Examining the Teacher Candidates' Metaphorical Perceptions related to the Notion of Authentic Learning

Research Article

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ARTICLE INFO	ABSTRACT
Article History: Received: 26.02.2019 Available online: 02.05.2019	The aim of this study is to determine teacher candidates' metaphorical perceptions related to the notion of authentic learning. The study is a qualitative study in the design of phenomenology. This study has been carried out with 76 teacher candidates. Data collection tools received from 10 teacher candidates have not been included in the study because of the following reasons: some of the data collection tools were undecipherable, some of them were not complete, and some of them have not been filled according to the aim of the study. Therefore, there were 49 female, 17 male, in total 66 teacher candidates who enrolled in this study. The documents of the metaphors for the notion of authentic learning that were produced by the teacher candidates have been analysed by using content analysis method. Consequently, the 66 teacher candidates that were in the study group developed 53 metaphors. The metaphors uttered by the female teacher candidates most are "Mirror" and "Life". The metaphor, on the other hand, shared by the male teacher candidates most is "Human". Eight conceptual categories have been created from the metaphors that have been developed. Most of the metaphors were under the "Authentic Learning as the Life Itself" category and the least of the metaphors were under the "Authentic Learning as the Provider of the Transition" category. If learning is to be associated with daily life, it can be effective for teacher candidates and in-service teachers to take courses or attend activities that are related to authentic learning.

Introduction

The premises regarding the aims of education designate how to approach the relationship between school and life. When we look at the history of education, Platonist approach, Jesuit education system and Herbart's approach, despite their reasons, have caused an enormous gap between life and the education system that has been applied in schools until the beginning of the 20th century (Akça & Ata, 2009). In the 21st century, the developments in the fields of science, technology, and the developments in the field of educational

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sciences in relation with these developments have accelerated. This increase caused the growth of a gap between the schools in which these curriculums have been applied and life. While the curriculums and the schools were trying to match the quick change of life, their function of composing tradition began to weaken in the education systems as in the society. In the final point, whether the elements of education and training which are exposed to changes frequently serve its real aim or not are assessed. It is seen that many of the studies again stressed out the aim of preparing the person to the life, which is accepted as the real aim of the education and training. What is important here is to recognize the conditions of the life well and prepare the person accordingly. From this point of view, turning learning to its most natural form, which means to its core, is essential. At this exact point, authentic learning notion gains importance in the learning processes. The importance of authentic learning is based on the learning of the learner directly in real life situations.

Daily life is full of hardships, problems, risks, and opportunities. We encounter these hardships while using the contexts and resources that are offered to us in our personal and professional lives and during our learning processes. A couple of successful problem solving strategies may enable us to overlook the context and limitations of the real situation. However, the pedagogic strategies in formal education environment usually neglect the relation of the learning context with the real world (Herrington, Reeves & Oliver, 2014). Teachers may find an opportunity with the authentic learning to link the daily life and the classroom. Thus, the knowledge and the skills that students gain can be from the real life since they establish relations with the real world. At the end, the learning becomes more meaningful for the students (Caseley, 2004). Actually, authentic learning is a good answer to the chronic question of the students "Where in my daily life can I use the things I learned at school?" Because the student starts the learning process to solve the problem s/he takes from the daily life, s/he will learn what s/he has learned in the process due to the feeling of need. As for the more meaningful answer to where s/he will be using the things s/he has learned, s/he will create them in his/her mind with the reflections for every new problem s/he tries to solve. Although the authentic learning is related to the daily life, it also has its own structure.

The elements of the authentic learning can contribute to understand the structure of authentic learning. According to Herrington (2006), authentic learning has nine elements. These elements can be stated as authentic context, authentic activities, expert performance, multiple roles and perspectives, collaboration, reflection, articulation, coaching and scaffolding, and authentic assessment. Ten features of the activities that are used in the authentic learning can be beneficial to clarify the meaning of the authentic learning. Reeves, Herrington and Oliver (2002) list ten features of the activities that will be used in authentic learning as relation with the real world, ill-defined problem, study that contains sustainability, multiple sources and different perspectives, collaboration, reflection, interdisciplinary perspective, integrated assessment, quality products, multiple comments, and result. Moreover, determining with which variables authentic learning is dealt and studied enables us to understand authentic learning better. For this reason, the variables of the researchers' dissertations and original studies that are associated with the authentic learning are compiled.

Authentic learning has been dealt in many dissertations with various variables. In some of these dissertations, authentic learning has been taken together with the following terms: problem solving (Beach, 2017; Anderson, 2014), active learning (Chen, 2017), performance assignment and authentic assessment (Estes, 2016), regional geographical knowledge (Alcahan, 2016; Kazancı, 2010), critical thinking (Chillis, 2015; Doğan-Dolapçıoğlu, 2015, Colletti, 2011), collaborative learning (Anderson, 2014), science and technology laboratory implementation (Gürdoğan, 2014), learner autonomy (Davison, 2011), learning environments outside of school (Jagielski, 2016), use of second life (Bowers, 2010), virtual worlds (Franetovic, 2012), web-based learning (Yeen-Ju, 2012), technology supported teacher behavior (Siddall, 2016), computer literacy and computational thinking (Mingo, 2013), online education (Woiwode & Baysingar, 2015), digital game authoring (Prater, 2016).

