan child	3	33	Closed garage	1
6	Empty box	2	34	A dark world	1
7	Torment	2	35	Shipping company	1
8	Safe zone	2	36	Folk remedy	1
9	Hospital	2	37	Harbor	1
10	Chaos	2	38	Market	1
11	Fruitless tree	2	39	Minefield	1
12	An unbroken rock	2	40	Fruit	1
13	Island	1	41	Unhappy family	1
14	Another model	1	42	Breath	1
15	Hard on the one hand, beautiful on the other	1	43	Nor school	1
16	Empty pool	1	44	Online cage	1
17	Space	1	45	Bus	1
18	Grieved teacher	1	46	Diamond	1
19	Propagator silent boy	1	47	Guide service	1
20	Ignorant human mind	1	48	A vulnerable state	1
21	Non-working factory	1	49	A silent ship	1
22	Desperation	1	50	A silent place	1
23	Roof	1	51	Danger	1
24	Park without children	1	52	A weird place	1
25	Desert	1	53	Desired place to be reached	1
26	Inaccessible environment	1	54	Building meaningless	1
27	Sun	1	55	Pedestrian in rainy weather	1
28	Flower waiting for the sun	1	56	Compulsory online education	1

*House=2	*Hospital=2	*Orphan Child=2	*Pandemic Point/Virus Slot=2	*Danger Zone=2
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\* These metaphors were used in more than one category at the same time.

2.1 CONCEPTUAL CATEGORY ACCORDING TO SIMILARITIES AND DIFFERENCES OF METAPHORS PRODUCED FOR THE PERCEPTION OF ‘SCHOOL IN THE COVID-19 PROCESS’:

Fifty-six different metaphors produced by teachers are evaluated comprehensively. <sup>Table continues...</sup> After the evaluation, metaphors representing similar characteristics were brought together. The metaphors that include similar features were re-examined and categorized. Each category has been named to express its features. In this context, the metaphors that teachers have produced for “*School in the Covid-19 Process*” are grouped under a total of seven categories: “Abandoned”, “Dangerous”, “Contagious”, “Safe”, “Helpless”, “Education” and “Fear”. Metaphors created by teachers who are grouped under these categories are explained respectively.

The conceptual categories of the metaphors that teachers created for their perceptions of “School in the Covid-19 Process” are shown in Table 6.

Table 6. Conceptual Categories Regarding Perception of ‘School in Covid-19 Process’

Metaphor Category (f=7)	f
Abandonment	31
Dangerous	22
Contagious	17
Safe	13
Desperate	7
Education	6
Horror	4
Total	100

The metaphors that the teachers created for the “School in the Covid-19 Process” were categorized by grouping under the categories of “Abandoned”, “Dangerous”, “Contagious”, “Safe”, “Helplessness”, “Education” and “Fear”. It is understood from the Table 6 that the category with the highest frequency of metaphors is “Abandoned” and “Dangerous”. The metaphors in each conceptual category that teachers created for their perceptions of “School in the Covid-19 Process” are explained in detail within their own categories.

2.1.1 ABANDONMENT CATEGORY:

Thirty-one of the metaphors created by teachers, the perceptions of School in the Covid-19 Process, were associated with abandoned buildings, homeless and quiet environments. For this reason, these metaphors are grouped under the Abandoned category. The metaphors and frequency values produced under this category are as follows, from the highest to the lowest; “Abandoned building”, “Empty box”, “Tree without fruit”, “Orphan child”, “Silence-indicating environments”, “Island, Empty pool, Space, Ignorant human mind, Factory that does not work, Flower waiting for the sun, Ghost, Fruit, Unhappy family, Online cage, Not a school”. For a better understanding of the metaphors produced by the teachers, some of the teachers’ sentences are given as direct quotes:

*“In the Covid-19 Process, School is like abandoned ruins. Because any place that does not have a child’s chirp is ruin in my eyes.” (T60, Female)*

*“In the Covid-19 Process, the School is like an empty building because of a place where there are no teachers and students in education is idle.” (T34, Male)*

*“In the Covid-19 Process, School is like a child without a mother and father. Because there are no teachers and students. It lacks the essential elements that make the school a school.” (T81, Female)*

