Metaphorical Perceptions of Teacher Candidates towards the School Concept: Lotus Flower Model

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This study aimed to determine teacher candidates's perception about "school" through metaphors. In this respect, components of school such as "Teacher, Student, Principal, Classroom, Teachers' Room, Parent, Ministry of National Education and Inspector" were categorized separately to determine metaphorical images of teacher candidates about school. The sampling of the study consisted of 346 teacher candidates studying at Science, Physics, Chemistry, Biology and Math departments of Hacettepe University, Faculty of Education.This is a two-dimensional research study where qualitative and quantitative research methods are used together. Metaphors of teacher candidates about school were collected through a diagram prepared according to the Lotus Flower Technique. Findings of this study clearly indicated that Lotus Flower Technique enabled the expression of metaphors by teacher candidates on "school", being an effective data collection tool in revealing, understanding and explaining a concept together with its components, which, in this case, are "teachers, student, principal, classroom, teachers' room, parent, MEB and inspector".

Introduction

Productivity of education and teaching along with their efficiency in reaching their goals depends on the performances of educational institutions and their components. Depending on the rapid developmental process of education in time, the profiles of teachers, students, parents and administrators change accordingly. Concepts of school and classroom attain different functions in order to fit to the vision this change brings forward. Importance and functionality of school in education, along with the thought on how more different information on school could be gathered, lead this study to proceed with metaphors. As metaphors cater for qualitative data collection, they provide rich pictures and visual images about topics, events and situations to be researched. Additionally, metaphors consist of varied expressions; and this enables researchers to categorize under certain thematic titles according to their similarities and differences (Yıldırım & Şimşek, 2005). Lakoff and Johnson (1980) are the researchers to have attracted attentions by doing the first studies on metaphors as facilitating tools.

According to Lakoff and Johnson (1980), metaphors for many people are poetic tools,

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which blossom through imagination. Events, phenomenon, or situations could be expressed more beautifully through metaphors instead of using a monotonous language. Metaphors require catching the main nature of an experience in an active process, which enables individuals to understand their own worlds along with others. Metaphors are individual symbols for behaviors that cannot be expressed in words and they make verbal expressions unlimited. They enable individuals to present the production of an individual as if it is a part of their own environment. In other words, metaphors enable individuals to express everything they say, see, hear, feel and do in the way they imagine (Lawley &Tompkins, 2000). Metaphors cater for the reflection of a certain mental scheme over another one through establishing connections between two unrelated phenomenon. In this respect, metaphors enable the shifting of an individual's mind from a certain type of perception to another and provide the individual with the chance to see a phenomenon as another one (Önen & Koçak, 2011; Saban, 2008).

