

METAPHORICAL PERCEPTIONS OF SCIENCE TEACHER CANDIDATES TOWARDS TEACHER AND TEACHING PROFESSION

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Abstract

The purpose of this study is to explore the metaphorical perceptions of science teacher candidates towards teacher and teaching profession. Qualitative research method was used in the study and "phenomenological approach" was employed as the design of the study. The participants of the study are comprised of 102 teacher candidates who pursue science education programs, in the fall term of 2017-2018 academic year, in the department of mathematics and science education of a middle-sized faculty of education in Central Anatolia. As data collection tool, a form consisting of 2 questions was used for the identified concepts. The obtained data were analyzed using content analysis technique, and after the accuracy of the determined metaphors and created the categories were controlled by two faculty members having expertise, the final form of metaphor and the categories were generated. As a result of the analyses, it was found out that teacher candidates generated 40 metaphors for teacher concept and 60 metaphors for teaching profession. Given the data obtained, it has been observed that prospective teachers provided positive metaphors for the concept of teaching and teaching profession.

Keywords: Science teacher candidate, metaphor, teaching, teaching profession.

INTRODUCTION

The word "metaphor" derives from the Greek word "metapherein", meaning that an individual can express any concept or phenomenon in a way that he perceives (Levine, 2005). When the literature was examined, it was determined that the concept of metaphor was defined by many researchers. According to Palmquist (2001), metaphor is a metaphorical structure created by taking into account similarities and differences between two objects or concepts. . According to Guerrero and Villamil (2002), metaphor is an tool used to describe complex structures in any area and to provide information that makes it easier to understand these structures. Saban, Koçbeker and Saban (2006) define the metaphor as a powerful mental tool that can be used to understand and explain an

extreme abstract and complex phenomenon for an individual. Metaphors are used both to enrich the educational environment and to describe complex concepts and phenomena by likening it to a known concept (Geçit and Gençer, 2011). Metaphors are also used to illustrate how a concept or a phenomenon is perceived (Aydin, 2011).

The concept of metaphor in educational studies in Turkey has been started to be used since the second half of 1990 (Balci, 2011). It was observed that the studies in our country have been done about teachers (Saban, 2004; Zhao, Coombs and Zhou, 2009; Ekiz and Koçyigit, 2013), student teachers (Şahin, 2013; Yılmaz, Göçen and Yılmaz, 2013; Koç, 2014), inspectors (Töremen and Döş, 2009), school administrators (Yalçın and Enginer, 2012; Akan, Yalçın and Yıldırım, 2014) and the courses (Derman, 2014). Metaphors are expressed as a mental tool used in the expression and explanation of individuals' abstract, complex, or a phenomenon (Yob, 2003). In this respect, it is suggested that teachers can use metaphors as a research tool to examine, understand and explain the perceptions of teacher candidates towards teacher and teaching profession through metaphors (Saban, 2004).

There is almost no individual who does not have teacher influence (effort) from any part of society (Ayas, 2009). The teachers influence their students in different ways, through their personalities and lecturing. Teacher candidates are expected to have characteristics that can leave a positive impact on their students when they begin the professional life. This depends on the teacher candidates' acceptance of what the teaching profession means. The determination of the teacher candidates' perceptions towards "teacher" and "teaching profession", which we will entrust the future generations, will lead to the emergence of their attitudes towards their profession. The purpose of this study is to determine the metaphorical perceptions of science teacher candidates towards teacher and teaching profession.

RESEARCH DESIGN

This research is a phenomenological study of the qualitative design, which explores the metaphorical perceptions of science teacher candidates towards teacher and teaching profession with the help of the metaphors they developed. Phenomenological studies aim to describe, understand, and interpret the structure of the phenomena that occur in conscious as a result of the interaction of the individual with the world at a given time and within a certain context (Bloor and Wood, 2006; Çilesiz, 2011; Willig, 2008).

