

Perceptions of the Prospective Teachers Regarding the Opinion Development Technique

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Received: January 30, 2019

Accepted: February 26, 2019

Online Published: February 26, 2019

doi:10.11114/jets.v7i3.4011

URL: <https://doi.org/10.11114/jets.v7i3.4011>

Abstract

The opinion development technique is one of the learner centered teaching methods. In the study, it has been aimed at identifying the metaphorical perceptions of the prospective teachers about the opinion development technique. The case study design has been used in the study. 77 prospective teachers have taken place in the study group. The metaphors of the prospective teachers about the opinion development technique have been identified by a semi-structured questionnaire. The data has been analyzed through content analysis. 65 valid metaphors have been produced by the prospective teachers. Chameleon is the most repeated metaphor. Tree, sea, fingers of one hand, democracy, plane and war has followed it. Metaphors have been classed in 8 categories. These categories are dissimilarity (f: 26), change (f: 19), variety (f: 11), interaction (f: 6), integrity and comprehensiveness (f: 5), eternity (f: 4), freedom (f: 4) and sharing (f: 2). According to the results of the study, perceptions of the prospective teachers about the opinion development technique are positive. The study results suggest that opinion development technique can be effective to develop 21st century skills such as invention, flexibility and adaptation and critical thinking. Opinion development technique can be used at the teacher training institutions more widely because it contributes various skills to develop especially the 21st century skills. Studies can be carried out to identify the metaphorical perceptions of the prospective teachers about various methods and techniques.

Keywords: prospective teacher, metaphor, opinion development, teaching technique

1. Introduction

Teaching methods and techniques have a significant effect on achievement of an education program to reach its objectives, and the learning-teaching process to be effective is related to the selection of the suitable teaching methods and techniques (Demirel, 2012; Ocak, Ocak, Yılmaz & Mergen; 2012). It is known that teaching which is done by techniques and method that puts students on center and adds them into learning process has effects to realize effective learning (Duman, 2018). One of the techniques that can be assumed among the student centered methods and techniques is the opinion development technique. The opinion development technique is a discussion technique that can be used to develop the opinions of the students about teaching the subjects including specific contradictions and manners (Gözütok, 2007; Saracaloğlu & Küçüköğlü, 2015).

In life, particularly in social fields and even in physical sciences, there are subjects including oppositions and contradictions. Sometimes, the subject itself and sometimes the suggested ways for solving the problem can contradict with themselves. The ones defending the different opinions have causes on this issue. The ones defending the same opinion may have different causes to defend this opinion. In this case, it is essential to be a democratic society that everybody defend his/her opinion, respect different opinions and change the opinions if it is wished (Gözütok, 2007). Opinion development technique can be an important tool in achieving these values and manners. Nevertheless, it is aimed at creating positive changes in the values and manners of the learners with the opinion development technique (Erginer, 2015; Ocak, 2012). It maintains the students to develop, change their current opinions or to have a new opinion (Taşpınar, 2012). The subjects to be dealt with must include the opposite view-points to be considered valid (Saracaloğlu & Küçüköğlü, 2015). The most important characteristic of the technique is the necessity not to go up against the ones bringing forward an idea, but only to go up against their ideas during the discussion of the opinions. Adequate evidence and justification is asked for defending the opinions (Erginer, 2015).

Opinion development and discussion techniques are sometimes confused with each other. However there are significant differences between them. In discussion, only two opposite ends of the contradictory are argued. Whereas in opinion

development, there are different points between two opposite ends like a fan. While discussion is lasted with only a certain group of students, the whole class can actively join into the opinion development. While the participants defend the same opinion up to the end, opinions may be changed in opinion development. There are “winner” and “loser” groups in discussion while there is no “winner”, “loser”, “correct defender” or “wrong defender” in opinion development (Gözütok, 2007; Sönmez, 2007; Taşpınar, 2012). Application steps of the Opinion Development Technique can shortly be summarized as follows (Erginer, 2015; Gözütok, 2007; Saracaloğlu & Küçüköğlü, 2015; Taşpınar, 2012):