Although metaphors are known as figures of languages adding attraction to a speech or script, they have a wide range of usage in daily life (Yero, 2001). In additions to certain features of metaphors as clarity, intensity and explanatoriness (Ortony, 2000), they have essential effects over individuals' expressions, behaviors, intuitions and emotional developments. Metaphors affect cognitive processes and actions (Lakoff & Johnson, 1980) and enable individuals to express themselves while shaping their expressions (Morgan, 1998). Metaphors affecting individuals not only reflect thoughts but also shape them and contribute to the emerging of behaviors (Strenski, 1989). Additionally, by improving individuals' intuitions and emotional developments (Fraser, 2000), they provide individuals with the opportunity to establish strong modeling mechanisms to understand and structure their own worlds (Arslan & Bayrakçı, 2006). Metaphors could be used as effective tools in determining the place of teachers in modern education approach (Vadeboncoeur & Myriam, 2003). The fact that metaphors are important tools in researching processes and concepts as basis of the educational process has been proven by the qualitative research findings (Carlson, 2001; Cochran, 2002; Çapan, 2010; Goldstein, 2005; Keränen, 2005; Önen & Koçak, 2011; Saban, 2004,2009; Taşdemir & Taşdemir, 2011). Therefore, metaphors have important roles guiding education and teaching practices of teacher candidates. As metaphors have the ability to enable long-term retention (Arslan & Bayrakçı, 2006), metaphors could be used in education (Botha, 2009; Cook-Sather, 2003; Fang, 2007; Fraser, 2000; Patton, 2002; Zheng & Song, 2010).
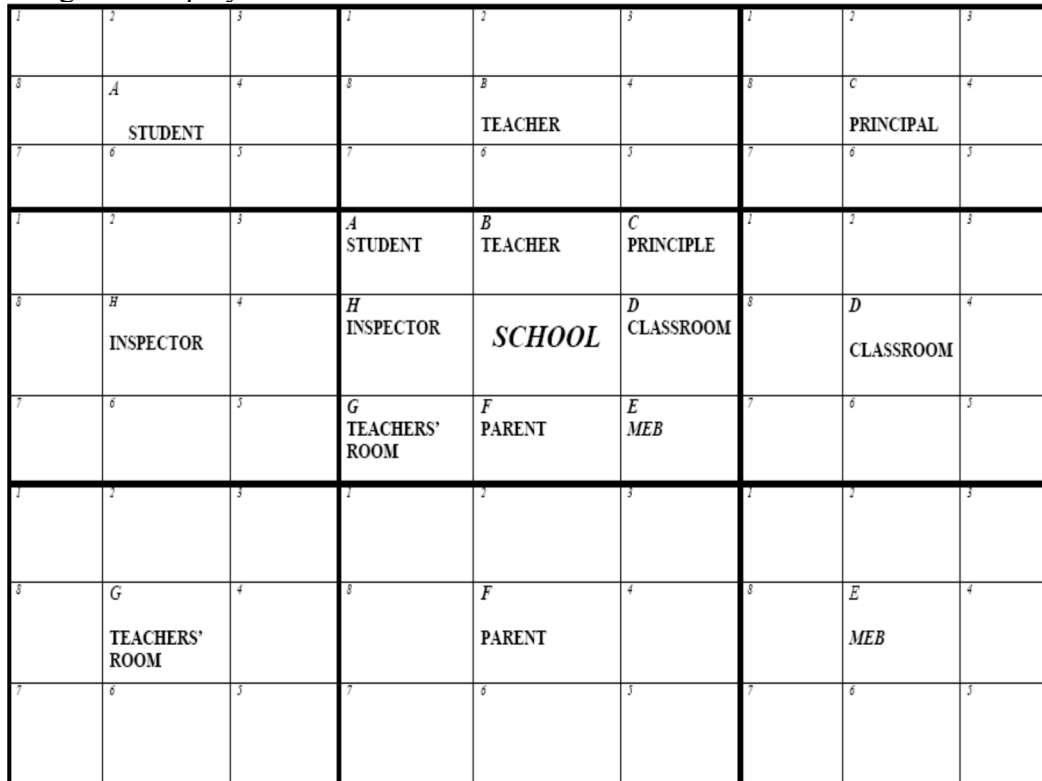
Metaphors, which enrich the language when used in daily speech and could be used for educational purposes, also have limitations. As metaphors affect individuals' meaning construction processes (Wulf & Dudis, 2005; Yalçın, 2012), they could cater for limited meanings. They could sometimes reflect only a single aspect of a complex situation (Perry & Cooper, 2001) and cause misunderstandings. Additionally, meanings related to concepts may intersect and create unexpected complexities (Arslan & Bayrakçı, 2006;Tyson, 1995). Therefore, different methods and techniques could be used in studies using metaphors. For this reason, this study made use of the Lotus Flower Technique to determine teacher candidates' perceptions about "school" as a technique different from the techniques used when working with metaphors (Berman et.al, 2002; Cerit, 2008; Döş, 2010; Öztürk, 2007; Saban, Koçbeker &Saban, 2006; Semerci, 2007).

Population and Sampling

The sampling of the study consisted of 346 teacher candidates studying at Science, Physics, Chemistry, Biology and Math departments of Hacettepe University, Faculty of Education.