Participants

This research was carried out with the participation of 102 teacher candidates (80 girls, 22 boys) who pursue Science Teaching Program of Mathematics and Science Education Department at a faculty of education locating in Central Anatolia, during the fall semester of 2017-2018 academic year.

Data Collection Tool

As data collection tool, in this study, a form consisting of two open-ended questions was used to determine metaphorical perceptions of science teacher candidates for the identified concepts. Teacher candidates were asked to fill in the blanks arranged as "teacher is like..... because....." and "the teaching profession is like..... because it". The teacher candidates were asked to establish a link between the metaphor source and metaphor, with the word "like", and they were asked to give a reason for the metaphors they created with the word "because".

Data Analysis

The responses of teacher candidates to the questions in the form were analyzed using content analysis technique. The analysis of metaphors revealed by the participants was carried out in 5 stages expressed in the literature by Saban (2008).

1. Identification Phase: The form distributed to them for the purpose of revealing teacher candidates' metaphors about the concepts being studied has been examined.

2. Elimination and Refinement Phase: Metaphors revealed have been revised and metaphors are grouped according to their similar and common characteristics. While grouping, the relationship between the subject of the metaphor and its source was taken into account.

3. Compilation and Category Development Phase: The metaphors presented are arranged alphabetically, the best example metaphor expression representing each metaphor has been defined, and the "sample metaphor list" has been created. Then, metaphors are divided into categories considering the relationship between the subject and the source of the metaphor.

4. Validity and Reliability Phase: In accordance with the steps set out in the study, the lists created were shared with two experts from faculty members in order to determine the accuracy of metaphors and the categories created. Depending on the feedback from the experts, the final version of metaphors and categories were created.

5. Transferring Data to Computer: Determined metaphors and categories have been transferred to computer and are ready for description and interpretation.

FINDINGS

In this section, first, general findings for research questions were presented. As a result of the analysis, the metaphors of science teacher candidates, the categories and the answers created in terms of the common characteristics of metaphors are given together. One of the objectives of the study is to determine the perceptions of the participants about the concept of teacher. As a result of the analysis of the answers given by the participants to the related question in the form, it was found out that they presented 40 metaphors for the concept of teacher. These metaphors are listed in Table 1.

Table 1: The Metaphors of Teacher Candidates Towards the Concept of Teacher

Metaphor Name and Frequency			
Angel	1	Key	1
Artist	5	Leader	7
Book	2	Library	2
Bridge	1	Life	4
Building foundation	2	Light	5
Candle	1	Mother	5
Carpenter	1	Newsman	1
Closet	1	Ocean	1
Compass	2	Pitcher	1
Confidant	6	Polar star	2
Crossroad	1	Pomegranate	1
Enzyme	1	Rain	1
Family	40	Scientist	1
Flood	1	Season	1
Florist	1	Star	1
Friend	5	Sun	4
Garden	2	Treasury	1
Google	1	Tree	2
Guide	18	Umbrella	1
Information Source	2	Water	1

As displayed in Table 1, teacher candidates have generated 40 metaphors for the concept of teacher. Though all the metaphors produced by teacher candidates are positive, the teacher is often likened to

an inanimate being. The first five metaphors, often expressed by the participants, are as follows; family (40), guide (18), leader (7), confidant (6), mother, friend, light, artist (5). According to the metaphors given in Table 1, four categories were created. Category headings are as follows;

1. Teacher who loves and protects

There are 6 metaphors identified in this category. Metaphors clustered under this category are in alphabetical order as; angel, confidant, family, friend mother, umbrella. Once the metaphors revealed by teacher candidates are examined, it is observed that the metaphors in this category are frequently used. A few examples of responses from participants in this category are as follows;

The teacher is like my family, who can give me the peace in my family.

The teacher is like a mother; teachers take care of us as how mothers protect us.

The teacher is like a friend, sharing love when necessary, always takes place next to you in difficult moments, protects you.