*“In the Covid-19 Process, the School is like a desert. Because it is empty and desolate.” (T43, Female)*

2.1.2 HAZARDOUS CATEGORY:

Twenty-two of the metaphors that teachers created were associated with the perceptions of “School in the Covid-19 Process” with dangerous environments and situations for people. Therefore, the produced metaphors were grouped under the *Dangerous* category. The metaphors and frequency values produced under this category are as follows, from the highest to the lowest; “Danger Zone”, “Epidemic point/Virus nest”, “Chaos”, “Contagious silent child, Hospital, a dark world, Bus, a vulnerable state, Reaching the desired place, from each of the pedestrian metaphors in rainy weather”. For a better understanding of the metaphors produced by teachers, some of the teacher sentences are as follows:

*“School in the Covid-19 Process is similar to a dangerous environment. Because I do not believe that the necessary precautions are provided enough.” (T3, Female)*

*“School in the Covid-19 Process is similar to the contamination area. Because it is a closed area and there is no recess.” (T18, Female)*

*“School in the Covid-19 Process is similar to a vulnerable state. Because it is not clear from whom and how the case will come.” (T28, Male)*

### 2.1.3 INFECTIOUS CATEGORY:

When the perceptions of the “School in the Covid-19 Process” were examined, it was seen that seventeen of the metaphors created by the teachers were associated with the ease of spread and the characteristics of the contagious environment. These metaphors are grouped under the Contagious category.

The metaphors and frequency values produced under this category are as follows, from the highest to the lowest; “Danger zone”, “Closed garage, Cargo company, Minefield, Mandatory online education, an Epidemic point from each of the metaphors. For a better understanding of the metaphors produced by the teachers, some of the teacher sentences are as follows:

*“School in Covid-19 Process is similar to the dangerous area. Because the risk of contamination is high.” (T37, Male)*

*“Because of the students are together, in the Covid-19 Process, the School is similar to the epidemic point.” (T55, Male)*

*“In the Covid-19 Process, the School is similar to the cargo company. Because it is one of the best distribution places of the virus from person to person.” (T71, Male)*

### 2.1.4 SAFE CATEGORY:

In thirteen of the metaphors created by the teachers, it was seen that the perceptions of “School in the Covid-19 Process” were associated with a safe environment and a place to be trusted. Therefore, the produced metaphors are grouped under the *Safe* category. The metaphors and frequency values produced under this category are as follows, from the highest to the lowest; “House”, “Safe area”, “Unbroken stone”, “Difficult and beautiful on the one hand, Roof, Strange place, Hospital, Peaceful place, Harbor, From each of the market metaphors”. For a better understanding of the metaphors produced by the teachers, some of the teacher sentences are as follows:

*“School in the Covid-19 Process is like home. Because it is safe.” (T30, Male)*

*“School in the Covid-19 Process looks like an extraordinary place. Because everyone is distant.” (T67, Female)*

### 2.1.5 DESPERATE CATEGORY:

Seven of the metaphors created by the teachers have been associated with the Desperate metaphor, as people feel desperate because of Covid 19. The metaphors and frequency values produced under this category are” Despair, Inaccessible environment, Sun, Workplace, Husband medicine, Orphan child, Humbled teacher”. For a better understanding of the metaphors produced by the teachers, some of the teacher sentences are as follows:

*“In the Covid-19 Process, the School is similar to its despair. Because it does not work whether you go or not” (T66, Female)*

### 2.1.6 EDUCATION CATEGORY:

Six of the metaphors created by the teachers were associated with the Education metaphor, as the perceptions of “School in the Covid-19 Process” evoke the educational and teaching environment of students and teachers. The metaphors and frequency values produced under this category are as follows, from the highest to the lowest; “House, another model, the nomad who moved everywhere, Guidance service, from each of the diamond metaphors”. For a better

understanding of the metaphors produced by the teachers, some of the teacher sentences are as follows:

*“School in the Covid-19 Process is like home. Because we teach at home.” (T88, Female)*

**2.1.7 HORROR CATEGORY:**

Four metaphors about the perceptions “School in the Covid-19 Process” were associated with the *Fear* metaphor because it evokes the concepts of the place to be feared and the tormented environment. Under this category, the metaphors and frequency values are as follows: “Torture, Danger, Breathing from each metaphor”. For a better understanding of the metaphors produced by the teachers, some of the teacher sentences are as follows:

*“School in Covid-19 Process is similar to the harsh environment. Because he has not touched the children, you cannot give your love fully, you cannot play games, there is always fear.” (T5, Female)*

**3. FINDINGS REGARDING PARTICIPANTS HAVING COVID-19 (CORONAVIRUS) IN THEIR FAMILY**

Forty-one out of 100 participants stated that they had a family member who had the Covid 19. The demographic characteristics of the participants who have Covid-19 in their families are shown in Table 7.