- On five different cartoons, it is written “absolutely agree”, “agree”, “indecisive”, “don’t agree” and “absolutely don’t agree”.
- These cartoons are stuck on the walls of the classroom from the most positive one to the most negative one at certain intervals.
- Suggestion is written on the board (it should be noticed that the suggestion include contradiction).
- Students are asked to what extent they agree on this suggestion. Students pass to sections where the cartoons determine their agreement degrees.
- Students are asked one by one why they are at the place where they are. Adequate evidence and justification is asked for defending the opinions.
- It is said that the student may go to somewhere else during the discussion by changing his/her opinion if he/she wants.
- The student changing his/her opinion is asked why he/she changed and to explain with the justifications.
- When it is decided that the subject has been discussed in detail, the discussion is terminated.

The Opinion Development Technique may have some explicit sides. Technique may take a long time. If the media is not managed effectively, the discussion may turn into a fight. It may be hard to apply in crowded groups (Taşpınar, 2012). Beside all its objections, the opinion development technique maintains students to respect various opinions and to have a democratic attitude. It helps to have different view-points and to look critically on the issues. It teaches that opinions may change by development of the critical approach. The interest onto the lesson increases thanks to discussion environment. The tolerance, bearing each other, speaking, persuasion and being open to change skills develop (Ocak, 2012; Saracaloğlu & Küçüköğlü, 2015; Taşpınar, 2012).

In spite of its so many positive sides, the studies carried out directly on the opinion development technique are limited. In Akkaya Yılmaz & Karakuş’s (2018) study titled as “The Impact of Place Based Education Approach on Student Achievement in Social Studies”, opinion development technique is given a place within the scope of the social sciences lesson. In Özdemir’s (2018) study titled as “The Use of Idea Development and Speaking Circle Techniques in Teaching Turkish to Foreigners”, it is dwelled on opinion development technique in the foreign language teaching. In Ocak & Yurtseven’s (2017) study, opinion development technique has been applied in the Turkish Lesson at the primary school fourth-grade and then, the opinions of the primary school students devoted to this technique have been received. Even if it does not form the focal point of the researches, opinion development technique is told about in some studies dealing with the student centered methods and techniques. For instance, in Aykaç (2011) and Aykaç & Adıgüzel’s (2011) studies, it is seen that the teachers haven’t give place to opinion development technique in education process not all that. In Kubat’s study (2016), it has been identified that the prospective teachers have never allowed the active teaching methods and techniques such as discussion method, problem solving method and opinion development technique happen during the teaching-learning process. In Uysal’s PhD dissertation (2010), most of the teachers have found themselves adequate in applying the opinion development technique. Moreover, the better part of the teachers have expressed that they often used the opinion development. Yet, the mind-bender is that no class at which the opinion development technique has been applied according to the observation results of the researcher has been run across. In fact, these results show that the opinion development technique is not known and used enough at the educational environments. Whereas, Demirel (2012) says that the teachers’ being selective about the methods and techniques can be possible only with their knowing and using various methods and techniques. So, it is important that the prospective teachers qualify about the methods and techniques at the teacher training and education institutions. For this reason, it is aimed to identify the metaphorical perceptions of prospective teachers about the opinion development technique. In this context, the following questions were asked:

1. What are the metaphors produced by the prospective teachers about the opinion development technique?
2. Under what conceptual categories are the produced metaphors gathered in terms of metaphorical aspects?

2. Method

The study has a descriptive qualification. It aims to put the current state forward as it is. The study is in the form of the case study of the qualitative research designs. In the case study, a phenomenon or event which the researcher cannot control is studied in detail on the basis of how and why questions (Yıldırım & Şimşek, 2006). Certain application

processes can be subjected to the case studies (Merriam, 2013). Also in this study, the opinion development technique has been applied and then, the perceptions about it have been tried to be described through metaphors. When metaphors are used with the purpose of description, a case, event or phenomenon is depicted as it is. Metaphors present a very firm and rich description about the studied case and give a visual image (Yıldırım & Şimşek, 2006).