Methods

This is a two-dimensional research study where qualitative and quantitative research methods are used together. Within the qualitative research dimension of the study, data collected from teacher candidates were evaluated through content analysis, while the quantitative dimension of the study was evaluated using tables displaying the statistical analysis results. In this study, "teacher", "student", "principal", "classroom", "teachers' room", "parent", "MEB (Ministry of National Education)" and "inspector" components are categorized separately to determine the metaphorical images that teacher candidates had for "school". Teacher candidates, therefore, are asked to fill in the leaves of the lotus flower leaves as Figure 1 displays.

	STUDENT			TEACHER			PRINCIPAL	
			A STUDENT	B TEACHER	C PRINCIPLE			
INSPECTOR			H INSPECTOR	*SCHOOL*	D CLASSROOM		CLASSROOM	
			G TEACHERS' ROOM	F PARENT	E MEB			
	TEACHERS' ROOM			PARENT			MEB	

Figure 1: Lotus flower diagram on school metaphor

As displayed on Figure1, since Lotus Flower Technique creates more leaves under each leave, it looks like an opened lotus flower (Sloane, 2006). Lotus Flower technique helps thinking on schematic and important topic, all components of *School* concept (*A. Student, B. Teacher, C. Principal, D. Classroom, E. Ministry of National Education, F. Parents, G, Teachers' Room and H. Inspector*) are placed in the middle of the diagram. Teacher candidates are expected to think about the *School* as a whole. Additionally, the lotus flower leaves surrounding the diagram are placed boxes, in which metaphors related to *Student, Teacher, Principal, Classroom, Ministry of National Education, Parents, Teachers' Room and Inspector* are to be written. Teacher candidates are asked to create a maximum of 8 metaphors and write them separately in the boxes surrounding the concepts. Therefore, teacher candidates could create 72 different metaphors related to *School*.

Findings

Qualitative Findings of the Study

Construction of Metaphor Categories

No demographical information (name, surname, number, grade level, etc.) is asked from teacher candidates during the study. This enabled teacher candidates to reveal their thoughts confidently and freely. Perceptions of teacher candidates towards school metaphor are analyzed separately through the metaphors written in the lotus flower leaves. The analysis concluded with the categorization of 12,268 metaphors obtained under categories according to their common characteristics. Figure2 displays these categories and the sample metaphors listed under these categories.

STUDENT					
energy	fire	library	naughty child	baby	lazy
independent	**Proactive**	computer	empty Box	**Reactive**	sleepy
knowledge	book	sun	worker	clay	child

TEACHER					
queen bee	technical director	book	zero	unnecessary	salary
lighthouse	**Proactive**	guide	porter	**Reactive**	money
sun	computer	pioneer	problem	nevre	worker

PRINCIPAL								
punishment	dictator	king	money	registration fee	donation	position	paperwork	politics
authority	**Discipline**	order	diploma fee	**Finance**	budget	administrator	**Administration**	chair
violence	formality	fear	additional income	revenue	receipt	leader	direction	rank

INSPECTOR								
surveillance	control	classroom	discipline	aggressive	suit	boredom	panic	horror
inspector	**Inspection**	notebook	authority	**Authority**	dictator	nightmare	**Fear**	tension
follower	rules	order	seriousness	Authoritarian	nerves	nervousness	fear	pressure

CLASSROOM								
desk	school bell	book	hauseroom	mother	father	chat	conversation	friendship
table	**Course**	Chalk	home	**Family**	sister	sociability	**Social Environment**	fun
blackboard	coat tree	notebook	uncle	friend	brother	happiness	friendly	party

TEACHERS' ROOM								
laughter	gossip	speec	secret place	secret room	room	notebook	exam questions	coat
tea	**Chat**	chat on soccer	department	**Shelter**	escaping	bookcase	**Locker**	lock
coffee	talk	girls' days out	escape	break area	Shelter	photocopy	bulletin board	table

