

Metaphorical Perceptions of Pre-Service Special Education Teachers Towards Distance Education During the Coronavirus (COVID-19) Pandemic

Gulden Bozkus-Genc

Abstract: Education is one of the most affected areas in the crisis environment created by the COVID-19 pandemic. Emergency remote education has been adopted to ensure the sustainability of education, which was interrupted by the closure of educational institutions. The transition has also impacted higher education students as well as primary and secondary education students. In this regard, the study aims to examine the perceptions of distance education of higher education students continuing their education in the field of special education during the COVID-19 pandemic through metaphor analysis within the scope of the qualitative phenomenology method. The study participants consisted of 185 associate, undergraduate, master's, and doctoral students. In the data collection process, the researchers prepared an online form and asked the participants to complete the statement, "Distance education is like ... because ...". According to the results obtained by content analysis, the participants produced 137 positive and 142 negative metaphors. Among the positive metaphors, the themes of "usability," "flexibility," "student participation," and "suitability" were obtained, while the themes of "teaching process," "interaction," "usability," "student status," and "assessment and evaluation" were obtained among the negative metaphors. While students thought that the resources offered in distance education for the acquisition of new knowledge were very diverse and comprehensive, they criticized the teaching process for being artificial and non-interactive.

Keywords: Distance education, emergency remote education, online learning, COVID-19 pandemic, metaphors.

Highlights

What is already known about this topic:

- The COVID-19 pandemic, which affected the whole world, required urgent measures in many areas such as social, cultural and economic life and education.
- In the new normal that emerged with the COVID-19 pandemic, emergency remote education was put into practice to ensure the continuity and sustainability of education.

What this paper contributes:

- The present study focused on the opinions of students studying in a special education program who had experienced emergency remote education in particular.
- Since it is stated that perception differs according to the department and class variables, this research is one of the pioneering studies examining the perceptions of pre-service special education teachers in Turkey.

Implications for theory, practice and/or policy:

- Metaphorical perceptions of pre-service special education teachers should be used to develop an instructional design related to distance education to be applied in emergencies.
- Course contents aiming to ensure that simultaneous lessons are taught in interaction in order to eliminate communication and interaction barriers should be developed with the objective.



Introduction

The flow of life has changed all over the world with the World Health Organization declaring COVID-19 a pandemic in March 2020 (WHO, 2020). This change required taking a series of urgent measures in many areas such as social, cultural, and economic life. COVID-19, which has impacted all areas of life, has had a profound effect on education. To prevent the spread of COVID-19, schools were closed, and universities were also included in this scope (Bozkurt et al., 2020; Bozkurt & Sharma, 2020; Doghonadze et al., 2020; Gupta & Goplani, 2020). Education has undergone a dramatic transformation considering that education is a basic need that must continue for everyone under all circumstances. In this regard, a transition has been made from face-to-face to online learning, and unlike planned distance education activities, emergency remote education has been employed (Bozkurt & Sharma, 2020; Bozkurt et al., 2020; Hodges et al., 2020). With the rapid transformation, students had to experience emergency remote education processes. This necessity has caused a change in the way students at K12 level, in general, and higher education students, in particular, perceive and interpret distance education. The developments experienced with the COVID-19 pandemic have caused many results in sociological, psychological, and educational fields (Bozkurt et al., 2022), which has required questioning the concept of normal in education (Xiao, 2021) and addressing the effects of the pandemic in a longitudinal way (Moore et al., 2021). In this regard, the general purpose of the current study is to examine the metaphorical perceptions of pre-service special education teachers of distance education.

Distance education is defined as all kinds of arrangements made to ensure systematic learning, in which students and teachers are independent in terms of time and space, within the framework of a planned curriculum using written and electronic communication tools (Moore & Kearsley, 2012). It supports face-to-face education due to the advantages it provides (e.g., equality of opportunity, low cost, reaching large masses, etc.) (Valentine, 2002). Studies investigating the effectiveness of distance and face-to-face education under normal conditions show no significant difference between the two educational approaches when educational technologies and distance education are structured correctly (Russell, 2001). Emergency remote education is used to describe teaching practices that have emerged as an emergency response to the crisis experienced during the COVID-19 pandemic (Adedoyin & Soykan, 2020). Although these concepts are used interchangeably, emergency remote education differs from distance education in that it emerges as a result of the necessity to keep education alive within the framework of available possibilities in times of crisis and tries to produce temporary solutions for the current need (Bozkurt, 2020b).

Emergency remote education has provided significant support to online learning due to the forced closure of schools caused by the COVID-19 outbreak, leading to the trial of new opportunities and approaches for the education system (Bozkurt, 2020b; Ferri et al., 2020). The transition from the traditional learning environment to the emergency remote education environment without a planned preparation has brought about many technical, educational, and affective problems (Abel, 2020). In the literature, it is reported that the knowledge and experiences related to distance education affect perspectives on distance education (Ateş & Altun, 2008). In this extraordinary process in which education continues remotely, it is thought to be important to determine the perceptions of pre-service special education teachers, who experienced distance education for the first time in the pandemic environment, towards emergency remote education without their experiences being lost. Hence, it is extremely important to examine the stated perceptions and attitudes and make the necessary arrangements to achieve the purpose of emergency remote education. This is also an important factor that will determine the quality of emergency remote education.

Literature

In today's world, which is called the digital age, changes and innovations in the world influence every aspect of life. The education system has also taken its share from this and has started to move away from traditional teaching approaches and evolve into student-oriented, technologically enriched,

individualized learning environments (Çiftçi et al., 2021). This evolution has resulted in the spread of distance education applications with a rapid transition from traditional to online environments.

For a better understanding of the experiences related to the pandemic, studies have been conducted to investigate the perceptions of distance education in Turkey through metaphors. When metaphor studies are reviewed in terms of participant characteristics, there are studies determining the perceptions towards distance education of parents (Kaya & Dilekçi, 2021), teachers (Cantürk & Cantürk, 2021; Korkmaz, 2021; Kuzu et al., 2021), school administrators (Zincirli, 2021), teaching staff (Gök, 2011), primary school students (Akpolat, 2021; Bozkurt, 2020; Özcan et al., 2021; Öztürk & Koca, 2020; Yolagiden & Şimşek, 2021), and high school students (Aydıncı & Zorluoğlu, 2021). In addition to these studies, there are also studies examining the metaphorical perceptions towards distance education of pre-service science teachers (Atik, 2020), pre-service primary education and science teachers (Kaleli-Yılmaz & Güven, 2015), pre-service computer and instructional technologies education teachers (Taş et al., 2016), pre-service physical education teachers (Bozdağ & Dinç, 2020), foreign students receiving tourism education (Saatçi & Aksu, 2020), vocational school students (Çivril et al., 2018), pre-service teachers (Kan & Özmen, 2021; Şahin, 2020; Yılmaz & Güven, 2015), and higher education students (Aksoy et al., 2021; Bağrıaçık Yılmaz, 2019; Elkatmış & Tanık, 2022; Fidan, 2017; Tuncay & Özçinar, 2009). Furthermore, concerning higher education students' perceptions of distance education, it is stated that while the variables of gender, having a personal computer, and having an internet connection do not make a significant difference in the perception of distance education, the perception differs according to the department and class variables (Aksoy et al., 2021; Gündüz, 2013).

Aim of the Study

Although some studies have been conducted in the field of special education to understand the pandemic process (e.g., Bozkus-Genc & Sani-Bozkurt, 2022; Kuzu Demir et al., 2022; Sani-Bozkurt et al., 2022), it is seen that a significant number of studies have not been carried out on the metaphorical perceptions of pre-service special education teachers. Based on this reason, the present study aims to reveal the perceptions and experiences of pre-service special education teachers who have received and/or are receiving distance education during the pandemic towards the concept of distance education through metaphors. In line with this purpose, answers to the following research questions were sought:

1. What are the positive and negative metaphors produced by university students regarding the concept of distance education?
2. In which contexts do the resulting metaphors show orientations?

Methodology

Research Design

In the present study, the phenomenology design, one of the qualitative research methods, was used to investigate the metaphorical perceptions of special education students towards the concept of distance education. The phenomenology design is a research design used to examine, describe, and interpret the perceptions and/or opinions of individuals about a phenomenon about which not much information is known (Gay et al., 2012). A metaphor, which means a word used in a meaning other than its literal meaning as a result of interest or analogy, helps to express the thoughts to be conveyed more emphatically using fewer words (Cameron & Deignan, 2009; Zheng & Song, 2010). Metaphors can be used as an important data collection and analysis tool in that individuals have little opportunity to hide their real thoughts in the meanings they attribute through metaphors, they reveal mental perceptions and images that guide behavior and allow self-reflection from this point of view (e.g., Aksoy et al., 2021; Bozkurt, 2020). Therefore, metaphors were preferred as a data collection tool in this study because they reflect students' cognitive information processing in the field of distance education, reveal hidden knowledge, perception, or the image formed in the minds of individuals, provide information about the

way individuals interpret the world and their own experiences, and reflect the socio-cultural perspective of the society in which an individual lives. So, this study was designed as a phenomenology study, and metaphor analysis was used in the process of collecting and interpreting the data in the study.

Content of the Study

The content of the study is the distance education applications used in the Turkish higher education system in the 2020-2021 academic year when the COVID-19 pandemic emerged. In this context, data were collected from students receiving higher education in the field of special education in a total of 21 different universities. The study covers the distance education experiences of students during the pandemic and the distance education perceptions formed as a result of these experiences.

Study Group

Within the scope of the study, data were collected by reaching 219 students studying in the field of special education. After removing the responses excluded from the data analysis from the study, the research was continued with a total of 185 students. The students' ages vary between 18-42, and the mean age is 23.09. Table 1 contains information about the students participating in the study.

Table 1. Demographic Information of the Study Group

Variable	Option	f	%
Education Level	Undergraduate	169	91.35
	Master's	12	6.48
	Ph.D.	4	2.16
Age Group	18-20	82	44.32
	21-23	49	26.48
	24-26	19	10.27
	27-29	8	4.32
	30 and above	27	14.59
Gender	Female	123	66.48
	Male	62	33.51
Distance Education Experience Before COVID-19	Yes	59	31.89
	No	126	68.10
University	Anadolu University	72	38.91
	Ankara University	25	13.51
	Izmir Democracy University	17	9.18
	Atatürk University	16	8.64
	Akdeniz University	10	5.40
	Eskişehir Osmangazi University	8	4.32
	Abant İzzet Baysal University	7	3.78
	Sakarya University	5	2.70
	Çanakkale 18 Mart University	3	1.62
	Trakya University	3	1.62
	Dokuz Eylül University	2	1.08
	Düzce University	2	1.08
	Istanbul Aydın University	2	1.08
	Necmettin Erbakan University	1	0.54
	Near East University	1	0.54
	Istanbul Okan University	1	0.54
	Istanbul University	1	0.54
	Hatay Mustafa Kemal University	1	0.54
	Marmara University	1	0.54
	Bülent Ecevit University	1	0.54
Unknown	6	3.24	
TOTAL		185	100

Data Collection

In this study, data were collected using an online questionnaire. The data were obtained by asking students to complete the sentence, "*Distance education is like because....*". According to Forceville (2002), a metaphor relationship consists of three components, metaphor subject, source, and reason. The concept of "like" in this sentence provides an analogy or connection between the subject of the metaphor and its source, and the concept of "because" provides an explanation of the participants' metaphor definitions based on a logical reason (Saban, 2009 p. 285). Therefore, after explaining the concept of metaphor in a few sentences, the students were asked to fill in the sentence in the form using a positive and negative metaphor, considering their experience of distance education from home during the COVID-19 pandemic.