2.1 Study Group

85 prospective teachers getting education at the 2nd grade of the Primary School Teaching and Elementary Mathematics Teaching programs, Faculty of Education at a state university in Turkey in the 2018-2019 academic year are at the study group of the research. But, 8 of the prospective teachers who have joined in the study group have been qualified out of the group at the data analysis stage because they could not justify their metaphors understandably. Finally, 77 prospective teachers have formed the study group of the research. 40 of the 77 prospective teachers are at the Primary School Teaching program and 37 at the Elementary Mathematics Teaching program.

The prospective teachers have been selected through the criterion sampling which is one of the purposive samplings. In the criterion sampling, the criterion identified by the researcher or prepared before is based on, and the study group is determined due to the meeting this criteria (Yıldırım & Şimşek, 2006). The basic criterion in this study is that the persons in the study group have studied the opinion development technique at the 2nd grade of the so-called programs and applied it at the Teaching Principles and Methods class. The purpose of selecting this criterion is to be able to achieve more qualitative data by benefitting from the knowledge and experience of the participants.

2.2 Data Collection Tool

In the study, a semi-structured questionnaire has been used as the data collection tool. In this questionnaire form, a question in the type of infill statement like “the opinion development technique is like because” is available. With the word “like” in this statement, it has been tried to identify by which metaphor the perceptions of the prospective teachers about the opinion development technique are expressed. In the part continuing with “because”, the justifications of the mentioned metaphors have tried to be learned.

2.3 Data Collection and Analysis

The research data have been collected just after the application of the opinion development technique at the Teaching Principles and Methods class. This period of time has been preferred in order to obtain more creative and fresh opinions in the realest and safest way from the prospective teachers. The prospective teachers have been informed about the questionnaire form, and sample metaphor statements have been presented by explaining particularly what the metaphor concept is and for what purpose it is used. The data has been analyzed by content analysis. The content analysis is to bring together the like data within the scope of specific concepts and categories and to interpret them for the reader to understand clearly by putting them in order (Ekici, 2016; Yıldırım & Şimşek, 2006).

At the data analysis stage, the questionnaire forms have firstly been controlled and eight of them have not been written understandably and whose justifications have not been presented have been excluded from the analysis. The rest of the questionnaire forms have been divided into two as the prospective primary school teachers and the prospective elementary mathematics teachers. By identifying PPST code for the prospective primary school teachers and PEMT code for the prospective elementary mathematics teachers, each group within itself has been assigned a number starting from 1. Thus, the forms of the prospective primary school teachers have respectively been named as PPST-1, PPST-2...PPST-40, and those of the prospective elementary mathematics teachers as PEMT-1, PEMT-2...PEMT-37. The metaphors at the numerated forms have been examined, and cognitive categories have been developed. The metaphors have been distributed according to the categories. The word cloud program (<https://worditout.com>) has been used for showing the metaphors with the word cloud. Some points have been noticed in order to increase the validity and reliability of the study. 1) The steps at the process of codifying and analyzing the data are explained in detail. 2) For each category, samples selected from the explanations of the prospective teachers have been presented at the findings. In other words, direct quotations are given. 3) The codes of the two researchers and the categories related to the codes have been compared with the aim of confirming whether metaphors which are given under the conceptual category represent the so-called conceptual categories. For this, it has been benefitting from Miles & Huberman's (1994) formula. $[\text{Consensus} / (\text{Consensus} + \text{Dissensus}) \times 100]$ and codifying reliability has been found as 0.91 $[70 / (70 + 77) \times 100]$. 4) The data's being interpreted fair-and-square by being supported with literature has been taken into consideration.

3. Results

In this section, all metaphors formed by the prospective teachers about the opinion development technique are presented together with their frequency values (f). Thereafter, the tables about the categories which are formed with reference to the metaphors are given. At these tables, metaphors, frequency values (f) and metaphorical aspects are explained. Metaphors related to the opinion development technique are grouped under eight categories. These categories are called

dissimilarity (f:26), change (f:19), variety (f:11), interaction (f:6), integrity and comprehensiveness (f:5), eternity (f:4), freedom (f:4) and sharing (f:2). At Table 1, all metaphors formed about the opinion development technique are given.