The notion of authentic learning has received immense attention by the researchers as well and it has become a subject for many studies. In some of these studies, authentic learning notion has been dealt with the notions such as augmented reality (Ogle, Hicks, Johson &Tucker, 2018), technology design course projects (Greenfield, 2017), teacher professional growth (Slepkov, 2008), the role of assessment (Lombardi, 2008), virtual reality fire drill (Tepe, Kaleci & Tuzun, 2018), the reality in virtual worlds (Farley, 2016), virtual environments (Baştuğ, 2016), blended approach (Rowe, Bozalek & Frantz, 2013), online library (Finch, & Jefferson, 2013), technology as cognitive tools (Herrington & Parker, 2013, community service practices (Horzum & Bektaş, 2012), mixed-reality environments of the robots (Chang, Lee, Wamg & Chen, 2010), e-learning (Herrington, Reeves & Oliver, 2010), realism and online learning (Herrington, Reeves &Oliver, 2007).

Being dealt with the notion of authentic learning by researchers in many studies and criticizing with several variables is a sign of its significance. For this reason, the subject of how the notion of authentic learning is perceived by the teacher candidates has been considered as vital. Metaphors are essential tools when it comes to designating the perceptions. For this reason, the definition of metaphor will be discussed and the place of metaphors in determining the perceptions will be explained.

As the dictionary definition, metaphor means giving a figurative meaning (TDK, 2019). According to the definitions that are given in the literature, metaphor is a linguistic tool that has a powerful cognitive mapping and modelling mechanism and is discovered by people with the aim of explaining the world, constituting and organizing meaning to understand and configure their own worlds (Yıldırım & Şimşek, 2008; Arslan & Bayrakçı, 2006). Metaphors are cognitive products that drive the person to think creatively, imagine, and create new meanings in his /her life (Saban, 2008). Hence, metaphors can be used effectively to designate the perception for a notion.

This study is important from the perspective of shedding light on how the teacher candidates perceive the notion of authentic learning and designating how the teacher candidates perceive this learning approach. In the study, the authentic learning metaphors that are produced by the teacher candidates are expected to be essential sources in preparing a curriculum about authentic learning, teaching activities, and developing teaching materials stages.

The aim of the study is to examine the teacher candidates' metaphorical perceptions for the notion of authentic learning. In line with the aim, the answers for the following questions regarding the notion of authentic learning will be sought:

1. What are the metaphors that the teacher candidates have developed?
2. What are the conceptual categories of the metaphors that have been developed?
3. What is the distribution of the metaphors that are in the conceptual categories according to the genders of the teacher candidates?

Methodology

Research Model

This study is a qualitative study in the design of phenomenology that examines the teacher candidates' metaphorical perceptions for the notion of authentic learning with the help the metaphors they developed. In phenomenology studies, it is usually aimed to reveal personal perceptions or perspectives regarding a certain phenomenon and interpret them (Yıldırım & Şimşek, 2008).

Study Group

This study has been carried out with seventy-six teacher candidates who took the Authentic Learning Practices as a university elective course in the first and second terms at Sakarya University in the 2015-2016

academic year. Data collection tools received from 10 teacher candidates have not been included in the study because of the following reasons: some of the data gathering tools were undecipherable, some of them were not complete and some of them have not been filled according to the aim of the study. Therefore, there were 49 female, 17 male, in total 66 teacher candidates who enrolled in this study.

Data Collection Tool and Data Collection

The data collection tool is given to the teacher candidates who were in the study group to designate their perceptions for the notion of authentic learning. The data collection tool consists of a semi-structured form with three questions that "female or male" to designate the teacher candidates' genders; "authentic learning is like…" statement to state the metaphors they develop for the notion of authentic learning and "Because …" statement that asks for justification and to indicate the reason. The data collection tool has been finalized after receiving opinions of three field experts for the face and content validity of the data collection tool. After that, the teacher candidates are asked to fill the data collection tool carefully with their own handwritings without being affected from each other. Semi-structured forms were completed in 40 minutes by the participants.

Data Analysis

The analysis of the data collection tools has been carried out with content analysis method. Content analysis is defined as a systematic, repeatable technique in which some words of a text are summarized with smaller content categories based on certain rules-based encodings (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2016). The gathered findings have been interpreted by using tables. The analysis of the data has been made in four stages. First of all, the data have been transferred to the computer and picked over, the developed metaphor and its reasons have been categorized and coded, conceptual categories have been developed, and lastly validity and reliability studies have been conducted (Yıldırım & Şimşek, 2008; Saban, 2009).

1. Transferring data to computer and picking over: The data that have been gathered with the data collection tools, firstly, are inspected in order to decide whether the teacher candidates developed a salient metaphor or not, and numbers are given to the data collection tools which developed salient metaphors. 10 of the data gathering tools have not been included in the study, because of the reasons such as some of the data gathering tools were undecipherable, some of them were not complete, and some of them have not been filled according to the aim of the study.

2. Categorizing the metaphor and the reasons, and coding: The data collection tools have been listed according to the numbers of the metaphors and the reasons. As a result of the listing, 53 metaphors have been gathered. These lists have been used in creation of the conceptual categories and the analysis of the data processes. "F" has been put for females, "M" for males and "TC" for teacher candidate in order to indicate to whom metaphors belong. After that, coding has been conducted by putting data collection tool numbers at the end of the letters.

3. Developing conceptual categories: The metaphors have been classified by paying attention to the common features of the metaphors. The metaphors that have been developed by the teacher candidates for the notion of authentic learning have been categorized into conceptual categories according to their subjects and sources. The conceptual category names are determied not to cover more than the metaphors they contain and exclude any metaphors they contain.