PARENT											
mother	grand mother	sister	council	parent-school assoc.	solidarity	Interest	cooperation	angel	control	curiousness	Doubt
father	**Family**	Family	senate	**Meeting**	dealing	love	**Support**	money	bad report card	**Complaint**	curious
brother	Grand father	Home	unity	parent meeting	guidance	help	self-sacrificing	respect	bad scores	punishment	assignment

MEB (MINISTRY OF NATIONAL EDUCATION)								
Exam	relocation	course	minister	institution	serious	book	plan	education system
KPSS	**Assignment**	lot	leather chair	**Politics**	hierarchy	system	**Program**	exam system
test	supplementary teacher	correct	seriousness	bylaws	directives	e-school	board	curriculum

Figure 2: Categories and sample metaphorical images

Figure2 displays that the names of the categories are determined according to metaphorical images listed under these groups. In other words, when naming the categories,

metaphors expressed by the teacher candidates are made use of. For example, in *Principal* dimension, *Discipline* as common metaphor teacher candidates is determined as the name of the category, which is similar at the *Inspector* dimension with a category name of *Inspection*. However, metaphors on *Teacher* and *Student* are listed under two categories as *Proactive* and *Reactive,* according to the type of personality they reflect. In the psychiatric pattern, there are two different personality profiles classified as proactive and reactive, which differ according to the behavioral structures (Covey, 1998; Schwarzer, 1999). Reactive personality is used to describe individuals who are driven by outside factors. They are individuals, who tend to panic easily, have lost their confidence, are sensitive and passive. They usually act with the foresights of others, while experiencing obstacles in their social roles with a distant and hesitating personality basis (Şahin, 2006). Proactive individuals do not behave according to the conditions and the feelings these conditions bring forward. Instead, they act according to their own values and principles (Covey, 1998). Proactive individuals recognize opportunities in their environments and take action to make use of them, while taking responsibilities and continue until they experience a significant change (Crant, 2000; transferred by Şahin, 2006). Metaphors obtained from the research are analyzed and it is concluded that there are many metaphors expressing these two personality patterns with student and teacher metaphors.

Validity and Reliability of the Study

After the definition of 12,268 metaphors and development of image categories, these categories were submitted to expert opinion for reliability and validity of the study. Categories, which reached their final structures after expert opinions were evaluated together with the metaphorical images in a confirmation meeting with a group of 35 selected among the participants. Categories and the metaphorical images listed under categories were shared with 35 teacher candidates. Participants discussed and agreed on whether the information structured under categories was temporary or periodic, whether metaphorical images were understood accurately and whether they were listed under correct categories. Therefore, the categories reached their final structures with the reliability and validity of the study, and they were coded on computers so that they would be ready for quantitative analysis.

Quantitative Dimension Findings Of The Study

Quantitative research dimension of the study involved the calculation of percentage and frequency values of metaphor categories reflecting the perceptions of students on School and its components (Student, Teacher, Principal, Classroom, Ministry of National Education, Parents, Teachers' Room and Inspector) using the data obtained from the Lotus Flower Diagram as the data collection tool. Values obtained have been listed under different titles below:

Evaluation of Metaphorical Perceptions for Student

Metaphors developed by teacher candidates on *Student* have been analyzed and the values obtained are displayed on Table1.

Table 1: Percentage and frequency values of metaphorical categories of teacher candidates for student

Student	%	f
Reactive	84.2	1542
Proactive	15.8	290
Total	100	1832

Table1 shows that metaphorical perceptions of teacher candidates for *Student* are mainly listed under the Reactive category. Among the 1832 metaphors expressed by teacher candidates for *Student*, 84.2% related *Student* with reactive personality pattern, while 15.8% related it with proactive personality pattern.

Evaluation of Metaphorical Perceptions for Teacher

Metaphors developed by teacher candidates on *Teacher* have been analyzed and the values obtained are displayed on Table2.