Table 1. Metaphors about the opinion development technique

Metaphors	f	Metaphors	f	Metaphors	f
Chameleon	5	Christmas lights	1	Ladder	1
Tree	4	Ocean	1	Mirror	1
Sea	2	Mille-feuille pie	1	Kite	1
Fingers of One hand	2	Technology	1	River	1
Democracy	2	Spark	1	Science	1
Plane	2	Labyrinth	1	Park	1
War	2	Flower	1	Food	1
Rainbow	1	Ashura	1	Seasons	1
Night and Day	1	Moving a new city	1	Colorful knitting yarn	1
Bee	1	Ring	1	Parliament	1
Sports	1	Book	1	Oil painting	1
Love	1	Senses	1	Humans from various races	1
Matryoshka doll	1	Telpher	1	Violin	1
Colorful flowers	1	Pencil box	1	Football	1
Market booth	1	Pomegranate	1	Space	1
Body organs	1	Child	1	Adolescence process	1
Zoo	1	Garden	1	Numerical axis	1
Family members	1	Yogurt	1	Grasshopper	1
Sky	1	Money	1	Fruit nappy	1
Body of livings	1	Pizza	1	Coiffeur	1
Brain box	1	Weather broadcast	1	Poor table	1
rug	1	Rear-view mirror	1		

65 valid metaphors have been created by the prospective teachers. *Chameleon* has been the most repeated metaphor. *Tree*, *sea*, *fingers of one hand*, *democracy*, *plane*, and *war* are the metaphors repeated more than once. Some these repeated metaphors are placed in different categories because the evaluation has been done according to the metaphorical aspects. The metaphors which are formed by the prospective teachers about opinion development technique and having a part in the category "Dissimilarity" are given at Table 2.

Table 2. Metaphors Taking Part at the Category Dissimilarity

Category	Σf	Metaphor	f	Metaphorical Aspect		
Dissimilarity	26	Fingers of one hand	2	Variety of the Opinions		
		Tree	2	Disaccord		
		Bee	1	Hold Different Views		
		Humans from various races	1	Have Different Views		
		Night and day	1	Hold Different View-points		
		Matryoshka	1	Variety of the Contrast Opinions		
		Violin	1	Each view's including different opinions		
		Colorful knitting yarn	1	Giving Different Charges		
		Money	1	Different Opinions		
		Flower	1	Housing Different Opinions		
		Pencil box	1	Variety of the Opinions		
		Sea	1	Collocation of the Different Opinions		
		Pomegranate	1	Respecting Different Opinions		
		Book	1	Someone's Producing Different Opinions		
		Garden	1	Including Various Information		
		Ashoura	1	Collocation of the Different Opinions		
		Science	1	Richness of the Different Opinions		
		Rug	1	Emergence of the New Opinions		
		Chameleon	1	Integrity of the Different Opinions		
		War	1	Thinking Different According to the Situation		
		Brain box	1	Clash of Different Opinions in Brain		
		Food	1	Be Open to the Different Opinions		
		Rear-view mirror	1	Richness of the Different Opinions		
		Ladder	1	Seeing the Different Opinions		
					1	Producing Different Ideas

The category at which the most metaphors take place is the dissimilarity category. Generally, the existence of the different opinions is mentioned. 24 different metaphors have been produced by 26 prospective teachers. These metaphors are fingers of one hand, tree, and bee, humans from different races, night and day, matryoshka, violin, colorful knitting yarn, money, flower, pencil box, sea, pomegranate, book, garden, ashoura, science, rug, chameleon, war, brain box, food, rear - view mirror and ladder. When the metaphorical aspects at this category are looked over,