Data Analysis

The collected data were analyzed using content analysis. The research data were analyzed in five stages: (a) sorting and numbering, (b) coding, (c) category creation, and (d) data interpretation (Creswell & Poth, 2016). At the cleansing stage, it was checked whether the forms were filled out in accordance with the research purpose. During the control, statements in each form were examined in terms of whether metaphors were left blank or the sample sentence was incomplete, whether metaphors were meaningful, whether reasons were written in a suitable way to the specified metaphor, and whether the participants were from the field of special education. As a result of the examination, 26 responses without a metaphor, in which justifications were not written, or in which both metaphors were positive/negative answers and responses of 8 students studying in different undergraduate programs were excluded from the study. At the coding stage, all student responses were read, and the metaphors in the form were numbered and listed. The listed metaphors were examined in terms of common features, their compatibility with the research purpose was evaluated, and similar ones were gathered under the same theme, and categories were determined. If different participants used the same metaphor, the relevant category was decided by considering whether it expressed the same perception, taking into account the main emphasis in the section starting with "because." At the end of this stage, nine categories that were thought to represent metaphors in the best way were created. Finally, the themes, metaphors, categories, and statements with justifications were presented in tables. The data interpretation was completed by interpreting the meanings of the categories obtained in line with the relevant literature. In interpreting the themes, in addition to qualitative analysis, quantitative descriptive analyses using frequencies and percentages were also benefited from in reporting the data, and the findings were expressed as frequencies and percentages.

Validity and Reliability

To increase credibility, the data were collected on a voluntary basis, and the obtained data were examined by two independent domain experts. The researcher's experience in the relevant field is another way to increase credibility (Bashir et al., 2008). In this regard, it is thought that the fact that the researcher has received various training through open and distance learning and conducted studies based on the qualitative research paradigm contributes to increasing credibility. To ensure the content validity of the question used in the online interview form while determining the students' perceptions of distance education during the COVID-19 pandemic, an opinion was received from a faculty member with experience in qualitative education research (Yıldırım & Şimşek, 2013). To provide internal validity, data were collected from a total of 185 students who adopted adequate participation strategies (Merriam & Tisdell, 2015), and it was aimed to reach saturation in the responses given in this way.

To increase transferability, the rationale of the chosen method, the sample characteristics, and the research process were explained in detail. Examples from the participants' responses were determined and shared in the form of direct quotations under the relevant categories and themes. Moreover, a detailed literature review was conducted, and the research results were compared with similar studies and interpreted (Creswell & Poth, 2016). To ensure reliability, the data were recorded and evaluated by

two domain experts in terms of consistency. For confirmability, all raw data and their coding were recorded in the digital environment.

Strengths and Limitations of the Study

This study is one of the pioneering studies examining the perceptions of pre-service special education teachers towards distance education, which is addressed in a limited number of studies in the national literature. Therefore, it is thought that the study will form a basis for future research. This study has some limitations as well as strengths. The first limitation is that the study data were collected during the COVID-19 pandemic. Hence, while the study data reflect the emergency remote education experiences acquired by the participants during the pandemic, they do not reflect the planned and comprehensive distance education activities in general. In addition to the mentioned limitation, the study data were collected from students continuing their education in the field of special education in higher education. It is accepted that different research findings may emerge in different fields of education and educational levels. Finally, it should be underlined that 59 students out of a total of 185 participants had previous distance education experience, while the first distance education experiences of 163 students were limited to the applications during the pandemic.

Findings and Discussions

Student responses were grouped under nine sub-themes within the framework of two main themes. There are categories related to metaphors under the themes. In this study involving 185 students, the statements written by some students in the justifications were included in more than one theme.

Findings Regarding Positive Metaphors

The positive metaphors were grouped under four themes, “usability,” “flexibility,” “student participation,” and “suitability.” There are categories related to metaphors under the themes. As a result of the students’ responses, a total of 185 metaphors were produced, 137 of which were without repetition. Table 2 contains the positive metaphors related to the themes and categories.

Usability Theme

Among the positive metaphors, the most dominant theme among the other themes under which the most metaphors were produced is the usability theme (n=80). The usability theme covers the categories of rich information source, facilitating, economical, comprehensive, repeatable, accessible, technological, planned, and equality of opportunity. Under the usability theme, the students emphasized the diversity and comprehensiveness of the resources offered in distance education, especially in acquiring new knowledge. Accordingly, P112, who used the metaphor “like an endless road,” used the statement, “Distance education is like an endless road because you can make and offer anything.”

In the new normal that emerged with the closure of schools due to the COVID-19 pandemic, students had to experience emergency remote education differently to ensure the continuity of education (Bozkurt et al., 2020; Hodges et al., 2020). It can be said that the facilitating role, among the teacher’s roles in distance education, in which the teacher’s presence is provided by different strategies, unlike face-to-face education (Berge, 1995; Bozkurt, 2020), corresponded to the applications within the scope of distance education in this sense due to the opportunities offered by distance education processes for ensuring the continuity of education. For example, a student described the facilitating role of distance education with the metaphor of a magic wand using the statement, “Distance education is like a magic wand because if you don’t have a problem with the internet, it will get you to the lesson almost everywhere in any way (P144).” Therefore, it is seen that the facilitating role of distance education is consistent with the current literature (Aksoy, 2021; Bozkurt, 2020; Çivril et al., 2018). Additionally,

Arkorful and Abaidoo (2015) stated that the access opportunities provided by distance education to different information sources strengthened the quality of distance education, which supports this theme.

Considering that distance education is a good alternative for individuals due to the advantages it provides in comparison with traditional education, it is expected that the category of economy under this theme will take place after the rich information source and facilitating role. Accordingly, using the metaphor “eating unlimited food at the open buffet,” P132 stated that distance education was economical by emphasizing the basic needs with the analogy, “Distance education is like eating unlimited food at the open buffet because you are at home and you have no financial problems, and you can eat and drink as much as you want.” There are similar categories in studies investigating the perceptions of distance education students of distance education (e.g., Çivril et al., 2018).

Although distance education offers many accessibility options to its users, the introduction of online distance education with the pandemic has caused students to associate accessibility in their perceptions of distance education with accessibility provided by information and communication technologies. In this regard, a student emphasized the importance of accessibility provided by technology by saying, “Distance education seems to have no limits because you can be in the same environment from different provinces or even countries with a single link. (P135)” Confirming this idea, Jamtsho and Bullen (2007) stated that the capacity increase experienced with information and communication technologies brought about many advantages in addition to accessibility. Furthermore, the philosophy of openness in education includes universal values such as freedom, equality, and fraternity, in addition to accessibility (Bozkurt, 2017). It can be said that students brought the characteristics of distance education of providing equal opportunity and being accessible to everyone to the fore through metaphors “Opportunity, democracy, handing on a plate.” From this point of view, openness in education can be considered a universal and human-centered concept (Peters, 2010). Hence, similar categories are also encountered in related studies in the literature (Aksoy et al., 2021; Bozkurt, 2020; Çivril et al., 2018).

Finally, within the scope of the “planned” theme, it is observed that the metaphors of “survey,” “similar to face-to-face education,” “functional,” “an active process,” “school,” and “lifelong learning” were used for distance education. Students indicated the planned functioning of distance education with these metaphors. P142, who likened distance education to face-to-face education, provided his justification by saying, “Distance education is like face-to-face education because our teachers share sufficient information with us during this period.” In the related literature, the characteristics of being planned and systematic of distance education are emphasized (Aksoy et al., 2021; Greenberg, 1998; Moore & Kearsley, 2012), and this situation is similar to the theme that emerged in the context of the current research.

Flexibility Theme

The categories of comfort, time and space flexibility were obtained in the theme of flexibility (n=58), stating that students can create their own study plans without being limited in the education process. Students think that distance education is a comfortable process. In this context, they produced metaphors such as “pajamas,” “home,” “sleep,” and “homestay.” Students regarded distance education as comfortable and also stated that distance education provided them with time and space flexibility. Especially in the context of time flexibility, they produced metaphors such as “library” and “watching TV series/movies,” indicating that lessons could be watched over and over again. Thus, flexibility in the context of time and space is expressed as a characteristic inherent in distance education in the literature (Moore & Kearsley, 2012; Naidu, 2017). There are metaphors and categories for flexibility in similar studies investigating the perceptions of both primary school students (Bozkurt, 2020) and university students (Aksoy et al., 2021; Çivril et al., 2018) towards distance education.

Table 2. Themes and Categories of Positive Metaphors

Theme	Category	f	%	Metaphor	Sample Metaphor
Usability (f=82)	Rich Information Source	12	6.48	Opportunity, curiosity, book (5), rainbow, panel, school, lottery, ocean	"It is like a panel because we learn new information and can discuss it with our teachers." "It is like a book because if you've started it, you'll receive information."
	Facilitating	12	6.48	Definition of technology, transportation opportunity, good (4), light switch, painkiller, practical, magic ward, remedy, an example of achieving more than imagined	"It is very practical in terms of access to the course because you have the opportunity to enter the system instantly and access the course easily."
	Economical	11	5.94	Free of charge (3), piggy-bank, king, school at home, open buffet (3), scholarship for new students, a big chance	"It is free of charge because we continue the course from home and do not have expenses such as accommodation and food."
	Comprehensive	10	5.40	Ivy, android phone, stick your hand in the swamp with the treasure inside, endless road, forest, lottery, iceberg, sky, space, ocean	"It is like an iceberg because we only see the upper part of it."
	Repeatable	10	5.40	Video recorder, watching video lectures on Youtube (3), reel (2), alarm clock, lesson channel on social media, achieve efficiency, a great system	"It is like watching video lectures on YouTube because you can watch video lectures, rewind, pause, and watch them again whenever you want."
	Accessible	9	4.86	Financial situation, opportunity, TV remote control, democracy, shoes on sale, archive, ordering food from outside, has no limits, television	"It's like ordering food from outside because it allows you to eat without hassle."
	Technological	6	3.24	Telescope, virtual classroom environment, essential need, indispensable, fragment of the future (2)	"It is like a fragment of education and life in the future because everything is completely based on technology."
	Planned	8	4.32	Survey, similar to face-to-face education (2), functional, an active process, school, lifelong learning, going to school	"It is more functional because tasks are open and clear."
Comfort	Equality of Opportunity	4	2.16	Handing on a plate, blessing (3)	"It is like handing on a plate because it is an excellent opportunity offered to all citizens who cannot go to school and do not have the opportunity."
	Comfort	43	24.24	Home (9), watching TV series/movies (4), weekend, sleep (4), last row in the class, homestay, freedom, pajamas (2), home education, cicada, vacation, losing weight without dieting, comfortable (4), warm, not going to school, heaven, receiving university education next to the family (2), summer (2), lying on the couch, a soft pillow, PE class, no school, canned food	"It is like a Sunday nap because it is comfortable." "It is like summer because we are in a home environment and comfortable."
Flexibility (f=58)	Time Flexibility	9	4.86	Watching movies on TV, continuous education, hourglass, medication, waiting, library, continuous learning, dining out, the wedding of a loved one	"It is like watching movies on TV because you can turn it off or switch to another channel when you don't want to watch it."
	Space Flexibility	8	4.32	Probation, advantage, open education (3), close friend, iguana, away from negativity	"It is like probation because we are not subject to any physical restrictions while fulfilling our responsibilities."