Table 2. Percentage and frequency values of metaphorical categories of teacher candidates for teacher

Teacher	%	f
Reactive	14.2	246
Proactive	85.8	1484
Total	100	1730

Table2 shows the distribution of 1730 metaphors between reactive and proactive categories. Among the metaphors expressed by teacher candidates for *Teacher*, 85.8% were at the proactive category, while 14.2% were placed at the reactive category.

Evaluation of Metaphorical Perceptions for Principal

Principal as the sole administrative authority of the *School* was evaluated in terms of its metaphorical reflection in the minds of teacher candidates. The values obtained are displayed on Table3.

Table 3: Percentage and frequency values of metaphorical categories of teacher candidates for principal

Principal	%	f
Discipline	42.4	616
Finance	8.1	117
Administration	49.5	719
Total	100	1452

As Table3 displays the way *Principal* is perceived by teacher candidates is listed under three categories. Analysis concluded that metaphorical perceptions of teacher candidates on *Principal* were grouped under Discipline with 42.4% value, Finance with 8.1% value, and Administration with 49.5% value.

Evaluation of Metaphorical Perceptions for Inspector

Metaphors developed by teacher candidates on *Inspector* have been analyzed and the values obtained are displayed on Table4.

Table 4: Percentage and frequency values of metaphorical categories of teacher candidates for inspector

Inspector	%	f
Inspection	52.5	697
Authority	29.7	394
Fear	17.8	236
Total	100	1327

Table 4 shows the percentage and frequency values of metaphorical perceptions by teacher candidates for *Inspector,* and the metaphors were observed to cumulate under Inspection, Authority and Fear categories. This dimension received the least number of metaphors. Among the 1327 metaphors, 52.5% were grouped under Inspection, while 29.7% were under Authority and the 17.8% were under Fear.

Evaluation of Metaphorical Perceptions for Classroom

Metaphors developed by teacher candidates on *Classroom* have been analyzed and the following values were obtained as displayed on Table5.

Table 5: Percentage and frequency values of metaphorical categories of teacher candidates for classroom

Classroom	%	f
Course	59.0	948
Family	13.7	220
Social Environment	27.4	440
Total	100	1608

Table5 shows the metaphorical categories expressed by teacher candidates for *Classroom,* where different rates of metaphors were observed. Among the 1608 metaphors obtained, 59% were grouped under Course, while 13.7% were under Family and 27.4% were under Social Environment categories.

Evaluation of Metaphorical Perceptions for Teachers' Room

Table 6 displays the values obtained from the analysis on metaphors developed by teacher candidates for *Teachers' Room*.

Table 6: Percentage and frequency values of metaphorical categories of teacher candidates for teachers' room

Teachers' Room	%	f
Chat	32.4	464
Shelter	37.7	539
Locker	29.9	428
Total	100	1430

Table 6 displays that metaphorical perceptions of teacher candidates from *Teachers' Room*, where teachers spend their non-class hours, were grouped under three categories as Chat, Shelter and Locker. Chat was the category involving 32.4% of the metaphors, while Shelter involved 37.7% and the Locker involved 29.9% of the metaphors.

Evaluation of Metaphorical Perceptions for Parent

At this phase of the study, metaphors of teacher candidates for *Parent* were evaluated and the results are displayed on Table7 in percentages and frequencies.

Table 7: Percentage and frequency values of metaphorical categories of teacher candidates for parent

Parent	%	f
Support	21.6	318
Family	14.4	211
Meeting	11.6	170
Complaint	52.4	770
Total	100	1469

Table 7 displays that metaphorical perceptions of teacher candidates for *Parent* were grouped under Support, Family, Meeting and Complaint categories, where 21.6% of 1469 metaphors were listed under Support, 14.4% were listed under Family, 11.6% were listed under Meeting, and 52.4% of them were listed under Complaint.

Evaluation of Metaphorical Perceptions for Ministry of National Education

Metaphorical perceptions of teacher candidates for *Ministry of National Education* as the highest authority for education and teaching were analyzed at three categories as Table8 displays.