4. Validity and reliability: Validity and reliability studies are essential in terms of the persuasiveness of the study. According to Yıldırım and Şimşek (2008), reporting the data in detail and the researcher's clear statements about how s/he reached the results are crucial in qualitative studies in terms of validity. In this

study, for validity, firs of all, the content analysis process has been clearly explained. Secondly, 53 metaphors are included in findings. Three experts' opinions have been resorted while creating the conceptual categories. Moreover, two lists have been given to an academic who works in the Classroom Teaching DPT for reliability purposes. First one of these lists is the list that has the conceptual categories and the second list is the list that the 53 metaphors lined up randomly. The expert is asked to match the metaphors without leaving any metaphors idle. After that, this list and the researcher's list have been compared. As a result of the comparison, agreements and disagreements have been identified. After that, "Reliability= Number of Agreements / (Total Number of Agreements + Disagreements)" formula has been applied (Miles & Huberman, 1994) and the reliability has been calculated as Reliability= 64/ 64 + 2= 0.97. The reliability is maintained when the unity between expert and researcher is 90% and above. This study has been considered as reliable since reliability has been calculated as 97% in this study.

Findings

In this study the teacher candidates developed 53 valid metaphors. These metaphors have been alphabetized and their distribution according to the genders is given in Table 1.

Table 1. The distribution of the metaphors according to genders

Metaphors n(F/M)*
5D glasses (1/0), amusement park (1/0), ant (2/0), baby (0/1), bee (2/1), bird (1/0), blender (1/0), blowing of the wind (1/0), carpediem (1/0), civil engineer (0/1), colors (0/1), computer game (0/1), computer software (1/0), cooking (1/0), cooking spaghetti (1/0), door (1/1), dream (1/0), embodying (1/1), factory (1/1), film (1/0), fishing rod (1/0), game (1/0), happiness (1/0), hard drive (1/0), human (0/2), kid (1/1), learning to walk (1/0), life (3/0), light (1/0), light in our lives (1/0), mirror (3/0), mirror of the life (1/0), our traditions (1/0), pine (1/0), plane tree (0/1), playground (0/1), recycle bin (1/0), road (1/0), sand pool (1/0), sapling (1/0), slap (0/1), snow flake (0/1), spider web (1/0), star (0/1), student (1/0), sudoku (1/0), sun (2/0), teraphy process (1/0), the moment you exit the cinema (1/0), time machine (1/0), water (0/1), wikipedia (1/0), window (1/0)
Attendee according to gender: (49/17)　　　　　　**Total attendee: 66**

*Number of Female/Male gender distribution in the category

53 valid metaphors, which are developed by 66 teacher candidates regarding the notion of authentic learning, have been identified. Female teacher candidates developed 42 different metaphors and male teacher candidates developed 16 different metaphors. When the metaphors developed by the female teacher candidates have been examined, it has been seen that "Mirror" and "Life" metaphors have been repeated 3 times and they became the most frequently developed metaphors. When the metaphors developed by male teacher candidates have been inspected, on the other hand, "Human" metaphor became the most frequently developed metaphor due to its repetition twice. When the most frequently developed metaphors have been examined considering the teacher candidates' genders, it is quiet salient that "Mirror, Life and Human" metaphors have not been developed by opposite genders. All of the 53 metaphors that have been gathered are placed into the conceptual categories. The distribution of the metaphors according to their conceptual categories and genders are presented in Table 2.

Table 2. The distribution of the metaphors into conceptual categories according to gender

Name of the Conceptual	n (F/M)* TNA**	Basic Features	Metaphors n (F/M)

Category			
1. Authentic Learning as the Life Itself	15/5 **20**	Metaphors that relate authentic learning to everyday life and include situations that arise in everyday life.	5D glasses (1/0), bird (1/0), blowing of the wind (1/0), carpediem (1/0), colors (0/1), computer game (0/1), cooking (1/0), cooking spaghetti (1/0), embodying (1/1), film (1/0), fishing rod (1/0), life (3/0), sand pool (1/0), slap (0/1), spider web (1/0), the moment you exit the cinema (1/0), water (0/1)
2. Authentic Learning as Collaboration	8/2 **10**	It includes metaphors that define authentic learning as a process of contributing to the product by focusing on the same purpose and taking on different tasks.	Ant (2/0), bee (2/1), blender (1/0),factory (1/1), sudoku (1/0), teraphy process (1/0)
3. Authentic Learning as Human	4/5 **9**	It includes metaphors that associate authentic learning with the roles and roles it undertakes in human development.	Baby (0/1), civil engineer (0/1), human (0/2), kid (1/1), learning to walk (1/0), sapling (1/0), student (1/0)
4. Authentic Learning as the Provider of the Continuation	6/1 **7**	It includes metaphors that relate authentic learning with the power it derives from its roots and the continuation of life and development.	Hard drive (1/0), our traditions (1/0), pine (1/0), plane tree (0/1), recycle bin (1/0), road (1/0), time machine (1/0)
5. Authentic Learning as Reflection	6/0 **6**	It includes metaphors that associate authentic learning with the effect of previous experiences on the present and the present experiences on the future.	Computer software (1/0), dream (1/0), mirror (3/0), mirror of the life (1/0)
6. Authentic Learning as Illuminator	4/1 **5**	It includes metaphors that associate authentic learning with the fact that light is the source of vision and that it promotes meaningfulness.	Light (1/0), light in our lives (1/0), star (0/1), sun (2/0)
7. Authentic Learning as Entertainment	3/2 **5**	It includes metaphors that emphasize the fun, engaging and motivating of authentic learning.	Amusement park (1/0), game (1/0), happiness (1/0), playground (0/1), snow flake (0/1)
8. Authentic Learning as the Provider of the Transition	3/1 **4**	It includes metaphors that emphasize authentic learning as a link between existing and desired environments.	Door (1/1), wikipedia (1/0), window (1/0)

*Number of gender distribution of Female/Male attendees in the category

**The total number of attendees in the category

The meanings and the reasons of the 53 metaphors that have been developed by the teacher candidates for the notion of authentic learning have been examined and placed in eight conceptual categories. These categories are authentic learning as life itself, collaboration, human, provider of the continuation, reflection, illuminator, entertainment, and provider of the transition. When the conceptual categories are examined most of the metaphors are under the category of "Authentic Learning as the Life Itself" and least number of metaphors is under the category of "Authentic Learning as the Provider of the Transition". When they are examined by taking the teacher candidates' genders into consideration, it is seen that female teacher candidates developed the highest number of metaphors under the conceptual category of "Authentic Learning as the Life Itself" with 15 participants. Male teacher candidates, on the other hand, developed the highest number of metaphors under the conceptual categories of "Authentic Learning as the Life Itself and Authentic

Learning as Human" with 5 participants. The distribution of the metaphors according to the teacher candidates' genders that are in conceptual categories are given below under the related titles.