	Productivity	16	8.64	Time saving (2), home office (3), YouTube (3), shortcut, piggy-bank (2), saving time (3), airplane (3), nice	"It is like a home office because I watch my lessons, work at an institution for 5 hours a day, and I also prepare for KPSS (Public Personnel Selection Examination)."
Student Participation (f=34)	Self-regulation	12	6.48	School of patience, personal development program (2), uncultivated field, return of a butterfly to its essence, beehive, step, filling water into a jar with stones, flower, multi-purpose item, supportive, feeling of not wasting time	"It is like the return of a butterfly to its essence because the caterpillar goes through a great evolution by closing itself in its cocoon. It makes the potential to return to the world more magnificent and more equipped than before real."
	Motivation	4	2.16	Curiosity, coffee, a child who has just learned to read, feeling as if I read 100 books and my mind was opened	"It is like curiosity because it motivates you to learn and develop."
Suitability (f=11)	Need	6	3.24	Air, medication, water (2), mother's longing for her baby, primary school period, sibling	"It is like water because if there is no water, there is no life, if there is no distance education, there is no education under these terms and conditions."
	Safe	5	2.70	Wearing a mask, safety, good, positive, shield	"It is like a shield because it is a good protector. It prevents a further increase in the number of cases and protects us."

Considering that distance education aims to provide comfort as well as temporal and spatial flexibility to students by offering flexible learning processes due to its nature, the metaphors that students attribute to distance education demonstrate that students have had this experience.

Student Participation Theme

There are the categories of "productivity," "self-regulation," and "motivation" in the student participation theme. Students think that distance education is efficient. In this regard, they especially emphasized the characteristic of time saving by producing metaphors such as "time saving," "home office," "shortcut," and "airplane." Additionally, when distance education is considered as a system that requires learners to be responsible for their own learning processes and supports individual teaching due to its nature, it requires self-regulation. Hence, students in the distance education system are expected to improve their study skills, plan and control their learning process (Yurdakul, 2015, pp. 274-280). Accordingly, the metaphors that students attributed to distance education, such as "personal development program," "uncultivated field," "beehive," and "supportive," also suggest that students have had this experience. For example, P57 who said, "Distance education is like a program for self-development because it depends on individual will and effort," expressed that development depended on self-control. This can be interpreted as the fact that students are aware of the need to manage themselves in the process. Likewise, it is stated in the relevant literature that this characteristic is necessary to succeed in distance education and teachers should support this characteristic and help students organize their own learning processes and take more responsibility for learning (Bozkurt, 2020; Garrison, 2003; Moore, 1994).

Some students pointed to the motivation in distance education using the metaphors "curiosity, coffee, a child who has just learned to read, feeling like I read 100 books and my mind was opened." In this regard, P181 expressed his opinion by saying, "Distance education is like a feeling like I read 1000 books and my mind was opened because I am assigned a lot of homework and while doing it, I both learn and acquire the habit of reading." In line with this, it is stated in the related literature that the concepts of self-management, self-monitoring, and motivation are more important in distance education than in face-to-face education (Howland & Moore, 2002). Likewise, students' self-efficacy in distance education also affects students' academic achievement (Hobson & Puruhito, 2018). At this point, it is very important to ensure and maintain the motivation of students taking courses through distance

education. Therefore, the motivation process requires using different strategies and tactics in distance education environments than in face-to-face learning environments (Meyer & Turner, 2006). In this context, the ARCS-V motivation design model (Keller, 2010) emerges as an important model to guide the use of these strategies and tactics in distance education and teaching environments (Ucar & Kumtepe, 2016).

Suitability Theme

The theme with the lowest number of metaphors produced among the positive metaphors is the suitability theme (n=11). Some students participating in the study (n=6) perceived distance education as a need. In this regard, they produced metaphors such as “air,” “medication,” and “water.” Concerning the necessity of distance education in the pandemic process, P78 produced the following metaphor, “Distance education is like a medication for me because I can both work and listen to my teachers without interrupting my lessons and by learning.” This confirms the necessity metaphors created by university students for the concept of distance education (Elkatmış & Tanık, 2022; Yılmaz & Güven, 2015).

Some students think that distance education is safe as an alternative to face-to-face education. They expressed this situation using metaphors, such as “wearing a mask,” “safety,” and “shield,” to prevent the effect of the pandemic. For example, P86 said, “Distance education is like wearing a mask because it is useful for our health.” or P8 stated, “Distance education is like safety because I don’t want to catch a disease from school and infect my family or become a carrier because I live with my family in Eskişehir.” Thus, they stressed the impact of the COVID-19 pandemic on health by putting forward a different perspective from other metaphors. When the findings are addressed in terms of health, they expand the literature by differentiating from previous research determining perceptions of distance education. When considered as an alternative, they support the findings of Naidu (2016) and Xiao (2018). Naidu (2016) emphasized that the flexible solutions provided by distance education, a part of mainstream education, in access to information were a good alternative for many students. It can be stated that the alternative channels provided by distance education processes, which are mandatorily experienced with the pandemic, strengthen the perceptions of higher education students in this direction.

Findings Regarding Negative Metaphors

The negative metaphors were grouped under five themes, “teaching process,” “interaction,” “student status,” “usability,” and “assessment and evaluation.” There are categories related to metaphors under the themes. As a result of students' responses, a total of 185 metaphors were produced, 142 without repetition. Table 3 presents negative metaphors related to the themes.

Teaching Process Theme

Upon examining the students' negative metaphors towards distance education, it is seen that the theme with the highest number of metaphors produced is “teaching process.” Within this framework, there are categories of “lack of interaction,” “low impact,” “inefficiency,” and “lack of communication.” The first category that stands out within the scope of the teaching process is the lack of interaction. The suddenly emerging pandemic has cut students from their social circles and made them experience carrying out their education at physically long distances. Drawing attention to the lack of interaction in this regard, P205 attributed his inability to interact with his social environment by saying, “It is like the water of carrot juice because we receive basic education, but there is no teachers' perspective, peer education, group teaching, experience, and sharing. There is only the foundation; education is not pure knowledge; I think pure knowledge in education is the water of carrot juice.” Metaphors in the interaction category show that only pedagogical content is insufficient, but also socialization and the sense of belonging to a community are important (Rovai, 2002). Interaction is regarded as a necessary component for a

successful learning experience in distance education (Ferraro et al., 2020; Hirumi, 2002). In the metaphorical perception studies on distance education in the literature, the interaction dimension also emerges as a negative metaphor, similar to the findings of the current study (Akpolat, 2021; Aksoy et al., 2021; Bergdahl & Nouri, 2020; Bozkurt, 2020; Çivril et al., 2018; Fidan, 2017; Karakuş et al., 2021; Yılmaz & Güven, 2015). Hence, it is emphasized that student-student, student-teacher, and student-content interaction should be increased for meaningful learning in distance education (Anderson, 2003). Accordingly, it can be said that the reality provided by face-to-face education and the warm feelings it gives are not met completely in distance education.

According to students, effective learning does not take place in distance education. Students expressed this opinion with metaphors such as "underripe fruit," "translated book," and "waste of time." P81, using the metaphor of "purgatory," presented his justification by saying, "Nothing can be learned completely, it always stays in between." Studies comparing distance and face-to-face education showed no difference between distance education and face-to-face education in terms of academic achievement (Russell, 2001). Thus, Jahng et al. (2007) also reiterated the conclusion that there was no difference in achievement between distance and face-to-face education in their study in which they analyzed the research conducted between 1995-2004. Nevertheless, it is stated that emergency remote education practices in the pandemic process, in which face-to-face education is tried to be continued through distance education, bring about various problems, unlike the current findings (Bond, 2020; Bozkurt et al., 2020). It can be said that the problems emerging in this regard cause students to produce "low impact" metaphors. At this point, it can be indicated that it is important to provide quality assurance in successful distance education practices (Jung et al., 2011). It is necessary to reflect this assurance from the content presentation to student support, from technology infrastructure to assessment and evaluation processes for student satisfaction (Bozkurt, 2020; Phipps & Merisotis, 2000). Hence, it should be taken into account that factors that will increase success and provide quality assurance (e.g., instructional design, level of interaction, teacher proficiency) in distance education practices to be implemented after the pandemic should be included in the teaching process.

The "inefficiency" category covers the metaphors through which students indicate that learning in distance education is insufficient and education has deficiencies. P111, who used the metaphor "Not being able to get efficiency by listening over and over again," drew attention to the fact that distance education was insufficient by saying, "It is like not being able to get efficiency by listening over and over again because there may be internet disconnections, audio and camera failures, and we get much less of the efficiency from a technological device than we would get face-to-face." Based on student opinions, it can be inferred that distance education in practice is not very efficient and has some limitations.

Thus, in the study on education faculty students' perceptions of distance and face-to-face education, Şahin (2020) revealed that most participants found the distance education process less effective and less beneficial than the face-to-face education process. In distance education, students cannot study as effectively as in face-to-face education and can interact less. Moreover, research findings showing that distance education is not effective and efficient in technical courses that require practice are also available (Horzum, 2013). Therefore, this also confirms the inefficiency metaphors created by university students for the concept of distance education (Elkatmış & Tanık, 2022; Yılmaz & Güven, 2015).

The lack of communication is the last category of the theme. P38 described the lack of communication as the negative aspect of distance education with the quince metaphor by saying, "Distance education is like a quince because those who know how to enjoy the life do not like distance education. Distance education is a system that cancels social life, disrupts friendship relations, and confines students to the home. Distance education is a system that pushes us to laziness and causes us to miss most of the lessons, leading us not to communicate correctly with teachers. Distance education is what makes us take 150 steps a day." However, communication is very important in education. In the study in which Anderson (2003) examined the rate of communication in various learning environments, from web-based learning to face-to-face learning environments, the fact that communication was higher in the

face-to-face education environment than in other educational environments supports the fact that this category is a category including negative statements. The lack of communication causes students to feel lonely. Hence, the fact that it is a separate category under the interaction theme confirms this situation. Accordingly, some studies have determined that the feeling of loneliness caused by the lack of communication is an important factor in the decision of students to continue distance education (Angelino et al., 2007; Kanuka & Jugdev, 2006).