Table 7. Demographic Characteristics of Participants with Covid-19 in Their Family

Variable	Features	f	%
Gender	Female	29	70,73
	Male	12	29,27
Education Status	Associate degree	0	0
	Bachelor degree	38	92,68
	Master	3	7,32
	PhD	0	0
Branch	Preschool Teacher	6	14,63
	Classroom Teacher	17	41,46
	Other Branch Teacher	18	43,90
Province	Hatay	35	85,37
	Gaziantep	6	14,63
Total		41	100

**3.1 ‘COVID-19’ PERCEPTIONS OF PARTICIPANTS WITH COVID-19 (CORONAVIRUS) IN THEIR FAMILIES**

Considering the Covid 19 perception-related responses of those who had Covid-19 in their families, the participants stated that Covid-19 is more related to other diseases. The disease is a negative and uncertain condition. When this situation is compared with the participants who do not have Covid-19 in their family, it is seen that the state of being related to other diseases coincides with the answers given. There is no significant difference in this category. However, when we look at the general responses of those who have Covid-19 in their families, it is seen that the uncertainty, unfavorable condition of the disease is more dominant than those who have not had Covid-19 in their families. Also, those who did not have Covid-19 in their families expressed Covid-19 to be more contagious and deadly than those who had it. The categories created with the answers given for the Covid-19 perceptions of the participants who had Covid-19 in their families and those who did not have Covid-19 are shown in Table 7.1.



Table 7.1 Metaphors, Categories and Frequency Values of Covid-19 Perceptions Used by Those Who Have Covid-19 and Who Did Not Have Covid-19 in Their Family

'COVID-19' Perception Categories			Damaging	Associated with Other Diseases	Infectiousness	Deadly	Isolating	Ambiguity	Immunity	Social order	Total
Has anyone in your family had COVID-19?	YES	f	4	16	5	5	3	5	2	1	41
		%	9,76	39,02	12,20	12,20	7,32	12,20	4,88	2,44	100
Category Usage According to the	NO	f	4	24	9	9	4	6	0	3	59
		%	6,78	40,68	15,25	15,25	6,78	10,17	0,00	5,08	100

### 3.2 'SCHOOL IN COVID-19 PROCESS' PERCEPTIONS OF PARTICIPANTS WITH COVID-19 (CORONAVIRUS) IN THEIR FAMILIES

Considering the answers given by those who had Covid-19 in their family for the perception of "School in the Covid-19 Process", the participants stated that the school was abandoned, dangerous, and had a high risk of contagiousness during the Covid-19 process. Compared to the answers of those who did not have Covid-19 in their families, participants who had Covid-19 in their families find the school more abandoned and dangerous. Besides, participants who did not have Covid-19 in their families found the school unsafe, more contagious than those who had it. At the same time, finding it safe revealed a contradictory situation in the answers. The categories formed by the responses given by the participants who had Covid-19 in their families and those who did not have Covid-19 for the perception of "School in the Covid-19 Process" are shown in Table 7.2.

Table 7.2 Metaphors, Categories, and Frequency Values Related to School Perceptions in the Covid-19 Process by Those Who Have Covid-19 and Those Who Have Not.

'DURING COVID-19 PROCESS SCHOOL Perception Categories			Abandoned	Infectious	Helpless	Education	Safe	Fear	Dangerous	Total
Is Anybody In Your Family With COVID-19? Category Usage According to the Answers Given to the Question	YES	f	15	5	3	3	3	0	12	41
		%	36,59	12,20	7,32	7,32	7,32	0,00	29,27	100
	NO	f	15	12	4	3	10	4	11	59
		%	25,42	20,34	6,78	5,08	16,95	6,78	18,64	100

## DISCUSSION AND CONCLUSION

### 1- THE PERCEPTIONS OF TEACHERS ABOUT COVID-19

When teachers' most produced metaphors for COVID-19 are examined in general, most of the metaphors for the Covid-19 outbreak are negative. The teachers associate Covid 19 with the disease and lethality feature because they have negative thoughts about Covid-19.