Table 8: Percentage and frequency values of metaphorical categories of teacher candidates for Ministry of National Education

Ministry of National Education	%	f
Relocation	20.4	290
Politics	72.2	1025
Curriculum	7.3	104
Total	100	1419

As Table8 displays, the metaphor groups about Ministry of National Education were analyzed under Relocation, Politics, and Curriculum categories, where Politics received the highest value (72.2%). Relocation was the category with second highest value (20.4%) and Program received 7.3% value, becoming the third highest value category in ranking.

Conclusion and Discussion

Metaphors are known to be essential tools used in understanding human behaviors and perceptions in various fields, one of which is education. Researches on metaphors used by students and teachers have been the center of attraction recently (Çelikten, 2006; Inbar, 1996; Yalçın; 2012). Therefore, it is a common topic in the literature to analyze teachers' and teacher candidates' perceptions about teacher, student, school, principal and classroom concepts. A quick literature scan would result in studies on metaphors reflecting the perceptions on *Teacher* (Berman et.al., 2002; Cerit, 2008; Çelikten, 2005; Oxford et.al., 1998; Saban, 2004; Yücel & Koçak, 2008), *Student* (Saban, 2009; Tyson, 1995; Yücel, Koçak & Cula, 2010), *School* (Aydoğdu, 2008; Baker, 1991; Balci, 2001; Bayram, 2010; Mahlios & Maxson, 1998; Saban, 2008; Saban, Koçbeker &Saban, 2006; Yılmaz, 2011), *Campus* (Önen &Koçak, 2010), *Chemistry* (Koçak et.al., 2011), as well as courses such as *Math* and *Geography* (Gecit & Gencer, 2011; Güveli et.al., 2011; McColm, 2007; Öztürk, 2007).

This study made use of a data collection tool different from other studies in the literature. Metaphors of teacher candidates about school were collected through a diagram prepared according to the Lotus Flower Technique. In this respect, components of school as "Teacher, Student, Principal, Classroom, Teachers' Room, Parent, Ministry of National Education and Inspector" were categorized separately to determine metaphorical images of teacher candidates about school. Lotus Flower Technique is used to construct more ideas on topics, develop productive opinions and viewing topics as a whole (Sloane, 2006; URL-1). With the help of Lotus Flower Technique, teacher candidates were able to express metaphors for all components of school. Although school seems to be a single concept, it I s rather a system made up of various concepts such as teacher, student and principal. Therefore, it is important to view all components as a whole and question all components constructing the system. Teacher candidates were able to see the sub components of school on the leaves of the lotus flower, while seeing the school with its components in the bigger picture. Collecting data through appropriate tools during the qualitative research increases the validity of the quantitative research (Yıldırım &Şimşek, 2005). Therefore, in order to obtain metaphors for such a concept with various components as school, limiting metaphors to a single expression would decrease the validity.

Research on metaphors included studies, where participants were expected to indicate a single metaphor and express the metaphor at the same statement with the reason of its selection (Berman et.al, 2002; Döş, 2010; Ozturk, 2007; Saban, Koçbeker &Saban, 2006). In these studies, it is an obligation to focus on a single metaphor, which leads the sampling group to express a limited number of metaphors. Although the number of participants in the study was 346, the leaves of the lotus flower were observed to contain 1832 metaphors for student, 1730 metaphors for teacher, 1452 metaphors for principal, 1327 metaphors for inspector, 1608 metaphors for classroom, 1431 metaphors for teachers' room, 1469 metaphors for parent and 1419 metaphors for Ministry of National Education, which sums up to 12,268 metaphors in total. This conclusion allows for more number of data than the number of participants in the sampling group. These types of studies require the evaluation of collected data for the relevance of the explanation to the metaphor. Participants of this study were not asked to provide a reason for their metaphors, however, were asked to confirm on whether the information structured under categories was temporary or periodic, whether metaphorical images were understood accurately and whether they were listed under correct categories. Therefore, no additional analysis on the classification of the data was required.