Table 3. Themes and Categories of Negative Metaphors

Theme	Category	f	%	Metaphor	Sample Metaphor
Teaching Process (f=64)	Lack of Interaction	22	11.89	Limited, pantomime, stepmother, watching TV, cooking show on TV (2), emotionless, cotton in a transparent container, video chat, the bag put between you and your desk mate during the primary school exam, teaching a lesson with a robot, inefficient, foreign, teacher-centered education, serial trailer, wall, far from reality, feeling as if you don't study although you go to a school, loneliness, water of carrot juice, stale bread, watching videos on YouTube	"It seems emotionless because it is an environment where the eye does not see the eye, the skin does not touch the skin, and there is no or very little intimacy."
	Low Impact	18	9.72	A difficult road, underripe fruit, insufficient, democracy, education not based on practice, failure to qualify for graduation, purgatory, hot pepper, translated book, drink without vitamins, lemon, tomato paste, wind, thinking we can do and know everything, meat on the barbecue, a book read years ago, waste of time, tasteless food	"It is like hot pepper. It is appetizing but prevents me from feeling the real taste of the food. It allows me to do other activities simultaneously in distance education, but it prevents me from reaching the experiences that I really need to acquire."
	Inefficiency	17	9.18	Explaining something to both blind and deaf people with songs or pictures, computer game, the arid Sahara Desert land, limited advantages, not being able to get efficiency by listening over and over again, bad lessons, insufficient (3), a duck swimming in the water, awful, deceiving ourselves, environmental protection club, poison, the latest model car that ran out of fuel, spinach meal (2)	"It is like the arid Sahara Desert land. Even the TEMA Foundation cannot revive it."
	Lack of Communication	8	4.32	Not useful, black wall, quince, negative (2), lack of communication between the teacher and student, foreign, cotton in a transparent container	"It is like a black wall because communication and diversity do not almost exist."
	Inequality	31	16.75	Unfair (4), course, punishment, unpaid internet, slap, negative, unbalanced scales, scary, a toy that can be broken, internet connection problem, broken antenna, problematic, expensive villa, lack of education, a student with poor attendance, android phone, video, difference in education between the private school and the public school, blank book, a child trying to do his	"It is like a book because all people are its target audience, but only those who can pay and buy it can read it (necessity for technological equipment such as the internet, telephone, computer, etc.)."

Usability (f=44)	Uncertainty	11	5.94	homework under the street lamp, book, computer without internet connection, world, abyss, cut electricity, a boiler in a student house, private hospital, money	"It is like night because we cannot find our way in the dark and cannot easily reach what we want."
	Technology Addiction	2	1.08	Emptiness, night, salt with a size of marbles that enters one's mouth unconsciously while eating the salad, looking for items in an empty room, dream, eating an unknown food, entering a swamp with a treasure inside, walking in the dark, space, stones-unknown bodies in the space, experiment cage, coronavirus	"It is like a cage because it makes people dependent on home and computer."
Interaction (f=39)	Artificiality	11	5.94	Augmented virtual reality, unseasoned food, the inability of two lovers to reunite, robotized, having the patient perform the surgery by describing it to him from behind the glass, dipping bread into the restaurant window, teaching a lesson with a robot (2), vegan lahmacun, e-sports, wax statue	"It is like teaching a lesson with a robot because there is never the sincerity of face-to-face education."
	Isolation	7	3.78	Quince, cage, Stanford Prison experiment, disgusting (2), nude king, jail, poison	"It is like a jail because you wait for school under the same conditions as a prisoner expects his freedom in the same environment."
	Loneliness	8	4.32	Being away from home (2), oppressive environment, holiday, star (2), jail, love at distance	"It is like being away from home because you are longing for the place you want to be."
	Socialization	6	3.24	Limited, quince, abstract, cactus, water of carrot juice, keeping distance between school and us	"It seems limited because distance education provides us with limited opportunities. We can't get along very well with the university or the department or courses."
Student Status (f=38)	Immediacy and intimacy	5	2.70	Radio, long-distance relationship (2), fainting, simulation in which the professional value and difficulty of teaching are understood	"It is like fainting because we feel like we died when we couldn't get into university and fainted when we could get into university but could not attend it."
	Loss of Motivation	9	4.86	Boring, hanging in the air, battlefield, pantomime, inefficient, necessity, eating a potato meal every day, a poisoned arrow, a difficult process	"It is like a pantomime. We see our teachers and friends, but we cannot touch them. Gestures and facial expressions are incomprehensible. This sometimes decreases our motivation."
	Responsibility for Learning	6	3.24	Accessible part of the road, balloon, a road hard to reach, a toddler, a bird in a "Mini mini bird" song, open education	"It is an accessible part of a road because it requires you to put in the rest of the effort to travel that road."
	Difficulty	7	3.78	Mathematics class (2), fever (2), a French movie with English subtitles, the parsley stuck in the teeth, inefficient	"It is like a mathematics lesson for me because I don't understand anything either in mathematics class or distance education."
Hopelessness	6	3.24	Disappointment, poison ivy, drying the creek bed and building a house in front of it, whirlpool, deceiving ourselves, rain, failure to qualify for graduation	"It is like poison ivy because it poisons and dries up the enthusiasm, motivation, longing, and energy it contains."	

	Exhausting	4	2.16	Boring, drill, Sunday breakfast, rowing in the sand	"It is like rowing in the sand. It is both difficult and futile because the education continues, but our knowledge never increases."
Assessment and Evaluation (f=5)	Extra Homework	4	2.16	Certification training, load, lead somebody a dog's life by not killing, stones-unknown objects in the space	"It is like leading somebody a dog's life by not killing him because you think you will have time for everything, but you can't get up from homework. You think that at least you are at home, your meal times will be regular, but you can't eat anything because of the homework stress. In short, it is torture for students."
	Exam Security	1	0.54	Copy	"It is like a copy because you can't get your due."

Interaction Theme

In the interaction theme, it is seen that the urgent transition to distance education is reflected in students' opinions, and students expressed with many metaphors that they found distance education artificial, they were isolated during the pandemic and felt lonely because they could not socialize. P202, who used the metaphor of "vegan lahmacun," drew attention to the artificiality of distance education by stating, "Distance education is like vegan lahmacun. No matter how hard you try, it cannot replace the original." The other category that emerged under the theme of interaction is related to isolation. In this regard, students emphasized that they perceived the reality of the interaction they entered in the distance education process at a low level by producing metaphors such as "having the patient perform the surgery by describing it to him from behind the glass," "dipping bread into the restaurant window," and "teaching a lesson with a robot." For example, a student stated that he could not internalize the interaction he experienced and the interaction remained at an abstract level by expressing his view as follows, "Distance education is like a cage because it makes people dependent on home and computer. (P94)". Likewise, the studies by Bozkurt (2020) and Yolagiden (2021) in the literature show that distance education is perceived as isolation and metaphors (prison, home, restriction) are produced within this framework.

Students consider distance education a process that limits their interaction with the social environment and pushes them to loneliness. In this regard, they produced metaphors such as "being away from home," "an oppressive environment," and "long-distance relationship." The feeling of loneliness was added to the physical distance that emerged with distance education, and this situation adversely affected higher education students who had to be cut off from their social environment. For example, a participant attributed the metaphor of an oppressive environment to distance education by expressing this situation in the following way, "Distance education is like an oppressive environment because if you are deprived of something, you will be cut off from the world. (P41)" Moreover, some studies state that students who are in physically different locations may feel lonely (Hill et al., 2009; Sung & Mayer, 2012; Vonderwell, 2003). Concerning this, it can be stated that socialization is perceived by students as one-sided communication and that there is not sufficient interaction between the teacher and the student. P65 stated, "Distance education seems to be abstract because you cannot establish eye contact with the student and cannot help the student physically." and explained the socialization that emerged with the lack of interaction in the current practice with the "abstract" metaphor. Although distance education provides a lot of flexibility to students, the fact that the lack of interaction is emphasized as a negative factor in the literature supports these research findings (Kaleli Yılmaz & Güven, 2015; Bozkurt, 2020; Bağrıaçık Yılmaz, 2019; Bergdahl & Nouri, 2020; Özcan et al., 2021).

The final category of the theme is immediacy and intimacy. Student P4 used the "radio" metaphor by stating, "Distance education is like a radio. The teacher talks, the student listens, nobody knows each

other.” and described distance education as a reason for the decrease in the immediacy and intimacy provided in face-to-face education. Immediacy and intimacy, which are important concepts in the theory of social presence in the field of communication (Short et al., 1976), are essential both in terms of strengthening communication processes and perceiving students' experiences in distance education as real. The categories that emerged in the interaction category also show the importance of socialization and a sense of belonging to a community, although online, in addition to pedagogical content (Rovai, 2002). Bergdahl and Nouri (2020) emphasized that the fact that social distancing became the “new normal” during the pandemic and the sharp and rapid transition from traditional to distance education with the closure of schools caused teachers to be included in the process without making the necessary pedagogical preparation, which caused students to develop a negative perspective on distance education.

Student Status Theme

In the student status theme, the perceived negative metaphors for distance education are addressed in the student context. In this regard, there are categories of “lack of motivation,” “responsibility for learning,” “difficulty,” “hopelessness,” “exhausting,” and “laziness.” According to students, motivation is low in distance education. Students expressed their opinions with metaphors such as “boring,” “pantomime,” and “eating a potato meal every day.” P40, who used the “battlefield” metaphor, provided his justification by saying, “Distance education is like a battlefield because you lose motivation to lessons in the chaos that happens in the family home at times.” It is known that course satisfaction, academic achievement, and learning process in distance education are positively affected by student motivation (Ucar & Kumtepe, 2019; Ucar et al., 2020). On the contrary, it can be said that emergency remote education, which has been quickly introduced as a necessity, has caused it to be perceived differently from distance education offered in a planned and systematic way (Bozkurt et al., 2020). At this point, it is recommended to provide students with different access options, prefer user-friendly platforms, carry out course orientations and support the process in a flexible way in order to provide learning motivation by minimizing the negativities experienced (Bozkurt, 2020; Wang et al., 2013). Additionally, many studies state that one of the biggest limitations of distance education is the lack of motivation (Aksoy et al., 2021; Elakatmiş & Tanık, 2022; Karakuş et al., 2020). Considering the theme that emerged in the research context and the relevant literature, it can be said that motivation is an important prerequisite in the distance education process (Ng, 2019).

In the category of “responsibility for learning,” some students thought that distance education imposed more responsibility on students. In this sense, students produced metaphors such as “a road hard to reach,” “open education,” and “balloon.” Participant P166 reflected his thought that responsibility in distance education belonged to himself by stating, “Distance education is like a toddler because the student only tries to learn something by himself.” In the related literature, it is stated that the student decides where, when, and for how long he/she will access the material in distance education, and thus the responsibility for learning largely belongs to the student (Bozkurt, 2020b; McMahan & Oliver, 2001). At this point, the necessity for the student to have self-regulation skills in order to achieve learning outcomes emerges.