The study shows that teachers mainly produced metaphors that can evaluate Covid-19 in the category of "Resembling Other Diseases". This is because when the symptoms of the Covid-19 virus announced by WHO (2020) are examined, it is seen that metaphors developed similar to their symptoms such as "fever, dry cough, sore throat" are compared to other diseases such as flu and cancer in terms of the course and symptoms of the disease.

The most frequently produced metaphors in the category of "*Infectiousness*" are germ, adhesive, and flu. With these metaphors, teachers emphasize that the Covid-19 virus spreads rapidly. Considering the specified number of cases, while 50 days were required for the first 100,000 cases, it took 13 days for the second 100,000 cases to be reported worldwide, and this period gradually decreased (Özatay and Sak, 2020). At this point, Karcioğlu (2020) emphasized that the disease spreads through human transmission, and infected individuals spread the disease rapidly to the environment.

In the category of "*Damaging*", the flu-pneumonia and bronchitis metaphors were primarily produced. The teachers focus on the damage caused by the Covid-19 virus to the human body to justify their metaphors in this category. Studies show that the Covid-19 virus harms the respiratory tract (Gülbahar and Gök-Metin, 2020; Sandalcı, 2020).

The most produced metaphor in the "*Fatal*" category is Azrail. Teachers focused on the lethal effect of Covid-19 in the metaphors they created in this category. According to the data published by WHO (WHO) (2020) on January 2, 2021, it was reported that a total of 1.8 million people died in the world due to Covid-19, and this number was stated to be higher than the number of deaths caused by 'sars' and 'mers' diseases (Karcioğlu, 2020).

The most frequently produced metaphors in the category of "*Uncertainty*" are an unfamiliar situation, self-escape, and little grain of sand. In the metaphors they created, the teachers focused on the unknown causes of the Covid-19 virus, its treatment that could not be found, and the tension it arouses in person. It can be said that this is due to the rapid changes in the minds of individuals, with the rapid delivery of different ideas about the disease and unjustified information by the media.

In the category of "*Social Order*", war, an economic and social mirror, warning metaphors were created. The teachers emphasized the impact of the Covid-19 virus on society with the metaphors and justifications they made (Güngörer, 2020). In his research, he stated that the epidemic that increased due to the human failure to fulfill its responsibility to nature and the effect of globalization was the Covid-19 epidemic.

When the reasons for the loneliness and prison metaphors created in the "*Isolating*" category are examined, the findings show that the Covid-19 virus keeps people away. To avoid infecting more people, the Ministry of Health and the World Health Organization emphasized the necessity of not going outside unless required. Again, the social isolation process has been initiated all over the world. The teachers also carried out the education process from their houses and were physically confined to homes. All this closure and contamination process overlaps with the metaphors and justifications of the teachers.

They associated Covid-19 with immunity in the justifications of the immune filter and flu metaphors created in the "*Immunity*" category. Jawhara (2020) found that individuals with weak immune systems have a high risk of developing complications related to SARS-CoV-2. (as cited in Acar Tek and Koçak, 2020). The teachers think that individuals with robust immune systems of the Covid-19 virus are less affected by the disease.

In the literature review, there was no study on the metaphorical perception of Covid-19 on teachers that we could compare the study; however, when the similar studies of Arı and Kevser (2020) named Metaphoric Perceptions of Secondary School Students towards Covid-19 were examined, it was seen that the most used metaphor category was "Contagiousness". The most significant difference between these two studies is that the teachers associate Covid-19 with more "other diseases", while the students emphasize the contagious feature of the virus. The possible reason for this is that, compared to children, teachers have more knowledge and experience about diseases, and they associate it with Covid-19.

In the literature review, again, when compared with the results of Saatçi and Aksu (2020)'s research to determine the coronavirus perceptions of undergraduate international students in our country through metaphor; the concept of coronavirus was expressed in negative categories,

similar to the one in this study, but the innovation category, which was created differently, was a positive category and this was expressed as an opportunity and a new beginning.