1. Conceptual Category

When the distribution of the teacher candidates who developed 17 metaphors under the category of "Authentic Learning as the Life Itself" according to their genders has been examined, it is seen that in total 15 female and 5 male teacher candidates developed metaphors under this conceptual category.

When the life metaphor have been examined FTC59's *"In authentic learning, the people see that the situations in real life can be connected to more than one thing and they experience these by living. Authentic learning is an opportunity for the people to look to the subjects from different perspectives. A person who succeeded this in learning can reflect this onto the other subjects. Life experiences are the experiences that everybody can deduce different meaning s for themselves and the authentic learning is a way of learning that has genuine returns for each of the people."* reason emphasized that authentic learning is a learning approach that teaches the person to look at the situations from different perspectives and deduce genuine meanings. When the water metaphor has been examined MTC5's *"How water is an indispensable basic need for human life, authentic learning is an indispensable part of the education for students. Authentic learning needs to be protected from harmful outside factors by the directions of the teacher as we need to protect the water from outside factor"* reason pointed out that teachers need to protect the students who try to provide a solution to the real problems against the dangers that may occur by taking the appropriate precautions by emphasizing that authentic learning is a vital thing.

2. Conceptual Category

When the distribution of the teacher candidates who developed 6 metaphors under the category of authentic learning as collaboration according to their genders has been examined, it is seen that in total 8 female and 2 male teacher candidates developed metaphors under this conceptual category.

When the ant metaphor has been examined, FTC37's *"Ants move together in line with an aim, to gather food. None of them says 'I do not want to gather'. All of them carry stocks for the winter with their tiny bodies. They do not face any hardships when the winter comes as a prize for their carryings and compulsions. In the same way, the students come together and think over in line with an aim in the activities that have been prepared within the scope of authentic learning. They move on to the implementation after they found what to do. They work altogether, they search altogether. ..."* reason emphasizes the necessity of working together in line with the division of labour in the process of authentic learning and the fact that the results gained at the end will be produced by all the people. When the bee metaphor has been examined MTC7's *"Bees always fight together in order to survive. They share the labour. Worker bees go to the field. They visit the flowers one by one and carry the raw material essence into their hives. They make honeycomb and honey. The other bees in the hive have different assignments. Some of the bees guard the hive. Some of the bees feed the queen bee. The students who receive education with the authentic learning method work just like in the hive within a plan while they are bringing a project to life. Some of the students search for information from the internet related to the solution of the problem, some of them enrol in presentation and some of them ask questions to the experts. As the result, they produce a solution to a problem or to a subject. Bees make honey by working together as well"* reason emphasizes the importance of assigning roles carefully by the members to produce or find a solution together in the process of authentic learning.

3. Conceptual Category

When the distribution of the teacher candidates who developed 7 metaphors under the category of authentic learning as human according to their genders has been examined, it is seen that in total 4 female 5 male teacher candidates developed metaphors under this conceptual category.

When the human metaphor have been examined, MTC6's *"Humans always succeeded to adapt to the world and overcame the real life problems by him/herself. S/he changed her/himself in order to change something. S/he took different opinions and received criticisms in dead ends. All the time, in somewhere, s/he did not forget his/her core. Now, the nine authentic elements that I did not count here are already inside the human. They are just compressed because of different reasons. Due to the fact that human has even more than nine elements, authentic learning can just carry to a certain level"* reason has been found to be interesting due to the fact that he indicated that although authentic learning comes from the core of the human in terms of elements, it still needs to be developed because the human being is more extensive than that. When the sapling metaphor has been examined, FTC34's *"Sapling grows with water. Sapling needs water to grow and authentic needs labour to grow and flourish. Sapling grows and becomes young, just like the person who grows with the authentic. ..."* reason compares the authentic learning to the basic need in the growing process of sapling.

4. Conceptual Category

When the distribution of the teacher candidates who developed 7 metaphors under the category of authentic learning as the provider of the passing according to their genders has been examined, it is seen that in total 6 female 1 male teacher candidates developed metaphors under this conceptual category.

When the road metaphor have been examined, FTC16's *"Education is infinite. It is an on-going process just like a road. The acquisition of knowledge that flows and enduringly accumulating is just like a road that is passed. Every road divides into different roads just like the authentic learning. Acquired information can be the prior condition of other information"* reason emphasizes that the authentic learning is a process and it can benefit from prior knowledge each time with the help the reflections. When the plane tree metaphor has been examined, FTC12's *"Trees are crucial beings for biological balance. They balance the oxygen rate in nature. They are the house for many species and it continues to develop by strengthen itself. Authentic learning resembles this. If the tree's branches are knowledge that we learned or saw all of this would represent the plane tree"* reason emphasizes that authentic learning is a process and has an interdisciplinary structure that represents the whole.

5. Conceptual Category

When the distribution of the teacher candidates who developed 4 metaphors under the category of authentic learning as the reflection according to their genders has been examined, it can be seen that in total 6 female teacher candidates developed metaphors under this conceptual category.