particular importance is given to the concept “difference of opinions” which is the common trait of all metaphors. If it is studied more in detail; the emphasis is laid on respecting different opinions at the sea metaphor while collocation, richness and integrity of the different opinions are emphasized at the money, pencil box, garden, ashoura and food metaphors. Innovations are mentioned at the science metaphor. Some of the answers of the prospective teachers about the dissimilarity category are as; *The opinion development technique is like **the fingers of one hand** because each opinion is different from others (PPST-10). The opinion development technique is like **chameleon** because there are different opinions in opinion development. Chameleon can also relapse into various colors in various situations. Persons may relapse into various opinions according to the situation, too (PPST-14). The opinion development technique is like **bee** because the opinion development technique receives different opinions from everybody as well as the bee takes honey from every flower (PPST-16). The opinion development technique is like **colorful knitting yarn** because different yarns express different opinions (PEMT-12). The opinion development technique is like **a rug** because it forms a whole with different designs (PPST-19). The opinion development technique is like **a flower** because each opinion is different from the other and important just as each flower is different from the other and valuable. (PEMT-21). The opinion development technique is like **war** because it includes the fights of the different opinions in our brain (PPST-33). The opinion development technique is like **food**. The vegetables having their own taste may exclude very different tastes all together (PEMT-25). The opinion development technique is like **sea** because various creatures are together within the sea. This reminds us of being with different ideas in the same atmosphere and of living together by respecting various opinions (PEMT-30).* The metaphors formed by the prospective teachers about the opinion development technique and being under the “Change” category are given at Table 3.

Table 3. The metaphors Taking Part at the Change Category

Category	Σf	Metaphors	f	Metaphorical Aspect
Change	18	Chameleon	3	Changing Opinions Orientation to the Changing Conditions
		Yogurt	1	Changing as Talking and Discussing
		Moving a new city	1	Comply with the Developed Opinion
		Ring	1	Being Able to Change Opinion
		Senses	1	Opinions to Be Changed
		Whole livings	1	Changing of the Ideas in Time
		Technology	1	Ideas To Be Able to Change
		Child	1	Development of the View-Point
		Weather broadcast	1	Ideas to Change
		Seasons	1	Segue Between the Opinions
		Football	1	Segue from Idea to Idea
		Numerical axis	1	Move Among the Opinions
		Grasshopper	1	Segue from Idea to Idea
		Coiffeur	1	Reinvention of the Opinions
		Sports	1	Changing the Opinions by Keeping fit
		River	1	Replacement of an Opinion With Another

Change category is the second one after the variety category, at which the most metaphors have been produced. 16 different metaphors have been produced by 18 prospective teachers. These metaphors are chameleon, yogurt, moving a new city, senses, whole livings, technology, child, weather broadcast, seasons, football, numerical axis, grasshopper, coiffeur, sports and river. At this category, emphasis has generally been put on changing the opinions. For example; while it is mentioned about passing from one idea to another in the seasons, football and grasshopper metaphors, the changing conditions and opinions is predicated upon chameleon and moving a new city metaphors. Keeping fit is emphasized at the sports metaphor, but reinvention of the opinions is done so at the coiffeur metaphor. Some of the answers of prospective teachers about change category are as; *the opinion development technique is like **technology** because technology continuously develops and changes. Also in this technique, ideas may change and various ideas come to light and develop as long as it is talked about the subject (PPST-5). The opinion development technique is like **grasshopper** because we can jump from one idea to another (PEMT-10). The opinion development technique is like **river** because one opinion is replaced with another while one drop is replaced with another (PEMT-20). The opinion development technique is like **sports** because sports keep humans fit and the opinion development technique develops the opinions of people, too. (PPST-32). The opinion development technique is like **coiffeur** because opinion development technique may shape our opinions in many ways (PPST-40). The opinion development technique is like **chameleon** because chameleon may change the idea according to the discussed opinions just as it changes its color (PEMT-27).* The metaphors formed by prospective teachers about the opinion development technique and being under the “Variety” category are given at Table 4.