#### TEACHERS' PERCEPTIONS OF SCHOOL IN THE COVID-19 PROCESS

Looking at the metaphors produced regarding the school concept in the Covid-19 process: the findings show that the teachers' perceptions of school are negative. The most produced metaphor related to school perception is the "*Danger Zone*" metaphor, which has many reasons such as crowded schools and the spread of the virus in-crowd and indoors.

In the study, the teachers produced metaphors related to the school, mainly in the category of "*Abandonedness*" during the Covid-19 process because schools were shut down during the epidemic process, the absence of classes, and the transfer to distant education.

In the study, the most frequently produced metaphors under the category of the "*Dangerous*" are "Dangerous Zone", "Epidemic point / Virus nest". This can be the long time spent at school and the thought that the measurements taken are insufficient.

In the study, the most frequently produced metaphors under the category of the "*Infectious*" is the "Dangerous zone", which is the idea that the spread of the virus will be higher as a result of the increase in the contact of students and teachers as a result of the high number of schools and the time spent together.

The findings show that the most frequently produced metaphors under the category of "*Safe*" are "House", "Safe area," and "Unbroken stone". The metaphors produced here are positive, unlike the others, and the idea is that the school is safer than the street and many other environments.

Produced metaphors related to the idea of helplessness are dominant in all metaphors within the scope of the "*Desperate*" category.

In the study, the most used metaphor in "*Education*" is "House" because the lessons are taught from home through EBA and various other platforms.

The most used metaphor in the "*Horror*" category is "Torture". The possible reason for this is the inability to touch children due to the precautions taken while the schools are open and the inability to express their love when they are closed.

In the literature review, no similar study was found on the perception of school in the Covid-19 process. When the metaphorical perception studies about the school are examined, in Ozdemir and Akkaya's (2013) study, four of ten categories created by teachers and students about school were negative, and six were positive. When the findings are evaluated in general, students and teachers had a negative attitude towards school; Örucü (2014) and Saban (2008) found that they generally had a positive perception of the school concept.

#### HAVING A MEMBER WITH COVID-19 DISEASE IN THE FAMILY

In this part, teachers who answered "Yes" and teachers who answered "No" to the question of whether there is any Covid-19 in their family are compared and discussed.

When metaphors of these two groups were compared, it was seen that there is a meaningful difference only under the category of "ambiguous". They had similar results under the other categories.

As a result of the comparison of the metaphor categories they created regarding the perception of school in the Covid-19 process; those who answered "Yes" found the process more dangerous than others, and those who said "No" found the school safer, found the virus more contagious and found the process more frightening. Other categories had similar rates.

The findings show that the teachers have also been psychologically affected by this epidemic worldwide since 2019. The transfer to distant education, which many teachers did not experience before, the inadequacy in this field, the differentiation of communication with the students in the virtual environment, and the necessary equipment (internet, computer, tablet, etc.) causes many anxieties and stress situations due to the losses experienced both in their

families and in their families. However, from the metaphors produced, it can be concluded that the teachers have the correct information about the process due to the similar illness processes that they or the people around them had and their effects experienced according to the study groups compared.

#### SUGGESTIONS

Considering that teachers' perceptions may change in the following pandemic process, especially when making decisions about schools after vaccination, it is recommended to repeat this study using more comprehensive sample groups and in-depth interview techniques such as face-to-face or focus group work. After the pandemic, teachers' needs can be investigated to get rid of the effects of the process faster, and seminars and psychological support activities can be carried out accordingly.