The “difficulty” category includes the negative metaphors in which students expressed that they could not get used to the new learning environment and which they produced for the difficulties they experienced because they felt unfamiliar. In this regard, they produced metaphors such as “mathematics class,” “fever”, and “a French movie with English subtitles.” Considering the metaphors under this theme, it can be said that trying to conduct distance education in the same way as face-to-face lessons caused cognitive and physical fatigue by creating a perception of difficulty in students. P95, who likened distance education to a French movie, stated, “Distance education is like a French movie with English subtitles. No matter how much you watch, no matter how hard you try to make something out, you won't understand.” At this point, the idea that teaching staff should make examinations and arrangements for the causes of difficulties in distance education emerges as an important need. To minimize the

difficulties experienced in this regard, it is considered important to provide support such as preferring user-friendly environments by teaching staff, informing students about the environment to be used in distance education and guiding students through the use of these environments, designing environments for interaction, expressing expectations from students in an open and clear way, and providing feedback to students in the education process. Thus, Bozkurt (2020b) emphasized that the equivalent of a two-hour face-to-face lesson could be a 20-minute synchronous lesson and different asynchronous activities supporting this process, which should be considered one of the first steps to be taken in this process. P33 stated that the current practice made him tired by saying, "Distance education is like a drill because the teacher thinks that he is not understood or repeats the same subject a thousand times for other students." P132 stated that the distance education process caused laziness with the metaphor of "planting a banana tree in Erzurum" in the following way, "Distance education is like planting a banana tree in Erzurum because the climate there is not suitable for growing bananas. Therefore, a typical Turkish student is not accustomed to distance education. The home environment is suitable for behaviors such as laxity, lack of discipline, laziness, lack of seriousness, etc." At this point, it can be said that the categories that start with the responsibility for learning and continue with difficulty, being exhausting, and laziness support each other. Similar studies also present them as a source of negative opinions (Aksoy et al., 2021; Elkatmış & Tanık, 2022; Özan et al., 2021; Yılmaz & Güven, 2015).

In the theme's last category, six students described distance education as a futile effort or a waste of time on the grounds that the education did not provide what was expected from them. Metaphors such as "disappointment," "deceiving ourselves," and "failure to qualify for graduation" can be given as examples of this situation. P143 attributed his hopelessness to the whirlpool metaphor by stating, "Distance education is like a whirlpool because when you fall into the whirlpool, no matter how hard you try, you can't get out of it." This category actually indicates the importance of affective needs during the crisis that emerged with the pandemic. According to Bozkurt and Sharma (2020), learners will remember what they felt, not what they learned, in times of crisis. Accordingly, it can be inferred that students need attention, feel understood and see that they are cared for. This situation of students reveals the importance of attention, understanding, and pedagogy of care (Bozkurt, 2020b; Zhu & Liu, 2020).

Usability Theme

The first category coming to the fore in the usability theme is inequality with 28 metaphors. Students expressed that they could not benefit equally from emergency remote education by producing metaphors such as "unfair," "punishment," "slap," "abyss," and "unbalanced scales." Upon examining the metaphors in depth, it is seen that the inequality experienced by students originates from the digital divide, economic conditions, technical problems, and social support. For example, P43 explained the inequality arising from the digital divide that emerged with the technology-oriented practice with the "slap" metaphor by saying, "Distance education is like a slap because it shows us how difficult it is for every child in our country to access the internet, phone, and tablet PC." The digital divide is defined as the difference between those who have access to digital technologies and those who cannot access them, or those who use digital technologies and those who cannot use them (Hargittai, 2003). Students have been affected by the digital divide, both due to residing in different cities and being enrolled in different universities. Concerning higher education students, the fact that emergency remote education applications are mostly offered via computers and require internet access has made the digital divide between students who have these opportunities and those who do not have them more obvious (Anderson, 2020; Bozkurt, 2020; d'Orville, 2020). In Turkey, only 63% of students have an internet connection at home, 66% have a computer or a tablet PC, 64% state that they continue their emergency remote education from their computers or tablet PCs, 32% continue their emergency remote education from their smartphones, and 23% stated that they could not continue their distance education (Karadağ & Yücel, 2020), indicating how important the digital divide is. Furthermore, it is possible to say that the existing inequalities of students disadvantaged in terms of social support and socioeconomic terms due to the digital divide have come to light. The literature review showed that students had negative attitudes

and opinions towards distance education due to similar reasons (Aksoy et al., 2021; Bozkurt, 2020; Elkatmış & Tanık, 2022; Gillies, 2008; Özan et al., 2021; Yılmaz & Güven, 2015).

Students (n=11) expressed that they perceived distance education as ambiguous using metaphors such as “emptiness,” “looking for items in an empty room,” “eating an unknown food,” and “space.” P112, who used the metaphor of “walking in the dark,” drew attention to uncertainty by stating, “Distance education is like walking in the dark because I can't see in front of me and I can't receive the right or wrong feedback.” Based on students' statements, it is necessary to eliminate ambiguities for students and educators to manage the distance education process effectively. This necessity introduces the concept of digital competence. The reality of the pandemic has made us confront the fact that both students (Alipio, 2020) and educators (Ali, 2020) do not fully possess the digital competencies and skills (Deshmukh, 2020) needed during the crisis (Bozkurt et al., 2020).

Finally, some students participating in the study think that distance education causes addiction. Using the “coronavirus” metaphor, P158 described the time spent in front of the screen as the negative aspect of distance education by saying, “Distance education is like a coronavirus because technology addiction is a virus that spreads fast.” It supports the study finding that the screen time of university students in Turkey has increased significantly with the COVID-19 pandemic (Öz Ceviz et al., 2020). Moreover, the fact that the concepts of digital fatigue and digital burnout frequently come to the agenda in the literature confirms the current finding (Bozkurt & Sharma, 2020).

Assessment and Evaluation Theme

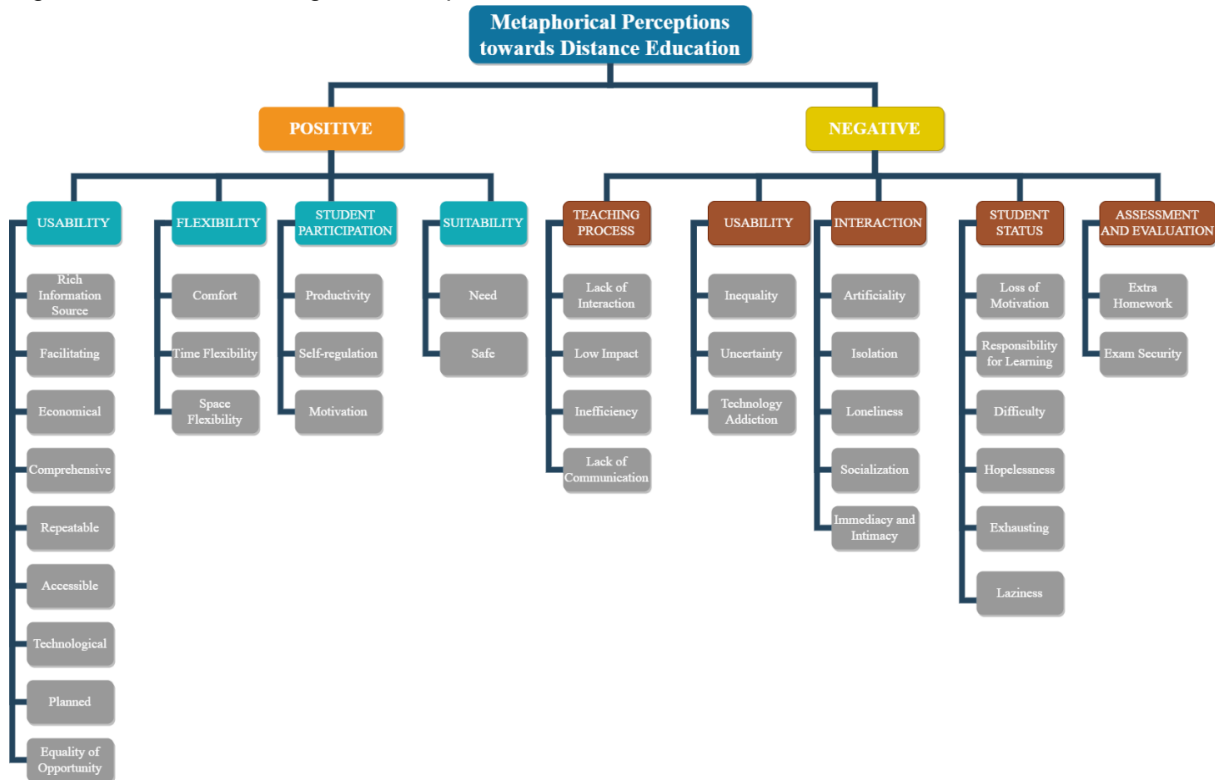
Considering the negative metaphors of students for distance education, it is seen that the theme with the least number of metaphors produced is “assessment and evaluation.” In this regard, only two different negative perceptions emerged. The first is that students are assigned more homework than they can manage. P66, who used the metaphor of “certification training” with regard to extra homework, provided the following justification, “Distance education is like certification training. Even though we learn what we do not know, the given assignments are much more difficult and challenging, we cannot use the information we have learned in homework. The criterion required for homework is much higher than what we can do.” Although it is stated in the literature that students prefer homework rather than exams as an assessment and evaluation tool (Balta & Türel, 2013), it is observed that the students participating in the study do not have a similar opinion. The inability to identify the participant's identity and the failure to provide the exam security are important problems frequently encountered in the assessment and evaluation dimension of distance education. However, it is surprising that only one of the participants produced a metaphor about exam security, which supports this finding. This finding indicates that the homework load should be planned in a balanced manner so that students do not experience burnout and maintain their motivation in distance education processes.

Conclusion and Suggestions

The study examined the perceptions of pre-service special education teachers receiving distance education during the COVID-19 pandemic through metaphors. In line with this, data were collected from 185 students studying in special education teaching programs. According to the findings, the participants produced 137 positive and 142 negative metaphors without repetition (Figure 1). The most common opinion among the positive metaphors (n=80) was that distance education was a rich information source, facilitating, economical, comprehensive, repeatable, accessible, technological, planned, and offered equality of opportunity. This opinion provided important insights into the roles that distance education played during the pandemic and in the new normal. In the flexibility theme, distance education was evaluated with the categories of comfort and time-space flexibility. This demonstrates that distance education provides flexibility in the context of time and space that emerges in the traditional definitions of distance education with the idea of learning whenever and wherever you want. However, students

think that they spend more individual effort in distance education. While revealing that students' self-regulation skills are important in distance education, this situation also indicates that its effect on success and motivation should be taken into account. Finally, in the suitability theme, students find distance education safer than face-to-face education and consider it a necessity under pandemic conditions. You can also provide social, practical, or theoretical implications.

Figure 1. Positive and Negative Metaphors for Distance Education.