Table 4. The metaphors Taking Part at the Variety Category

Category	Σf	Metaphors	f	Metaphorical Aspect
Variety	11	Tree	2	Existence of Various Opinions Variety of the Increasing Ideas
		Fruit Nappy	1	Existence of Various Opinions
		Pizza	1	Addition of the Various Ideas
		Rainbow	1	Housing Various Ideas
		Colorful Flowers	1	Including Various Ideas
		Market Booth	1	Existence of Various Ideas
		Zoo	1	Existence of Every Type of Idea
		Family Members	1	Housing Many View-points
		Christmas Lights	1	Live and Colorful Ideas
		Oil Painting	1	Colorful Ideas

In variety category, 10 different metaphors have been produced by 11 prospective teachers. These metaphors are tree, fruit nappy, pizza, rainbow, colorful flowers, market booth, zoo, family members, Christmas lights and oil painting. In this category, statements about the existence of various opinions in opinion development technique have been used. For instance; it is mentioned that opinions are increasingly varied at tree metaphor and many view-points are together at the family members metaphor. But, the variety of the opinions is stated with the word multicolored at the Christmas lights and oil painting metaphors. Some of the answers of the prospective teachers about the variety category are as; *the opinion development technique is like fruit nappy because every opinion leaves a different taste on the palate (PPST-7)*. *The opinion development technique is like tree because ideas are different from each other just as there are different kinds of trees (PEMT-37)*. *The opinion development technique is like rainbow because it houses various ideas (PPST-22)*. *The opinion development technique is like tree because ideas branch out as it is in the opinion development technique, that is, they increase and variety increases (PPST-26)*. *The opinion development technique is like Christmas lights because Christmas lights are lively and multicolored. Each idea presented with the opinion development technique is also lively and multicolored (PPST-33)*. *The opinion development technique is like oil painting because it houses multicolored ideas in harmony (PPST-39)*. The metaphors formed by the prospective teachers about the opinion development technique and being under the “Interaction” category are given at Table 5.

Table 5. The metaphors Taking Part at the Interaction Category

Category	Σf	Metaphor	f	Metaphorical Aspect
Interaction	6	Adolescence Period	1	Formation of the Thought via Interaction
		Chameleon	1	Being Affected from the Opinions of Various persons
		Mille-feuille pie	1	Lamination of the Opinions via Interaction
		Kite	1	Being Affected from Various Ideas
		War	1	Interaction of the Opposing Views
		Labyrinth	1	Being Affected from Other Ideas

At interaction category, six different metaphors have been produced by six prospective teachers. These metaphors are adolescence period, chameleon, mille-feuille pie, kite, war and labyrinth. At this category, statements about the interaction of the opinions from each other have generally taken place. For example, it has been stated that the opinions interact in order to refute each other at war metaphor, and that the opinions laminate with the interaction as the opinion development period progresses at the mille-feuille pie metaphor. However, in kite metaphor, the statement being affected from the ideas of others and passively being dispersed around these ideas has been used. Some of the answers of prospective teachers about the interaction category are as; *the opinion development technique is like kite because we are dispersed around the opinion which is defended (PPST-8)*. *The opinion development technique is like war because rivals bomb each other with their ideas in order to refute their opinions. They develop opposite opinions like a weapon (PPST-17)*. The metaphors formed by the prospective teachers about the opinion development technique and being under “Integrity and Comprehensiveness” category are given at Table 6.

Table 6. The metaphors Taking Part at the Integrity and Comprehensiveness Category

Category	Σf	Metaphor	f	Metaphorical Aspect
Integrity and Comprehensiveness	5	Spark	1	Discussion's including everybody quickly
		Plane	1	Dominating all opinions
		Telpher	1	Expansion of the view point
		Body Organs	1	Completion of the mentality with various opinions
		Mirror	1	Reflecting all ideas

In Integrity and Comprehensiveness Category, five different metaphors have been developed by five prospective teachers. These metaphors are spark, plane, telpher, body organs and mirror. At this category, it is stated that the opinion development technique expanded the view point of individuals and corrected their deficiencies by dominating on whole. For example; it is mentioned about the domination of all opinions in plane metaphor, but it says the reflection of all

opinions in mirror metaphor. Some of the answers of prospective teachers about Integrity and Comprehensiveness Category are as; the opinion development technique is like *a spark* because discussion may grow and inflame with a small introduction. It embodies, includes and affects everybody (**PPST-2**). The opinion development technique is like *a telfer* because the view point expands as it goes up. As the discussion process progresses and you learn various ideas, your point of view widens (**PEMT-6**). The opinion development technique is like *body organs* because various opinions complete and develop our mentality while organs of our body complete us (**PPST-9**). The opinion development technique is like *mirror* because it shows and reflects all ideas (**PEMT-18**). The metaphors formed by the prospective teachers about the opinion development technique and being under the “Freedom” category are given at Table 7.