#### REFERENCES

- Akan, Durdağı, Sinan Yalçın, and İsa Yıldırım. "Teachers' metaphoric impressions related to 'school manager'." *Elementary Education Online*, 13 (1) (2014): 169-179
- Akyavuz, Ebru Külekçi, and Murat Çakın. "School administrators' views on the effect of Covid-19 pandemic on education." *Electronic Turkish Studies*, 15 (4) (2020): 723-737.
- Arı, Aslı Görgülü, and Kevser Arslan. "Covid-19 perception in middle school student' mind." *Electronic Turkish Studies*, 15 (6) (2020): 503-524.
- Arı, Aslı Görgülü, and Meryem Hayır Kanat. "Prospective teacher' views on Covid-19 (Coronavirus)." *Van Yüzüncü Yıl University the Journal of Social Sciences Institute, Outbreak Diseases Special Issue*, (2020): 459-492.
- Babacan, Ezgi. "Ağsl Students perception of music concept: Metaphor analysis." *Journal of Research in Education and Teaching*, 3(1), (2014): 124-132.
- Bakioğlu, Büşra, and Mustafa Çevik. "Science teachers' views on distance education in the Covid-19 pandemic process." *Electronic Turkish Studies*, 15(4), (2020): 109-129. doi:10.7827/TurkishStudies.43502
- Baltacı, Ali. "A conceptual review of sampling methods and sample size problems in qualitative research." *Journal of Bitlis Eren University Institute of Social Sciences*, 7 (1) (2018): 231-274.
- Bozkurt, Aras. "Koronavirüs (Covid-19) pandemi süreci ve pandemi sonrası dünyada eğitime yönelik değerlendirmeler: Yeni normal ve yeni eğitim paradigması." *Açıköğretim Uygulamaları ve Araştırmaları Dergisi*, 6 (3) (2020): 112-142.
- Bozkurt, Aras. "Images and perceptions of primary school students towards distance education during Coronavirus (Covid-19) pandemic: A metaphor analysis." *Uşak Üniversitesi Eğitim Araştırmaları Dergisi*, 6 (2) (2020): 1-23.
- Bozkurt, Yasemin, Zekiye Zeybek, and Rüstem Aşkın. "Covid-19 pandemic: Psychological effect and therapeutic interventions." *Istanbul Commerce University Journal of Social Sciences*, 19(37), (2020): 304-318.
- "COVID-19 Data" World Health Office. Accessed January 2, 2021. <https://covid19.who.int/>.
- "COVID-19 Educational Disruption and Response." UNESCO. Accessed March 24, 2020. <https://en.unesco.org/news/covid-19-educational-disruption-and-response>.
- Çetin, Özdemir, Murat Çakiroğlu, Cüneyt Bayılmış, Hüseyin Ekiz. "Teknolojik gelişme için eğitimin önemi ve internet destekli öğretimin eğitimdeki yeri." *The Turkish Online Journal of Educational Technology*, 3 (3) (2004): 144-147.
- Demirli, Cihad. "Web tabanlı öğretim uygulamalarına ilişkin öğrenci görüşleri: Fırat üniversitesi örneği." *Açık ve Uzaktan Eğitim Sempozyumunda sunulan bildiri, Anadolu Üniversitesi, Eskişehir*, (2002).
- Duban, Nil, and Fatma Gül Şen. "Pre-service classroom teachers' opinions regarding the COVID-19 Pandemic Process." *Electronic Turkish Studies*, 15 (4) (2020): 357-376. doi: 10.7827/TurkishStudies.43653
- Ekici, Gülay, and Hasan Akdeniz. "Determination of perception regarding the "discipline in the classroom" of teacher candidates: A work of metaphor analysis." *Dicle University Journal of Ziya Gökalp Education Faculty*, 33 (2018): 26-37.
- Ekici, Gülay. "Student-teachers' metaphoric perceptions towards the concept of "computer". *Gaziantep University Journal of Social Sciences*, 15 (3) (2016): 755-781.
- Eraslan, Levent. "Sociological metaphors." *Journal of Academic Perspective*, 27 (2011): 1-22.
- Ersoy, Arife Figen. "Eğitimde Nicel Araştırma Desenleri." Saban, Ahmet. ve Ersoy, Arife, (Ed.). *Fenomenoloji İçinde Bölüm 3* (s.102).(3.Basım). Ankara: Anı Yayıncılık.
- Fetah, Eren, İsmail Çelik, and Ahmet Oğuz Aktürk. "Ortaokul öğrencilerinin Facebook algısı: Bir metafor analizi." *Kastamonu Education Journal*, 22 (2) (2014): 635-648.