Some studies on metaphors allow for data collection through surveys (Cerit, 2008; Semerci, 2007). Researcher asks participants to confirm on a previously mentioned metaphor and its explanation. In this case, the participant can neither produce another metaphor nor comment on an existing one (Önen & Koçak, 2011). This study allowed for a wide range of metaphor production opportunity for the participants. Another study by Önen and Koçak (2011) involved the utilization of Lotus Flower Technique in collecting data on metaphors for Campus and similar conclusions were come to.

Findings of the study displayed that teachers related students to reactive personality, where passive behaviors are dominant, they related teachers to proactive personality, which indicates a tendency to start and continue and action on changing the environment directly (Şahin, 2006). Parallel to the conclusions of this study, some studies, where teacher and student concepts were questioned through metaphors (Önen & Koçak, 2011; Yücel, Koçak & Cula, 2010), concluded that reactiveness as one of the personality traits in the psychological pattern was found in students, while proactiveness was a trait for teachers. These common conclusions obtained in the studies would enlighten some factors that were avoided in the

previous studies (Taylor, 1984). Reactive and proactive personality traits found in teachers were concretized through the utilization of metaphors in data collection. This finding is in coherence with the opinion that Lotus Flower Model could promote the creation of seeds for ideas, which would lead to better ones (Sloane, 2006; URL-1). Additionally, teacher candidates of the higher educational institutions were indicated to focus more on training teachers with proactive personalities as the effective planners, appliers and consumers of educational programs (Yücel, Koçak & Cula, 2010).

Teacher candidates' perceptions on principal were questioned and a multidimensional structure was obtained. Administrative role of the principal was prominent. The study also found that teacher candidates saw the classroom as a place, where lessons are taught while interestingly relating it to social environment and family. Politics, as the highest value category in the Ministry of National Education dimension, was an interesting finding together with the popularity of Relocation category considering the exam that teacher candidates are required to take. Metaphors are cognitive tools, which are sued by individuals to construct (Palmquist, 2001). Therefore, teacher candidates were assumed to have produced metaphors mainly thinking of themselves in this dimension.

The metaphors indicated by teacher candidates for Parent concept were mainly at Complaint category, which means that teacher candidates gave concretized examples at the complaint category in terms of parents. This is parallel to the view that a concept could be expressed from the perspective of another individual through metaphors, which leads to attaining important information on metaphors (Lakoff & Johnson, 1980). While supportive characteristics of parents should have been prominent, teacher candidates related it to complaint, which enlightened a conceptual understanding by teacher candidates to be considered in detail. Teacher candidates' perceptions on teachers' room were grouped under categories such as chat, shelter and locker, where the highest value was received by shelter. This shows that, teachers' rooms are perceived by most teacher candidates as protective shelters. Although teacher candidates mentioned the least number of metaphors in the principal dimension, indication of the inspection responsibility of inspectors was rather interesting.

Findings of this study clearly indicated that Lotus Flower Technique enabled the expression of metaphors by teacher candidates hers on "school", being an effective data collection tool in revealing, understanding and explaining a concept together with its components, which, in this case, are "teachers, student, principal, classroom, teachers' room, parent, Ministry of National Education and inspector". Data obtained allowed teacher candidates to reflect their opinions on the components of school through metaphorical images. Through construction of metaphorical categories and analysis of metaphorical images on school, teacher candidates were enabled to understand the schemes they created in their minds on school and restructure them when necessary. Metaphors are able to change conceptual systems and the perspectives of individuals towards the world (Sanchez et.al, 2000). Therefore, this study catered for the introduction of metaphorical images, which bring new perspectives to teacher candidates about school.

The study was participated by teacher candidates studying at Science, Physics, Chemistry, Biology and Mathematics departments of Hacettepe University, Faculty of Education. The concept of school shall be questioned with the participation of teacher candidates from different universities and programs in terms of their metaphorical perceptions. Additionally, metaphor categories shall be increased in number by providing the participation of teachers as sampling groups.

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