Table 7. The metaphors Taking Part at the Freedom Category

Category	Σf	Metaphor	f	Metaphorical Aspect
Freedom	5	Democracy	2	Everybody's saying his idea freely
		Plane	1	Switching to the wished opinion
		Park	1	Changing opinion whenever wanted
		Parliament	1	Expression of the opinions

In freedom category, four different metaphors have been developed by five prospective teachers. These metaphors are democracy, plane, park and parliament. In this category, it has been mentioned about expressing the opinions and changing them freely. Some of the answers of prospective teachers about Freedom Category are as; opinion development technique is like *democracy* because each individual can tell his idea freely without feeling under any pressure (**PPST-3**). The opinion development technique is like *park* because you can ride on every toy you wanted and replace whenever you want. You can also change your opinion at the opinion development technique whenever you want (**PEMT-2**). The opinion development technique is like *democracy* because there is every type of opinion. Everybody tells his/her idea (**PPST-6**). The metaphors formed by the prospective teachers about the opinion development technique and being under the “Eternity” category are given at Table 8.

Table 8. The metaphors Taking Part at the Eternity Category

Category	Σf	Metaphor	f	Metaphorical Aspect
Eternity	4	A vast sea	1	Zero ending opinions
		Ocean	1	Appearance of Endless Opinions
		Sky	1	Endless opinions
		Space	1	Zero ending ideas

In eternity category, four different metaphors have been developed by four prospective teachers. These metaphors are a vast sea, ocean, sky and space. In this category, metaphors about the opinions' not coming through and infinitely many opinions' being produced have been used. Some of the answers of prospective teachers about the Eternity Category are as; the opinion development technique is like *a vast sea* because there is no end of the opinions and no end can be achieved (**PPST-1**). The opinion development technique is like *sky* because our opinions are endless and vast as well as the sky (**PPST-29**). The opinion development technique is like *space* because ideas are endless (**PPST-35**). The metaphors formed by the prospective teachers about the opinion development technique and being under the “Sharing” category are given at Table 9.

Table 9. The metaphors Taking Part at the Sharing Category

Category	Σf	Metaphor	f	Metaphorical Aspect
Sharing	2	Poor Table	1	Sharing ideas
		Love	1	Increase of the opinions as shared

In sharing category, two different metaphors have been developed by two prospective teachers. These metaphors are poor table and love. In this category, sharing the ideas and the increase of the opinion as shared are mentioned about. Some of the answers of prospective teachers about the Sharing Category are as; the opinion development technique is like *poor table*. Everybody is in on sharing something (**PPST-21**). The opinion development technique is like *love* because it increases as shared (**PPST-38**).

4. Discussion

In this study, it has been aimed to identify the perceptions of prospective teachers about the opinion development technique which is one of the learner centered teaching techniques through metaphors. 77 prospective primary school and elementary mathematics teachers studying at the 2nd grade and applying the opinion development technique in class have participated into the study. In the sample selection, criterion sampling which is one of the purposive samplings has been selected. A questionnaire form which has a question in the type of infill statement like “the opinion development technique is like because” has been used as a data collection tool. At the end of the study, 65 valid metaphors have been produced by the prospective teachers. Chameleon has been the most repeated metaphor. Tree, sea, fingers of one hand, democracy, plane, and war are the metaphors repeated more than once. These metaphors are shown in a larger font in the word cloud (Figure 1). Metaphors have been gathered in eight categories by taking the like aspects into consideration. These categories

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