The teaching process (n=64) is the prominent theme in the group of negative metaphors. Students do not find distance education effective and efficient compared to face-to-face education. This indicates the need for the quality and quality assurance of the content presented. Furthermore, students think that communication and interaction in distance education are insufficient. Hence, it was concluded that making instructional design to increase communication and interaction in presenting the learning content was important for the success of distance education applications. The categories of inequality, uncertainty, and technology addiction emerged in the usability theme. It was frequently expressed that distance education made the inequalities among students visible. Contrary to accessibility, among the positive opinions, the digital divide, and social and economic inequality are important issues that should be carefully considered in the context of the usability of distance education. Since this situation threatens equality of opportunity in education, it is necessary to develop preventive mechanisms to minimize the said inequalities. Students regard distance education applications as uncertain because it is unknown when the pandemic will end. In the interaction theme, they stated that the distance education process was artificial and caused them to feel lonely and independent from the group because it isolated them from their social environment. Therefore, it has demonstrated that providing interaction in distance education is important for increasing naturalness and student satisfaction. In the student status theme, it was found that students experienced a loss of motivation, the fact that the responsibility for learning belonged to them caused students to find distance education tiring, and this situation caused laziness in some students. On the other hand, some students developed a pessimistic perspective on the distance education process with regard to uncertainty, and this situation was observed to cause hopelessness. The last theme in the group of negative metaphors is assessment and evaluation. Students complain about being assigned too much homework during the evaluation process. In this

regard, the use of alternative assessment and evaluation tools (e.g., e-portfolio, research assignments, online discussions, etc.) should be considered by making process-oriented evaluations instead of results-oriented evaluations (e.g., multiple choice exams).

In summary, since distance education applications, which emerged simultaneously with the pandemic and are offered to ensure the continuity of education, affect students from many different aspects, the research results indicate the necessity for strengthening both students and the failing aspects of the education system in the new normal after the pandemic, making improvements by developing new policies and practices regarding these situations, structuring the education policies in such a way that no learner is left behind while improving them, making meaningful investments in the technology infrastructure and educational technologies according to needs, conducting studies to improve the digital skills, digital competencies, and digital literacy of learners, educators, and parents (especially parents of individuals with special needs) in order to overcome the crisis that emerged with the pandemic and be prepared for possible crises, including these subjects in the professional development programs of special education teachers, developing course contents that will enable synchronous lessons to be taught interactively to eliminate communication and interaction barriers, presenting synchronous and asynchronous learning activities in a balanced way in the course design in distance education, performing instructional design according to the education levels and learning needs of learners by employing different strategies for each education level, ensuring equality of opportunity by considering the learning characteristics of individuals with special needs directly or indirectly while making instructional designs, incorporating motivational design processes into instructional designs, determining the support mechanisms to be offered to students, and designing educational processes that allow learners to gain their autonomy so that they can have more meaningful learning experiences.

References

- Abel Jr, A. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. *Asian Journal of Distance Education*, 15(1), 127-143. <http://dx.doi.org/10.5281/zenodo.3881529>
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13. <https://doi.org/10.1080/10494820.2020.1813180>
- Akpolat, T. (2021). Ortaokul öğrencilerinin uzaktan eğitime ilişkin metaforik algılarının incelenmesi [Investigation of middle school students' metaphoric perceptions regarding distance education]. *Ankara University Journal of Faculty of Educational Sciences (JFES)*, 54(2), 497-522. <https://doi.org/10.30964/auebfd.822101>
- Aksoy, D. A., Bozkurt, A. and Kurşun, E. (2021). Yükseköğretim öğrencilerinin Koronavirüs (Covid-19) pandemi sürecinde uzaktan eğitime yönelik algıları [Higher Education Students' Perceptions of Distance Education during the Coronavirus (Covid-19) Pandemic]. *Anadolu Üniversitesi Eğitim Fakültesi Dergisi (AUJEF)*, 5(3), 285-308. <https://doi.org/10.34056/aujef.900375>
- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 Pandemic. *Higher Education*, 10(3), 16-25. <https://doi.org/10.5539/hes.v10n3p16>
- Alipio, M. (2020). Education during COVID-19 era: Are learners in a less-economically developed country ready for e-learning?. SSRN. <http://dx.doi.org/10.2139/ssrn.3586311>
- Anderson, J. (2020). Brave New World The coronavirus pandemic is reshaping education. <https://qz.com/1826369/how-coronavirus-is-changing-education/>
- Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *The International Review of Research in Open and Distributed Learning*, 4(2). <https://doi.org/10.19173/irrodl.v4i2.149>
- Angelino, L. M., Williams, F. K. & Natvig, D. (2007). Strategies to engage online students and reduce attrition rates. *Journal of Educators Online*, 4(2), 1-14.

- Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29-42. <https://www.ijern.com/journal/2014/December-2014/34.pdf>
- Ateş, A., and Altun, E. (2008). Bilgisayar öğretmenleri adaylarının uzaktan eğitime yönelik tutumlarının çeşitli değişkenler açısından incelenmesi [Investigating Preservice Computer Teachers Attitudes Towards Distance Learning Regarding Various Variables]. *Gazi Eğitim Fakültesi Dergisi*, 28(3), 125-145. <https://doi.org/10.17152/GEFD.42014>
- Atik, A. D. (2020). Fen bilimleri öğretmen adaylarının uzaktan eğitim algısı: bir metafor analizi [Pre-service Science Teachers' Perception of Distance Education: A Metaphor Analysis]. *Uluslararası Eğitim Araştırmacıları Dergisi*, 3(2), 148-170.
- Avcı, F. & Akdeniz, E. (2021). Koronavirüs (Covid-19) salgını ve uzaktan eğitim sürecinde karşılaşılan sorunlar konusunda öğretmenlerin değerlendirmeleri [Assessment of Teachers on the Covid-19 Epidemic and Problems Encountered in Distance Learning Process]. *Uluslararası Sosyal Bilimler ve Eğitim Dergisi*, 3(4), 117-154. <https://dergipark.org.tr/tr/pub/usbed>
- Aydıncı, M., & Zorluoğlu, S. L. (2021). Lise öğrencilerinin Covid-19, yüz yüze eğitim ve uzaktan eğitim algıları [High school students' perceptions for Covid-19, face-to-face education and distance education]. *Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi*, 12(2), 1253-1267. <https://doi.org/10.30783/nevsosbilen.1064883>
- Bağrıaçık Yılmaz, A. (2019). Distance and face-to-face students' perceptions towards distance education: A comparative metaphorical study. *Turkish Online Journal of Distance Education TOJDE*, 20(1), 191-207. <https://doi.org/10.17718/tojde.522705>
- Balaman, F., and Hanbay Tiryaki, S. (2021). Corona virüs (Covid-19) nedeniyle mecburi yürütülen uzaktan eğitim hakkında öğretmen görüşleri [The Opinions of Teachers about Compulsory Distance Education due to Corona Virus (Covid-19)]. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 10(1), 52-84. <http://www.itobiad.com/tr/pub/issue/60435/769798>
- Balta, Y., and Türel, Y. K. (2013). Çevrimiçi uzaktan eğitimde kullanılan farklı ölçme değerlendirme yaklaşımlarına ilişkin bir inceleme [An examination on various measurement and evaluation methods used in online distance education]. *Turkish Studies*, 8(3), 37-45. <http://dx.doi.org/10.7827/TurkishStudies.4271>
- Basilaia, G. & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 Coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4), 1-9. <https://doi.org/10.29333/pr/7937>
- Barış, M. F. (2015). Üniversite öğrencilerinin uzaktan eğitime yönelik tutumlarının incelenmesi: Namık Kemal Üniversitesi örneği [Analyzing the university students' attitudes towards distance education: Namık Kemal University case study]. *Sakarya University Journal of Education*, 5(2), 36-46. <https://doi.org/10.19126/suje.38758>
- Bashir, M., Afzal, M. T., & Azeem, M. (2008). Reliability and validity of qualitative and operational research paradigm. *Pakistan Journal of Statistics and Operation Research*, 35-45. <https://doi.org/10.18187/pjsor.v4i1.59>
- Başar, M., Arslan, S., Günsel, E. & Akpınar, M. (2019). Öğretmen adaylarının uzaktan eğitim algısı [Distance education perceptions of prospective teachers]. *Journal of Multidisciplinary Studies in Education*, 3(2), 14-22.
- Bergdahl, N. & Nouri, J. (2020). Covid-19 and crisis-prompted distance education in Sweden. *Technology, Knowledge and Learning*, 26(3), 443-459. <https://doi.org/10.1007/s10758-020-09470-6>
- Berge, Z. L. (1995). The role of the online instructor/facilitator. *Educational Technology*, 35(1), 22-30.
- Bond, M. (2020). Schools and emergency remote education during the COVID-19 pandemic: A living rapid systematic review. *Asian Journal of Distance Education*, 15(2), 191-247. <http://www.asianjde.org/ojs/index.php/AsianJDE/article/view/517>
- Bozdağ, B., & Dinç, F. (2020). The perceptions of physical education teacher candidates towards the concept of distance education in the Covid-19 process: A metaphor study. *International Journal of Eurasian Education and Culture*, 5(11), 1954-1980.