The teacher is like an angel, protects us from evil.

The teacher is like a confidant, so you can share matters that will not be shared with anyone.

The teacher is like an umbrella; helps you protect yourself from the evil that comes upon you like rain.

2. Teacher as a Source of Information

There are 20 metaphors identified in this category. Metaphors clustered under this category are in alphabetical order as; bridge, book, building foundation, closet, crossroad, enzyme, flood, garden, google, information source, library, ocean, pitcher, pomegranate, rain, season, scientist, treasury, tree, and water. Here are a few examples of responses from participants in this category;

The teacher is like a garden, just as there are various trees in the gardens, and you can find a lot of information in your teacher too.

The teacher is like Google, you will find all kinds of information.

The teacher is like a flood, you will inevitably learn when you encounter the information in your teacher.

3. Teacher as A Guide

There are 9 metaphors fitting to this category. Metaphors obtained under this category are compass, guide, key, leader, light, newsman, polar star, star, sun in alphabetical order. Here are a few examples of responses from participants in this category;

The teacher is like a key, the person who opens the doors to inform us about the future.

The teacher is like a compass, you look at him and you go to the future.

The teacher is like a guide, guiding us for our prospective professional life.

4. Teachers as Shape-Building Students

There are 4 metaphors belonging to this category. Metaphors clustered under this category are artist, carpenter, florist, life in alphabetical order. Here are a few examples of responses from the participants in this category;

The teacher is like a flower, as how florists make different types of flowers as a bouquet and prepare a beautiful presentation, teachers also can make a good class out of different students.

The teacher is like life; life shapes us differently every day, so teachers also shape us like life.

Another objective of the study is to determine the perceptions of the participants towards teaching profession. For this objective, it was observed that they had revealed 60 metaphors for the teaching profession. The metaphors of teacher candidates for teaching profession are listed in Table 2.

Table 2: The Metaphors of Teacher Candidates for Teaching Profession

Metaphor Name and Frequency									
Art	1	Family owner	1	Joy in life	1	Music	2	Sacred values	3
Blood in vein	1	Farmer	1	Leadership	2	Oxygen	2	Sacrifice	3
Bridge	1	Fire	1	Life	3	Passion	2	Soil	1
Book	2	Future	1	Lifetime	1	Patience	4	Starting Line	1
Compass	1	Galaxy	1	Lion	1	Peace	3	Summit	5
Compassion	2	Gardener	4	Locksmithing	1	Pen	1	Sultan	1
Cook	1	Guidance	5	Magic wand	1	Plane tree	1	Sun	1
Country	1	Happiness	2	Mastery	4	Plant	1	Tree	2
Director	2	Heart beat	1	Matrushka	1	Precious stone	1	Victory	4
Dream	1	Hope	1	Meaning of life	1	Protagonist	1	Way	4
Duty	1	Imagination	4	Miracle	2	Rose	2	Water	5
Eraser	1	Information source	2	Motherhood	1	Sacred profession	4	Work	2

As displayed in Table 2, teacher candidates generated 60 metaphors for teaching profession. Though all the metaphors produced by teacher candidates are positive, the teacher is often likened to an inanimate being. The first nine metaphors, often expressed by the participants, are as follows: gardener, guide, imagination, mastery, patience, sacred profession, summit, victory, water. According to the metaphors given in Table 2, eight categories were created. Category headings are as follows;

1. Teaching as A Guiding Profession

There are 5 metaphors belonging to this category. Metaphors collected under this category are in alphabetical order; art, compass, director, guidance, way. Here are a few examples of responses from the participants in this category;

The teaching profession is like making art, because art illuminates the way of societies and helps them advance.

Teaching is like a road, helps you achieve your goal, leads you to your goal.

2. Teaching as A Profession That Gives Information

There are 9 metaphors of this category. Metaphors clustered under this category are in alphabetical order; book, farmer, fire, galaxy, *matrushka*, plane, source of information, sun, tree. Here are two examples of responses from the participants in this category.