When the mirror metaphor has been examined, FTC39's *"In authentic learning, we see the daily life problems in the lesson. We find the answers in authentic learning to the questions of 'How can we develop solutions to the problems we encountered in our lives? How can we deal with those problems?' It is the learning that brings to real life of the classical student saying 'Where am I going to use this information in life?"* reason emphasizes that authentic learning provides the opportunity to actualize learning while trying to come up with a solution to the problems in real life.

6. Conceptual Category

When the distribution of the teacher candidates who developed 4 metaphors under the category of authentic learning as the illuminator according to their genders has been examined, it can be seen that in total 4 female 1 male teacher candidates developed metaphors under this conceptual category.

When the sun metaphor has been examined, FTC61's *"It requires new ideas. It requires imagination. It is idealist as well. Sunrise ends the darkness and with the authentic learning practices the question marks in the student's head would be erased. The mind of the student is sort of illuminated. Student enjoys the class because of the reasons that authentic learning's different ideas and its relation to the real world. S/he does not suffocate and does not say that 'Why am I learning these unnecessary things"* reason draws attention. The reason related to the star metaphor is stated

as by MTC11's reason of *"Stars illuminates the night. They are visible to us during the day but we do not see them. They can be guide to those who lost their ways. ... They are like humans. Human should be raised with a system that resembles the most to a human."*

7. Conceptual Category

When the distribution of the teacher candidates who developed 5 metaphors under the category of authentic learning as the illuminator according to their genders has been examined, in total 3 female 2 male teacher candidates developed metaphors under this conceptual category.

When the amusement park metaphor has been examined, FTC38's *"It involves many contexts both genuine and different from each other. You would be pleased just like in the amusement park. Students leave the classes having learned the subject and enjoyed it while studying with authentic learning. ... That is to say, we can match each component of the authentic learning with the toys in the amusement park"* reason is salient. The reason related to the playground metaphor is stated in MTC11's reason as *"It provides learning the reality and the daily life with entertainment."*

8. Conceptual Category

When the distribution of the teacher candidates who developed 3 metaphors under the category of authentic learning as the provider of the transition according to their genders has been examined, in total 3 female 1 male teacher candidates developed metaphors under this conceptual category.

When the window metaphor has been examined, FTC30's *"It illuminates the environment with day light, not with an artificial light. It is transparent. It shows everything as they are. It holds a mirror to the life. It leads the students to learn by doing and living."* reason is salient, the reason for the door metaphor stated by MTC 15's reason as *"In the learning process, some doors shut down to the students because of the flaws in the education system. Authentic learning can be the key to open these doors. Knowing how and why you are knocking the door can cause him/her to wait for the light behind the door insistently. When the doors are open all the light fills your inside."* In this category, teacher candidates stated that there is gap between school and the real life and they indicated the authentic learning as the provider of closure of the gap.

Discussion, Conclusion and Recommendations

When the conceptual categories have been examined, in total the highest number of the metaphors is in the conceptual category of "Authentic Learning as the Life Itself" and the least number of metaphors is in the category of "Authentic Learning as the Provider of the Transition". The basic features of the eight conceptual categories that have been created in this study can be compared with the other studies in the literature.

1. The basic feature of the conceptual category of authentic learning as the life itself has been designated as relating the authentic learning to the daily life and the situations from daily life. When the literature is inspected, it is seen that many studies supported this basic feature. There has been a contradiction between the traditional learning process in schools and the learning process in real world for a long time and the students cannot establish a connection between what they have learned in school and real life. Authentic learning provides the teachers with an opportunity of bringing the outside world into the class. This ensures the students to transfer the information and skills they learned at school into their daily lives outside the school and thereby it increases the value of the learning for them (Mimms, 2003). In the authentic learning environment, many of the courses are based upon complicated and long term scenarios in which students can solve a problem by implementing the knowledge they acquired realistically (Herrington, Oliver & Reeves, 2003). Because the authentic learning environments are related to the life outside the school, the students enjoy academically (Ogata & Yano, 2004). Additionally, authentic learning process provides the students with the implementation of the knowledge they acquired in real life (Herrington, Reeves & Oliver, 2010). In this sense,

the relation of authentic learning with the daily life is a feature that it is underscored in this study and in other studies in the literature.

2. The basic feature of authentic learning as collaboration conceptual category has been indicated as learners' focus on the same aim, embracing different roles, and contributing to the product. When the literature is examined, it is seen that many studies support this basic feature. Kukral and Spector (2012) pointed out in their studies that with the authentic learning students learn together thanks to group works. It has been indicated in many studies that students learn easier in the learning process that is done with the authentic activities (Quardokus, Lasher-Trapp &Riggs, 2012) and authentic learning improves the collaboration (Dennis & O'Hair, 2010; Horzum & Bektaş, 2012; Gürdoğan, 2014). From this aspect, authentic learning has a feature of improving the collaboration, and this feature has been emphasized in this study and the other studies in the literature.

3. The basic feature of authentic learning as human conceptual category has been designated as human's developmental periods and processes, and assignments and the roles undertaken based on these. When the studies in the literature have been examined, it is seen that authentic learning develops humane features which are seen important to equip people with such as taking responsibility, fulfilling his/her duties to the society and to his/her group, contributing to his/her occupational improvement and displaying creativeness with different perspectives (Koçyiğit, 2011; Gündoğdu, 2010; Slepkov, 2008; Dennis & O'Hair, 2010; Horzum & Bektaş, 2012; Gürdoğan, 2014). From this aspect, it has been emphasized by this study and other studies in the literature that authentic learning has a feature that effects the human's developmental periods and processes.