- Bozkus-Genc, G., & Sani-Bozkurt, S. (2022). How parents of children with autism spectrum disorder experience the COVID-19 pandemic: Perspectives and insights on the new normal. *Research in Developmental Disabilities*, 124, 104200. <http://dx.doi.org/10.1016/j.ridd.2022.104200>
- Bozkurt, A. (2017). Türkiye'de uzaktan eğitimin dünü, bugünü ve yarını [The past, present and future of the distance education in Turkey]. *Açık Öğretim Uygulamaları ve Araştırmaları Dergisi (AUAd)*, 3(2), 85-124. <https://dergipark.org.tr/en/download/article-file/403827>
- Bozkurt, A. (2020). Koronavirüs (Covid-19) pandemisi sırasında ilköğretim öğrencilerinin uzaktan eğitime yönelik imge ve algıları: Bir metafor analizi [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), 1-23. <https://doi.org/10.29065/usakead.777652>
- Bozkurt, A. (2020b). Koronavirüs (Covid-19) pandemi süreci ve pandemi sonrası dünyada eğitime yönelik değerlendirmeler: Yeni normal ve yeni eğitim paradigması [The coronavirus (Covid-19) pandemic process and evaluations on education in the post-pandemic world: New normal and new education paradigm]. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi*, 6(3), 112-142.
- Bozkurt, A., & Sharma, R. C. (2020). Education in normal, new normal, and next normal: Observations from the past, insights from the present and projections for the future. *Asian Journal of Distance Education*, 15(2), ix. <https://doi.org/10.5281/zenodo.4362664>
- Bozkurt, A., Jung, I., Xiao, J., Vladimirsch, V., Schuwer, R., Egorov, G., ... Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 Pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education*, 15(1), 1-126. <https://doi.org/10.5281/zenodo.3878572>
- Bozkurt, A., Karakaya, K., Turk, M., Karakaya, Ö., & Castellanos-Reyes, D. (2022). The Impact of COVID-19 on Education: A Meta-Narrative Review. *Tech Trends*. <https://doi.org/10.1007/s11528-022-00759-0>
- Cameron, L., Maslen, R., Todd, Z., Maule, J., Stratton, P., & Stanley, N. (2009). The discourse dynamics approach to metaphor and metaphor-led discourse analysis. *Metaphor and Symbol*, 24(2), 63-89. <https://doi.org/10.1080/10926480902830821>
- Cantürk, G. & Cantürk, A. (2021). İngilizce öğretmenlerinin covid-19 küresel salgını sürecinde gerçekleştirdikleri uzaktan eğitim deneyimleriyle ilgili görüşlerinin metaforlar yoluyla belirlenmesi. *International Journal of Current Approaches in Language, Education and Social Sciences*, 3(1), 688-724.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches (4th ed.)*. Sage publications.
- Çiftçi, S., Sağlam, A., and Yayla, A. (2021). 21. yüzyıl becerileri bağlamında öğrenci, öğretmen ve eğitim ortamları [Student, teacher and educational environments in the context of 21. century skills]. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, 24, 718-734. <https://doi.org/10.29000/rumelide.995863>
- Çivril, H., Aruğaslan, E., & Özkara, B. Ö. (2018). Uzaktan eğitim öğrencilerinin uzaktan eğitime yönelik algıları: bir metafor analizi [Distance education perceptions of distance education students: a metaphor analysis]. *Eğitim Teknolojisi Kuram ve Uygulama*, 8(1), 39-59. <https://doi.org/10.17943/etku.310168>
- d'Orville, H. (2020). COVID-19 causes unprecedented educational disruption: Is there a road towards a new normal?. *Prospects*, 1-5. <https://doi.org/10.1007/s11125-020-09475-0>
- Deshmukh, S. R. (2020). Social Realities of Higher Education in the Age of Uncertainties. *Smart Moves Journal IJELLH*, 8(4), 279-289. <https://doi.org/10.24113/ijellh.v8i4.10547>
- Dobbs, R. R., Waid, C. A. & del Carmen, A. (2009). Students'perceptions of online courses: The effect of online course experience. *Quarterly Review of Distance Education*, 10(1), 9.
- Doghonadze, N., Aliyev, A., Halawachy, H., Knodel, L., & Adedoyin, A. S. (2020). The Degree of readiness to total distance learning in the face of COVID-19-teachers' view (Case of Azerbaijan, Georgia, Iraq, Nigeria, UK and Ukraine). *Journal of Education in Black Sea Region*, 5(2), 2-41. <https://doi.org/10.31578/jeps.v5i2.197>

- Elkatmış, M. and Tanık, M. (2022). Üniversite öğrencilerinin uzaktan eğitime ilişkin metaforik algıları “Kırıkkale Üniversitesi örneği” [Metaphorical perceptions of university students on distance education “The Sample of Kırıkkale University”]. *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8(1), 219-238. <https://doi.org/10.31592/aeusbed.1030963>
- Ferraro, F. V., Ambra, F. I., Aruta, L., & Iavarone, M. L. (2020). Distance learning in the covid-19 era: Perceptions in Southern Italy. *Education Sciences*, 10(12), 355. <https://doi.org/10.3390/educsci10120355>
- Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 1-18. <https://doi.org/10.3390/soc10040086>
- Fidan, M. (2017). Metaphors of blended learning’ students regarding the concept of distance education. *International Online Journal of Educational Sciences*, 9(1), 276-291.
- Forceville, C. (2002). The identification of target and source in pictorial metaphors. *Journal of Pragmatics*, 34, 1-14. [https://doi.org/10.1016/s0378-2166\(01\)00007-8](https://doi.org/10.1016/s0378-2166(01)00007-8)
- Garrison, D. R. (2003). Self-directed learning and distance education. In M. G. Moore & W. Anderson (Eds.), *Handbook of Distance Education* (pp. 161-168). Lawrence Erlbaum.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research: Competencies for analysis and applications* (10th ed). Pearson Education, Inc.
- Genç, M. F. & Gümrükçüoğlu, S. (2020). Koronavirüs (covid-19) sürecinde ilâhiyat fakültesi öğrencilerinin uzaktan eğitime bakışları [The Views of theology faculty students on distance education in the Coronavirus (Covid-19) process]. *Electronic Turkish Studies*, 15(4), 403-422.
- Gillies, D. (2008). Student perspectives on video-conferencing in teacher education at a distance. *Distance Education*, 29(1), 107-118.
- Gök, B. (2011). Uzaktan eğitimde görev alan öğretim elemanlarının uzaktan eğitim algısı (Yayınlanmamış Yüksek lisans tezi). Gazi Üniversitesi.
- Greenberg, G. (1998). Distance education technologies: best practices for K-12 settings. *IEEE Technology and Society Magazine*, 17(4). <https://doi.org/10.1109/44.735862>
- Gupta, A., & Goplani, M. (2020). Impact of Covid-19 on Educational Institutions in India. *UGC Care Journal*, 661-671. <https://doi.org/10.13140/RG.2.2.32141.36321>
- Gündüz, A. Y. (2013). Öğretmen adaylarının uzaktan eğitim algısı (Yayınlanmamış yüksek lisans tezi). Sakarya Üniversitesi.
- Gürer, M. D., Tekinarslan, E. and Yavuzalp, N. (2016). Çevrimiçi Ders Veren Öğretim Elemanlarının Uzaktan Eğitim Hakkındaki Görüşleri [Opinions of instructors who give lectures online about distance education]. *Turkish Online Journal of Qualitative Inquiry*, 7(1). <https://doi.org/10.17569/tojqi.74876>
- Hargittai, E. (2003). The digital divide and what to do about it. In Derek C. Jones (Eds.), *The New Economy Handbook*. Academic Press.
- Hill, J. R., Song, L. & West, R. E. (2009). Social learning theory and web-based learning environments: A review of research and discussion of implications. *The American Journal of Distance Education*, 23(2), 88-103.
- Hirumi, A. (2002). The design and sequencing of e-learning interactions: A grounded approach. *International Journal on E-Learning*, 1(1), 19-2. <https://www.learntechlib.org/primary/p/8390/>
- Hobson, T. D., & Puruhito, K. K. (2018). Going the Distance: Online Course Performance and Motivation of Distance Learning Students. *Online Learning*, 22(4), 129-140. <http://dx.doi.org/10.24059/olj.v22i4.1516>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*. <https://er.educause.edu/articles/2020/3/thedifference-between-emergency-remote-teaching-and-online-learning>.
- Horzum, M. B. (2013). Uzaktan eğitimde transaksyonel uzaklığın öğrencilerin öz yeterlilik algılarına etkisi [The effect of transactional distance on students’ self efficacy perception in distance education]. *Journal of Educational Sciences & Practices*, 12(24), 159-174.

- Horzum, M. B., Albayrak, E. and Ayvaz, A. (2012). Sınıf öğretmenlerinin hizmet içi eğitimde uzaktan eğitime yönelik inançları [Elementary Classroom Teachers' Beliefs on In Service Training via Distance Education]. *Ege Eğitim Dergisi*, 13(1), 55-72. <https://dergipark.org.tr/en/pub/egeefd/issue/4904/67214>
- Howland, J. L., & Moore, J. L. (2002). Student perceptions as distance learners in Internet-based courses. *Distance education*, 23(2), 183-195. <https://doi.org/10.1080/0158791022000009196>
- Jahng, N., Krug, D., & Zhang, Z. (2007). Student achievement in online distance education compared to face-to-face education. *European Journal of Open, Distance and E-Learning*, 10(1). <https://old.eurodl.org/?p=archives&sp=full&year=2007&halfyear=i&abstract=253>
- Jamtsho, S., & Bullen, M. (2007). Distance education in Bhutan: Improving access and quality through ICT use. *Distance Education*, 28(2), 149-161. <https://doi.org/10.1080/01587910701439217>
- Jung, I., Wong, T. M., Li, C., Baigaltugs, S., & Belawati, T. (2011). Quality assurance in Asian distance education: Diverse approaches and common culture. *International Review of Research in Open and Distributed Learning*, 12(6), 63-83.
- Kaleli-Yılmaz, G. & Güven, B. (2015). Öğretmen adaylarının uzaktan eğitime yönelik algılarının metaforlar yoluyla belirlenmesi [Determining the teacher candidates' perceptions on distance education by metaphors]. *Turkish Journal of Computer and Mathematics Education*, 6(2), 299-322.
- Kan, A. Ü. & Özmen, E. (2021). Metaphoric perceptions of pre-service teacher on distance education during the Covid-19 Pandemic. *Journal of History School*, 51, 1085-1118.
- Kanuka, H. & Jugdev, K. (2006). Distance education MBA students: An investigation into the use of an orientation course to address academic and social integration issues. *Open Learning*, 21, 153-166. <https://doi.org/10.1080/02680510600715578>
- Karacaoğlu, M. Ö., Karakuş, N., Esendemir, N. and Ucuzsatar, N. (2021). Uzaktan eğitim üzerine bir araştırma: "Türkçe öğretmenleriyle mülakatlar" [A Study on distance education: "Interviews with Turkish teachers"]. *IJLA International Journal of Language Academy*, 9(1), 124-144
- Karadağ, E. & Yücel, C. (2020). Yeni tip koronavirüs pandemisi döneminde üniversitelerde uzaktan eğitim: lisans öğrencileri kapsamında bir değerlendirme çalışması [Distance education at universities during the novel Coronavirus Pandemic: An analysis of undergraduate students' perceptions]. *Yükseköğretim Dergisi*, 10(2), 181-192.
- Karakuş, N., Ucuzsatar, N., Karacaoğlu, M. Ö. Esendemir, N. and Bayraktar, D. (2020). Türkçe öğretmeni adaylarının uzaktan eğitime yönelik görüşleri [Turkish teacher candidates' views on distance education]. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, 19, 220-241. <https://doi.org/10.29000/rumelide.752297>
- Kaya, A., & Dilekçi, Ü. (2021). Covid-19 salgını sürecindeki acil uzaktan eğitime ilişkin ebeveynlerin algıları: bir metafor analizi çalışması [Perceptions of parents regarding emergency remote education during Covid-19 pandemic: a metaphor analysis study]. *Trakya Eğitim Dergisi*, 11(3), 1621-1636. <https://doi.org/10.24315/tred.933889>
- Keller, J. M. (2010). *Motivational Design for Learning and Performance: The ARCS Model Approach*. Springer.
- Korkmaz, E. (2021). İlköğretim matematik öğretmenlerinin metaforik algıları: Pandemi sürecinde matematiğe yönelik farklı kavramlar [Metaphoric perceptions of primary school mathematics teachers: different concepts of mathematics in the pandemic era]. *Mustafa Kemal Üniversitesi Eğitim Fakültesi Dergisi*, 5(7), 1-14.
- Kuzu Demir, E. B., Özbek, A. B., & Demir, K. (2022). Exploring Turkish special education teachers' experiences of emergency remote teaching during the COVID-19 pandemic. *Journal of Educational Technology & Online Learning*, 5(2), 316-335.
- McMahon, M., & Oliver, R. (2001). Promoting self-regulated learning in an online environment. In proceedings of Ed-Media 2001 World Conference on Educational Multimedia, Hypermedia & Telecommunications (pp. 1299-1305). Association for the Advancement of Computing in Education (ACE).
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation (4th ed.)*. Wiley & Sons.