Teaching is like matrushka dolls, because matrushka dolls are composed of many nested babies. The teacher also has a lot of knowledge, so this analogy can be done.

Teaching is like the sun, heats up his students with his knowledge.

3. Teaching as A Sacred Profession

There are 6 metaphors belonging to this category. Metaphors collected under this category are in alphabetical order; blood in vein, country, duty, protagonist, sacred profession, sacred values. Here are an example of responses from participants in this category.

Teaching is like my country because it's sacred.

4. Teaching as A Protective Profession

There are 6 metaphors belonging to this category. Metaphors clustered under this category are compassion, earth, eraser, motherhood and sultan in alphabetical order. Here are an example of responses from the participants in this category.

Teaching profession is like motherhood, how mothers protect their children and arm them, so teachers also protect their students.

5. Teacher as Volunteer Profession

There are 15 metaphors fitting to this category. Metaphors collected under this category are in alphabetical order; happiness, heartbeat, hope, imagination, labor, life, joy in life, meaning of life, miracle, oxygen, patience, passion, peace, sacrifice. Here are an example of responses from participants in this category.

The profession of teaching is to make sacrifices because it is not possible to do it without being loved.

6. Teaching as a Future-Builder

There are 12 metaphors belonging to this category. Metaphors collected under this category are bridge, cook, family owner, future, gardener, locksmithing, magic wand, mastery, pencil, starting line. Here are an example of responses from the participants in this category.

Teaching is like a mastery, because masters shape a building and reveal it, and teachers build the future.

7. Teaching as A Necessity

There are 4 metaphors in this category. Metaphors collected under this category are in alphabetical order, dream, leadership, music, and water. Here are an example of responses from the participants in this category.

Teaching is like being a leader because how societies need leaders in the same way, teachers are necessary for society and important.

8. Teaching as A Valuable Profession

There are 3 metaphors of this category. Metaphors collected under this category are in alphabetical order; precious stones, summits and victory. Here are an example of responses from participants in this category.

Teaching profession is to stay on top because it's hard to stay on top, it's valuable.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The results of this study, aiming to explore the metaphors of teacher candidates in relation to teacher and teaching profession, stress two important points. The first of these important points is that the concept of teacher has been tried to be explained by teacher candidates with a broad metaphorical perception. Family metaphor is the most commonly used metaphor for teacher candidates. Besides family metaphor, guidance has been used by teacher candidates in metaphors such as leader, confidant, light, and mother. In addition to these metaphors, it is observed that different metaphors are also used by teacher candidates (Table 1).

This may be evaluated as an indication that the concept of a teacher cannot be explained by one or more metaphors. This argument supported the results of some studies in both national and international literature (Gillis and Johnson, 2002; Oğuz, 2009, Patchen and Crawford, 2011). The most common metaphor used by teacher candidates is the family metaphor. This indicated that teachers play an active role on the prospective teachers as much as their parents.

To the results obtained from the responses of the participants, the second issue that is seen as important by the teacher candidates is that the teaching profession is perceived by the teacher candidates from a broad framework as in the concept of teaching. As shown in Table 2, teacher candidates used many different metaphors to explain the profession of teaching. This can be considered as proof that the teaching profession has been adopted and accepted by the teacher candidates. Metaphors can be used by researchers to explain the perceptions of teacher candidates towards the concept of teacher and teaching profession. Teachers may also be asked to develop metaphors related to different topics or concepts.

IJONTE's Note: This research was presented at the 9th International Congress on New Trends Education - ICONTE 2018 held in Antalya between 10-12 May 2018 as an oral presentation.

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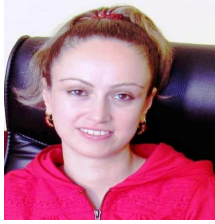
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