4. The basic feature of authentic learning as the provider of the continuity conceptual category has been indicated as the power that the learner gains from his/her core while continuing his/her life and development. When the studies in the literature have been examined, it seen that authentic learning develops the features such as problem solving, critical thinking, collaboration and communication (Beach, 2017; Chillis, 2015; Doğan-Dolapçıoğlu, 2015; Anderson, 2014; Quardokus, Lasher-Trapp & Riggs, 2012; Colletti, 2011); moreover, it contributes to the features such as gaining geographical knowledge of the environment s/he lives in, developing the sensitivity to the societal problems, and continuing the questioning for learning (Alacahan, 2016; Horzum & Bektaş, 2012; Kazancı, 2010; Lombardi, 2007). The features that have been dealt with in this study cannot be just used once and totally forgotten. From this aspect, it has been emphasized by this study and other studies in the literature that authentic learning has the feature of learner's continuity of his/her life and development.

5. The basic feature of authentic learning as reflection conceptual category has been indicated as the effects of learners' previous lives on their current lives, the effect of their current lives on their future lives, and the flexibility of these lives. When the studies in the literature have been examined, the reflection element of authentic learning (Herrington, 2006) contributes to learner's expression of the information by structuring after internalizing the information s/he reached (Gökdaş, 2003), learner's abstracting from the things s/he learned (Herrington, Reeves & Oliver, 2010), learners' making choices both personally and collectively, and reflecting on their learnings (Lombardi, 2007; Bektaş & Horzum, 2014). From this aspect, it has been emphasized by this study and other studies in the literature that authentic learning has the feature of learner's transferring his/her knowledge to the new learning and lives.

6. The basic feature of authentic learning as illuminator conceptual category has been indicated as the process of learner's making sense of his/her daily life as the light as a source of seeing making sense of what is seen. When the studies in the literature have been examined, authentic learning encapsulates learner's daily life problems and projects and enables learners to discover and discuss these subjects, and to structure the notions meaningfully (Bektaş & Horzum, 2014; Mims, 2003). In the meantime, authentic learning requires the learner's culture to deal with the terms in social setting, facts, and formulas. On that sense, it has been

emphasized by this study and other studies in the literature that authentic learning has the feature of contributing to the learner's making sense processes.

7. The basic feature of authentic learning as entertainment conceptual category has been indicated as entertaining, intriguing, and motivating. When the studies in the literature have been examined, it has been emphasized that authentic learning has the feature of increasing the motivation (Vural, 2013; Loyens, Rikers & Scmidt, 2009; Akçe & Ata, 2009) and contributing to learning by being entertaining (Gürdoğan, 2014; Murphy, Lunn & Jones, 2006; Ogata & Yano, 2004). On this sense, it has been emphasized by this study and other studies in the literature that the authentic learning has the feature of being entertaining and increasing the motivation.

8. The basic feature of authentic learning as the provider of the transition conceptual category has been designated as being the establisher of a bond between learner's present environment and the environment the learner wants to be in. When the studies in the literature have been examined, Bowers (2010) considers the use of authentic learning processes and the virtual worlds as an environment for learning strategies as an essential step. In authentic learning, the teacher should provide learners with experiences rich in a variety of information during one to one training and structured support processes (Nicaise, Gibney & Crane, 2008). From this aspect, it has been emphasized by this study and other studies in the literature that the authentic learning has the feature of the richness in terms of providing to learners with experiences in different environments.

When the distribution of 53 metaphors that have been developed in this study according to gender has been examined, 49 female teacher candidates developed 42 different metaphor and 17 male teacher candidates developed 16 different metaphors. It is seen that the variety of the metaphors that have been developed by the female teacher candidates is less when it is compared with the male teacher candidates. Duran & Dağlıoğlu (2017) stated in their study that female teacher candidates developed more diverse metaphors when it is compared with the male teacher candidates. It is different from the findings of this study. The source of this difference can be resulted from the departmental differences of the teacher candidates or the difference between the terms that have been examined.

The most frequently developed metaphors by the female teacher candidates "Mirror" and "The Life" have been repeated 3 times. The most frequently developed metaphor by the male teacher candidates "Human" has been repeated twice. When the most frequently developed metaphors by the teacher candidates have been examined by taking their genders into consideration, it is salient that "Mirror, The Life and Human" metaphors have not been developed by the opposite gender. In the light of this finding, it can be said that teacher candidates' perceptions for the notion of authentic learning according to their genders are focused on different directions. When the literature has been examined, Yazıcı (2012) indicated in the study that there can be gender differences in choosing metaphors. In this aspect, it shows similarity with the findings of this study. However, Yazıcı (2012) stated that the "human" metaphor has only been developed by the female teacher candidates. From this perspective, it shows difference with this study. This difference can be resulted from the departmental differences of the teacher candidates or the difference between the terms that have been examined.

When the conceptual categories that have been created in this study have been examined from the perspective of the genders, it is salient that there were 3 times more female teacher candidates than male teacher candidates in the conceptual category of "Authentic Learning as the Life Itself" in which the highest number of metaphors exists. It is salient as well that in the conceptual category in which the least number of metaphors exists "Authentic Learning as the Provider of the Transition", there were 3 times more female teacher candidates than male teacher candidates.

When the genders of the teacher candidates in study group are taken into consideration, female teacher candidates developed the highest number of metaphors, with 15 people, in the conceptual category of "Authentic Learning as the Life Itself". Male teacher candidates, on the other hand, developed the highest number metaphors under the conceptual categories of "Authentic Learning as the Life Itself and Authentic Learning as Human" with 5 people for each. Both the male and the female teacher candidates developed the highest number of the metaphors by gathering under the conceptual category of "Authentic Learning as the Life Itself". When the literature has been examined, it has been underlined that it is essential to relate learning to life (Herrington, Reeves & Oliver, 2014; Atkin, 2011; Ergün, 2009; Dewey, 2007; Herrington, 2006; Ogata & Yano, 2004; Mims, 2003; Herrington & Oliver, 2000). The study shows similarities with the literature from the perspective of relating the learning to life. The suggestions below have been generated according to the findings of this study.