- Meyer, D. K. & Turner, J. C. (2006). Re-conceptualizing emotion and motivation to learn in classroom contexts. *Educational Psychology Review*, 18(4), 377-390.
- Mishra, L., Gupta, T. & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1(2020).
- Moore, M. G. (1994). Autonomy and interdependence. *Distance Education*, 8(2), 1-5. <https://doi.org/10.1080/08923649409526851>
- Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning* (3rd ed.). Wadsworth.
- Moore, S., Trust, T., Lockee, B. B., Bond, A., & Hodges, C. (2021). One year later... and counting: Reflections on emergency remote teaching and online learning. *EDUCAUSE Review*. <https://er.educause.edu/articles/2021/11/one-year-later-and-counting-reflections-on-emergency-remote-teaching-and-online-learning>.
- Naidu, S. (2016). Mainstreaming open, flexible, and distance learning. In Kwok-Wing Lai, Sarah Stein, Penny Field, and Keryn Pratt (Eds.), *Our World in Your Place: 30 years of distance learning and teaching at the University of Otago* (pp. 92-108). http://www.thtagj.com/courses/distance_study/otago629551.pdf#page=102
- Naidu, S. (2017). Openness and flexibility are the norm, but what are the challenges?. *Distance Education*, 38(1), 1-4. <https://doi.org/10.1080/01587919.2017.1297185>
- Ng, C. (2019). Shifting the focus from motivated learners to motivating distributed environments: a review of 40 years of published motivation research in Distance Education. *Distance Education*, 40(4), 469-496. <https://doi.org/10.1080/01587919.2019.1681892>
- Ojo, D. O. & Olakulehin, F. K. (2006). Attitudes and perceptions of students to open and distance learning in Nigeria. *The International Review of Research in Open and Distributed Learning*, 7(1), 1-10.
- Öz Ceviz, N., Tektaş, N., Basmacı G., & Tektaş M. (2020). Covid-19 pandemi sürecinde üniversite öğrencilerinin uzaktan eğitime bakışı: Türkiye örneği [University students' perspective on distance education during the Covid-19 pandemic period: the case of Turkey]. *Ulakbilge*, 52, 1322-1335.
- Özan, M. B., Karagözoğlu, A. A., & Yapıcı, Z. (2021). Bilim ve Sanat Merkezi Öğrencilerinin COVID-19 Salgını Sürecinde Uzaktan Eğitime Yönelik Algıları: Bir Metafor Analizi [Science and art center students' perceptions toward distance education during the Covid-19 pandemic: a metaphoric analysis]. *Turkish Journal of Educational Studies*, 8(3), 319-342.
- Öztürk, D. & Koca, A. H. (2021). Ortaokul öğrencilerinin laboratuvar ve uzaktan eğitim kavramlarına yönelik metaforik algıları [Metaphorical perceptions of middle school students about laboratory and distance education]. *Anadolu Öğretmen Dergisi*, 5(1), 179-199.
- Panda, S. & Mishra, S. (2007). E-Learning in a mega open university: Faculty attitude, barriers and motivators. *Educational Media International*, 44(4), 323-338.
- Peters, M. (2010). The Idea of Openness. In M. Peters, T. Besley, A. Gibbons, B. Žarnić, P. Ghirdelli (Eds.), *The Encyclopaedia of Educational Philosophy and Theory*. http://eepat.net/doku.php?id=the_idea_of_openness
- Phipps, R., & Merisotis, J. (2000). *Quality on the Line: Benchmarks for Success in Internet Based Distance Education*. NEA. <https://files.eric.ed.gov/fulltext/ED>
- Rovai, A. P. (2002). Building Sense of Community at a Distance. *The International Review of Research in Open and Distributed Learning*, 3(1). <https://doi.org/10.19173/irrodl.v3i1.79>
- Russell, T. (2001). The no significant difference phenomenon as reported in 355 research reports, summaries, and papers: A comparative research annotated bibliography on technology for distance education. Raleigh.
- Saatçi, G., & Aksu, M. (2020). Lisans düzeyinde turizm eğitimi alan yabancı uyruklu öğrencilerin koronavirüs algılarını metafor yolu ile tespit etmeye yönelik bir araştırma [A study on the detection of Coronavirus perceptions of foreign students receiving tourism education at the undergraduate level through metaphor]. *Journal of Awareness*, 5(4), 617-630. <https://doi.org/10.26809/joa.5.042>

- Saban, A. (2009). Öğretmen adaylarının öğrenci kavramına ilişkin sahip oldukları zihinsel imgeler [Prospective teachers' mental images about the concept of student]. *Türk Eğitim Bilimleri Dergisi*, 7(2), 281-326.
- Sani-Bozkurt, S., Bozkus-Genc, G., Vuran, S., Yıldız, G., Çelik, S., Diken, İ. H., Uysal, Ç., Gürgür, H., Kalaycı, G. Ö., Diken, Ö., Ateşgöz, N. N., İcöz, R., Doğan, M., Şafak, P., & Demiryürek, P. (2022). Expert perspectives on distance special education interventions for students with special needs and their families in Turkey during the COVID-19 pandemic. *Ankara University Faculty of Educational Sciences Journal of Special Education*, 23(1), 133-164. <https://doi.org/10.21565/ozelegitimdergisi.786118>
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Wiley.
- Sung, E. and Mayer, R. E. (2012). Five facets of social presence in online distance education. *Computers in Human Behavior*, 28(5), 1738-1747.
- Şahin, A. (2020). *Eğitim fakültesi öğrencilerinin uzaktan ve yüz yüze eğitime ilişkin görüşleri [Opinions of education faculty students on distance and face-to-face education] [Symposium proceedings]*. International Symposium of Education and Value-4, Karabük, Türkiye.
- Taş, H., Yavuzalp, N. and Gürer, M. (2016). *BÖTE Bölümü öğrencilerinin uzaktan eğitime yönelik algılarının metaforlar yoluyla belirlenmesi [Determining the perceptions of CITED students towards distance education through metaphors]*. 4th International Instructional Technologies & Teacher Education Symposium, Elazığ, Turkey.
- Tuncay, N., & Özçinar, Z. (2009). Distance education students' "metaphors". *Procedia-Social and Behavioral Sciences*, 1(1), 2883-2888. <https://doi.org/10.1016/j.sbspro.2009.01.513>
- Ucar, H., & Kumtepe, A. T. (2019). Be Motivated and Motivate: An Interview with John M. Keller. *eLearn Magazine*. <https://doi.org/10.1145/3329488.3331178>
- Uçar, H. and Kumtepe, A. (2016). Uzaktan eğitimde ARCS-V motivasyon tasarımı modelinin kullanımı [Use of ARCS-V motivational design model in distance education]. *AUAd*, 2(4), 37-54.
- Uçar, H., Bozkurt, A., Öztürk, A. and Kumtepe, A. T. (2020). Uzaktan öğrenenlerin eylem yeterlik düzeylerinin incelenmesi [Investigation of Distance Learners' Volitional Competence]. *Anadolu Journal of Educational Sciences International (AJESI)*, 10(1), 303-323. <https://doi.org/10.18039/ajesi.682037>
- Valentine, D. (2002). Distance learning: Promises, problems, and possibilities. *Online Journal of Distance Learning Administration*, 5(3). <https://inet.org/distance-learning-promises-problems-and-possibilities.html>
- Vonderwell, S. (2003). An examination of asynchronous communication experiences and perspectives of students in an online course: A case study. *The Internet and Higher Education*, 6(1), 77-90.
- Wang, C. H., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education*, 34(3), 302-323. <https://doi.org/10.1080/01587919.2013.835779>
- WHO. (2020). Coronavirus disease (COVID-19) Pandemic. World Health Organization. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- Xiao, J. (2018). On the margins or at the center? Distance education in higher education. *Distance Education*, 39(2), 259-274. <https://doi.org/10.1080/01587919.2018.1429213>
- Xiao, J. (2021). Decoding new normal in education for the post-COVID-19 world: Beyond the digital solution. *Asian Journal of Distance Education*, 16(1), 141-155. <https://doi.org/10.5281/zenodo.4818369>
- Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in the social sciences]*. Seçkin Yayıncılık.
- Yılmaz, G. K., & Güven, B. (2015). Öğretmen adaylarının uzaktan eğitime yönelik algılarının metaforlar yoluyla belirlenmesi [Determining the teacher candidates' perceptions on distance education by metaphors]. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 6(2), 299-322. <https://doi.org/10.16949/turcomat.75936>
- Yolagiden, C., & Şimşek, M. (2021). Yedinci Sınıf Öğrencilerinin Uzaktan Eğitime Yönelik Metaforik Algıları [Metaphorical perceptions of seventh grade students about distance education]. *Eğitimde Yeni Yaklaşımlar Dergisi*, 4(2), 40-53.

- Yurdakul, B. (2015). Uzaktan eğitim. Ö. Demirel (Ed.), *Eğitimde yeni yönelimler [New directions in education]* içinde (pp. 271- 288). Pegem.
- Zhan, Z. & Mei, H. (2013). Academic self-concept and social presence in face-to-face and online learning: Perceptions and effects on students' learning achievement and satisfaction across environments. *Computers and Education*, 69, 131-138
- Zheng, H. B., & Song, W. J. (2010). Metaphor analysis in the educational discourse: A critical review. *Online Submission*, 8(9), 42-49.
- Zhu, X., & Liu, J. (2020). Education in and after Covid-19: Immediate responses and long term visions. *Postdigital Science and Education*, 2(3), 695-699. <https://doi.org/10.1007/s42438-020-00126-3>
- Zincirli, M. (2021). School administrators' views on distance education during the COVID-19 Pandemic process. *Malaysian Online Journal of Educational Technology*, 9(2), 52-66.

About the Author(s)

Gulden Bozkus-Genc (Corresponding author); guldenbozkus@anadolu.edu.tr; Anadolu University, Turkey; <https://orcid.org/0000-0002-9444-7393>.

Author's Contributions (CRediT)

Gulden Bozkus-Genc: Conceptualization, Methodology, Data curation and analysis, Visualization, Writing – original draft, Writing – review & editing.

Acknowledgements

Not applicable.

Funding

Not applicable.

Ethics Statement

The data has been anonymized and consent forms were obtained from the participants of the study.

Conflict of Interest

The author do not declare any conflict of interest.

Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Suggested citation:

Bozkus-Genc, G. (2022). Metaphorical perceptions of pre-service special education teachers towards distance education during the coronavirus (COVID-19) pandemic. *Asian Journal of Distance Education*, 17(2), 109-134. <https://doi.org/10.5281/zenodo.7065803>



Authors retain copyright. Articles published under a Creative Commons Attribution 4.0 (CC-BY) International License. This licence allows this work to be copied, distributed, remixed, transformed, and built upon for any purpose provided that appropriate attribution is given, a link is provided to the license, and changes made were indicated.