- Gençoğlu, Cem, And Mehmet Çiftçi. "Education during Covid-19 pandemic: A analysis on Turkey. " *Journal of History School*, 46 (2020): 1648-1673.
- Gülbahar, Merve, and Zehra Gök Metin. "Koronavirüs-19'un kardiyovasküler sistem üzerine etkileri." *Türkiye Klinikleri Hemsirelik Bilimleri*, 12 (2) (2020): 305-314.
- Güneş, Aysun, and Mehmet Fırat. "Açık ve uzaktan öğrenmede metafor analizi araştırmaları." *Açıköğretim Uygulamaları ve Araştırmaları Dergisi*, 2 (3) (2016): 115-129.
- Güngörer, Fatma. "The effect of Covid-19 on social institutions." *Van Yüzüncü Yıl University The Journal of Social Sciences Institute*, Epidemic Diseases Special Issue: 393-328.
- Güveli, Ebru, A.Sabri İpek, Ercan Atasoy, Hasan Güveli. "Prospective primary teachers' metaphorical perceptions towards mathematics." *Turkish Journal of Computer and Mathematics Education*, 2(2), (2011): 140-159.
- Jameson, J. Matt, Stegenga S.M, Ryan J, and Green, A. "Free appropriate public education in the time of COVID-19." *Rural Special Education Quarterly*, 39 (4) (2020): 181-192.
- Kantos, Züleyha Ertan. "Sınıf öğretmenlerinin uzaktan eğitim ile ilgili düşünceleri." 8. Uluslararası Bilimsel Araştırmalar Kongresi- *Sosyal ve Eğitim Bilimleri*: 67.
- Karcıoğlu, Özgür. "COVID-19: Its epidemiology and course in the world." *Journal of ADEM* 1(1), (2020): 55-70.
- Koç, Emine Seda. "Sınıf öğretmenleri adaylarının öğretmen ve öğretmenlik mesleği kavramlarına ilişkin metaforik algıları." *İnönü University Journal of Education Faculty*, 15 (1) (2014): 47-72.
- Kocabıyık, Oya Onat. "Phenomenology and grounded theory: A comparison in terms of some features." *Trakya University Journal of Education Faculty*, 6 (1) (2016): 55-66.
- Örücü, Deniz. "Öğretmen adaylarının okul yönetimi ve Türk eğitim sistemine yönelik metaforik algıları." *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, 20 (3) (2014): 327-358.
- Özdemir, Servet, and Emek Akkaya. "The analysis of secondary school students' and teachers' mental images of school and ideal school by using metaphor." *Educational Administration: Theory and Practice*, 2 (2) (2013): 295-322.
- Özer, Mahmut. " Educational policy actions by the ministry of national education in the times of Covid-19 of Turkey." *Kastamonu Education Journal*, 28 (3) (2020): 1124-1129.
- "Question and Answers Hub." World Health Organization. World Health Organization. Accessed April 8, 2021. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub>.
- Saatçı, Gencay, and Aksu. Murat. "Lisans düzeyinde turizm eğitimi alan yabancı uyruklu öğrencilerin Koronavirüs algıları metafor yolu ile tespit etmeye yönelik bir araştırma." *Journal of Awareness*, 5(4) (2020): 617-630.
- Saban, Ahmet. "Okula ilişkin metaforlar." *Kuram ve Uygulamada Eğitim Yönetimi*, 55(55), (2008): 459-496.
- Saban, Ahmet. "Prospective teachers' mental images about the concept of student." *Turkish Journal of Educational Sciences*, 7 (2) (2009): 281-326.
- Sandalcı, Beste, Oğuz Abdullah Uyaroğlu, and Gülay Sain Güven. "The role, importance and recommendations of chronic diseases in COVID-19." *Flora*, 25 (5) (2020): 1-7
- Nilüfer, Acar, and Tefik Koçak. "The role of nutrition in supporting the immune system in combating Coronavirus disease (COVID-19)." *Gazi Journal of Health Sciences: Special Issue*, (2020): 18-45.
- Uzoğlu, Mustafa. "Perceptions of science teacher candidates on distance education". *Black Sea Journal of Social Sciences*, 9 (16) (2017): 335-351.
- Winthrop, Rebecca. "Top 10 Risks and Opportunities for Education in the Face of COVID-19." Brookings. Accessed April 10, 2020. <https://www.brookings.edu/blog/education-plus-development/2020/04/10/top-10-risks-and-opportunities-for-education-in-the-face-of-covid-19/>.