Benefitting from the conceptual categories that have been created in this study can be useful while preparing a curriculum with authentic learning, and developing teaching activities and teaching materials.

The perceptions of the teacher candidates can be examined by taking their departments and genders into consideration when a course or activity programme with authentic learning is prepared. Therefore, the course or the activity programme with authentic learning can be prepared more effectively.

If relating learning to the daily life is desired, it can be effective for teacher candidates and teachers to take courses or attend the activities about authentic learning.

GENİŞLETİLMİŞ ÖZET

Öğretmen Adaylarının Otantik Öğrenme Kavramına Yönelik Metaforik Algılarının İncelenmesi

Problem Durumu ve Araştırmanın Amacı

Bu çalışma, otantik öğrenme kavramının öğretmen adayları tarafından nasıl algılandığına ışık tutması ve öğretmen adaylarının bu öğrenme yaklaşımını nasıl algıladıklarını belirginleştirmesi açısından önemlidir. Çalışmanın amacı, öğretmen adaylarının otantik öğrenme kavramına yönelik metaforik algılarını incelemektir. Bu amaç doğrultusunda çalışmada otantik öğrenme kavramına yönelik cevap aranacak sorular aşağıda yer almaktadır.

1. Öğretmen adaylarının geliştirdikleri metaforlar nelerdir?

2. Geliştirilen metaforların kavramsal kategorileri nelerdir?

3. Kavramsal kategorilerde yer alan metaforların öğretmen adayı cinsiyetlerine göre dağılımı nasıldır?

Yöntem

Araştırmanın Modeli: Bu araştırma öğretmen adaylarının otantik öğrenme kavramına yönelik metaforik algılarını geliştirdikleri metaforlar aracılığıyla inceleyen, olgubilim deseninde nitel bir araştırmadır. Olgu bilim çalışmalarında genellikle belli bir olguya ilişkin bireysel algıların veya perspektiflerin ortaya çıkarılması ve yorumlanması amaçlanır (Yıldırım ve Şimşek, 2008).

Çalışma Grubu: 2015-2016 Öğretim Yılı I. ve II. Döneminde Sakarya Üniversitesinde üniversite ortak dersi olarak Otantik Öğrenme Uygulamaları adlı dersi alan toplam 76 öğretmen adayı ile uygulama yapılmıştır. 10 öğretmen adayından alınan veri toplama araçları çeşitli nedenlerle çalışmaya dâhil edilmemiştir. Böylece çalışma grubunda 49'u kadın, 17'si erkek toplam 66 öğretmen adayı yer almıştır.

Veri Toplama Aracı ve Verilerin Toplanması: Veri toplama aracında öğretmen adaylarının cinsiyetini belirlemeye yönelik bir soru, otantik öğrenme kavramına yönelik geliştirecekleri metaforu belirtmeleri için "otantik öğrenme …gibidir." ifadesi ve bu metaforun konusu ve kaynağını belirtebilecekleri gerekçe sorgulayan "Çünkü…" ifadesi olmak üzere toplam üç soru bulunmaktadır. Veri toplama aracının görünüş ve kapsam geçerliliği için üç alan uzmanından görüş alınarak etkinlik kâğıdına son hali verilmiştir. Daha sonra öğretmen adaylarından 40 dakikalık bir ders saatinde veri toplama aracını dikkatlice, birbirlerinden etkilenmeden ve kendi el yazılarıyla doldurmaları istenmiştir.

Verilerin Analizi: Çalışma grubunda yer alan öğretmen adaylarının otantik öğrenme kavramına yönelik metaforlar ürettikleri veri toplama araçlarının çözümlenmesi içerik analizi yöntemi ile yapılmıştır. Elde edilen bulgular tablolar kullanılarak yorumlanmıştır. Verilerin analizi dört aşamada gerçekleştirilmiştir. Öncelikle veriler bilgisayara aktarılmış ve ayıklanmış, geliştirilen metafor ve gerekçeleri sınıflandırılmış ve kodlanmış, kavramsal kategoriler geliştirilmiş ve son olarak geçerlik ve güvenirlik çalışmaları yapılmıştır (Yıldırım & Şimşek, 2008; Saban, 2009).

Sonuç, Tartışma ve Öneriler

Geliştirilen 53 metafor sekiz kavramsal kategoriye dağıtılmıştır. Bu çalışmada oluşturulan sekiz kavramsal kategorinin temel özellikleri ile literatürde yer alan diğer çalışmaların tespitleri karşılaştırılabilir.

1. Hayatın kendisi olarak otantik öğrenme kavramsal kategorisinin temel özelliği otantik öğrenmeyi gündelik hayat ve gündelik hayattan olaylarla ilişkilendirme olarak belirlenmiştir. Herrington, Oliver ve Reeves'e (2003) göre otantik öğrenme ortamında birçok ders, öğrencilerin öğrendikleri bilgileri gerçekçi bir şekilde uygulayıp problem çözebileceği karmaşık ve uzun süreli senaryolara dayanmaktadır. Ayrıca otantik

öğrenme süreci öğrencinin öğrenilmiş bilgilerini gerçek hayatta kullanımını sağlar (Herrington, Reeves, & Oliver, 2010).

2. İşbirliği olarak otantik öğrenme kavramsal kategorisinin temel özelliği öğrenenlerin aynı amaca odaklanıp farklı görevler üstlenerek ürüne katkı sağlaması olarak belirlenmiştir. Öğrencilerin otantik etkinliklerle gerçekleştirilen öğrenme süreçlerinde grup çalışmaları ile kolay öğrendikleri (Quardokus, Lasher-Trapp & Riggs, 2012) ve otantik öğrenmenin işbirliğini arttırdığı (Dennis & O'Hair 2010; Horzum & Bektaş, 2012; Gürdoğan, 2014) değişik çalışmalarda ifade edilmiştir.

3. İnsan olarak otantik öğrenme kavramsal kategorisinin temel özelliği insanın gelişim dönemleri ve süreçleri; bunlara bağlı üstlendiği görev ve roller içermesi olarak belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenmenin sorumluluk üstlenme, topluma ve gurubuna karşı görevlerini yerine getirme, mesleki gelişimine katkıda bulunma ve farklı bakış açıları ile yaratıcılığını sergileme (Koçyiğit, 2011; Gündoğdu, 2010; Slepkov, 2008; Dennis & O'Hair 2010; Horzum & Bektaş, 2012; Gürdoğan, 2014) gibi bireylere kazandırılması önemli görülen insani özellikleri geliştirdiği belirtilmiştir.

4. Sürekliliği sağlayan olarak otantik öğrenme kavramsal kategorisinin temel özelliği öğrenen köklerinden aldığı güçle yaşamını ve gelişimini sürdürmesi olarak belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenmenin problem çözme, eleştirel düşünme, işbirliği ve iletişim (Beach, 2017; Chillis, 2015; Doğan-Dolapçıoğlu, 2015; Anderson, 2014; Quardokus, Lasher-Trapp ve Riggs, 2012; Colletti, 2011;) gibi becerilere katkı sağladığı görülmektedir.

5. Yansıma olarak otantik öğrenme kavramsal kategorisinin temel özelliği öğrenenin önceki yaşantılarının şimdiki yaşantılarına, şimdiki yaşantılarının sonraki yaşantılarına etki etmesi ve bu yaşantıların esnekliğe sahip olması olarak belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenmenin yansıtma bileşeni (Herrington, 2006) öğrenenin ulaştığı bilgiyi içselleştirdikten sonra yapılandırarak ifade etmesine (Gökdaş, 2003), öğrenenin öğrenilenlerden soyutlamalar yapmasına (Herrington, Reeves ve Oliver, 2010) katkı sağlar.

6. Aydınlatıcı olarak otantik öğrenme kavramsal kategorisinin temel özelliği görmenin kaynağı olan ışığın görülen şeyleri anlamlandırması gibi öğrenenin gündelik hayatı anlamlandırması süreci olarak belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenme öğrenenin günlük hayatıyla ilişkili olan gündelik hayat problem ve projelerini kapsar, bu konuları keşfetme, tartışma ve kavramları anlamlı bir şekilde yapılandırmasını sağlar (Bektaş & Horzum, 2014; Mims, 2003).

7. Eğlence olarak otantik öğrenme kavramsal kategorisinin temel özelliği olarak öğrenmenin eğlenceli, ilgi çekici ve motive edici bir süreç olması gerektiği belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenme süreçlerinin motivasyonu arttırıcı (Vural, 2013; Loyens, Rikers & Schmidt 2009; Akçe & Ata, 2009) ve eğlenceli olarak öğrenmeye katkı sağlayan (Gürdoğan, 2014; Murphy, Lunn & Jones, 2006; Ogata ve Yano, 2004) bir yönünün olduğu vurgulanmaktadır.

8. Geçişi sağlayan olarak otantik öğrenme kavramsal kategorisinin temel özelliği öğrenenin içinde bulunduğu ile içinde bulunmak istediği ortamlar arasında bağ kurucu olması olarak belirlenmiştir. Literatürdeki çalışmalar incelendiğinde otantik öğrenmede öğretmen birebir yetiştirme ve yapılandırılmış destek süreçlerinde öğrenenlere birçok farklı bilgi zengini ortamlarda yaşantılar sunmalıdır (Nicaise, Gibney & Crane, 2000). Bu yönüyle çalışma kapsamında geliştirilmiş sekiz kavramsal kategorinin hepsi literatür ile benzerlik göstermektedir.

Bu çalışmada geliştirilmiş olan 53 metaforun cinsiyete göre dağılımına bakıldığında 49 kadın öğretmen adayı 42 farklı metafor ve 17 erkek öğretmen adayı 16 farklı metafor geliştirmişlerdir. Kadın öğretmen adaylarının geliştirdikleri farklı metafor sayısının erkek öğretmen adaylarına oranla daha düşük olduğu

görülmektedir. Duran ve Dağlıoğlu (2017) çalışmalarında kadın öğretmen adaylarının erkek öğretmen adaylarına göre daha kapsamlı metaforlar geliştirdiklerini belirtmiştir. Bu çalışmanın sonucu ile farklılık göstermektedir.

Öğretmen adaylarının cinsiyetleri dikkate alınarak en çok geliştirdikleri metaforlar incelendiğinde "Ayna, Hayat ve İnsan" metaforlarının diğer cinsiyet tarafından hiç geliştirilmemiş olması dikkat çekicidir. Literatür incelendiğinde Yazıcı (2012) çalışmasında metafor seçiminde cinsiyet farklılığı olabileceğini belirlemiştir. Bu yönüyle bu çalışmanın sonuçları ile benzerlik göstermektedir.

Eğer öğrenmenin gündelik hayat ile ilişkilendirilmesi isteniyorsa öğretmen adaylarının ve öğretmenlerin otantik öğrenme ile ilgili ders almaları ya da etkinliklere katılmaları etkili olabilir.

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