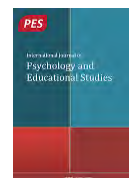





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# Perceptions of Pre-service Teachers Regarding Entrepreneurship Education: A Metaphoric Study

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## ARTICLE INFO

### Article History:

Received 12.12.2020

Received in revised form  
16.03.2021

Accepted 30.03.2021

Available online

21.04.2021

## ABSTRACT

Without being aware of it, metaphorical concepts reveal their expressions word for word in our social life. It is the expression of thoughts using concrete and abstract concepts. The aim of this study is to reveal the mental perceptions of teacher candidates about entrepreneurship education and entrepreneurship skills by using metaphors. The participants of the study are teacher candidates studying in ten different branches at the Faculty of Education in Bolu Abant İzzet Baysal University in the 2019-2020 academic year. In the research, as a data collection tool, a form that includes the expression "Entrepreneurship education / entrepreneurship skill..... because....." was used to identify metaphors for entrepreneurship education. The data obtained from the data collection tool were analyzed using qualitative data analysis techniques. Content analysis and metaphor analysis were used in the analysis of the data. According to the findings obtained from the study, pre-service teachers produced a total of 100 metaphors for entrepreneurship education and entrepreneurship skills. These metaphors are evaluated in three categories: 1-Theoretical framework of entrepreneurship education, 2-Values of entrepreneurship education, 3-Sub-skills of entrepreneurship education. These conceptual categories were examined according to the pre-service teachers' branches and the data obtained were evaluated under three main categories and under thirty-five titles. According to the results of the research, the perceptions of pre-service teachers about entrepreneurship education and gaining entrepreneurship skills are generally positive.

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### Keywords:

Metaphor, entrepreneurship, entrepreneurial skill, entrepreneurship education, skill, value

## 1. Introduction

Metaphors that enable the thoughts existing in mind to be expressed with abstract and concrete concepts can help us to explain the concepts. Especially the differences in the metaphors used for theoretical concepts can sometimes be a matter of debate regarding the explanation of that concept. However, revealing the underlying metaphors about the relevant concept helps to express the definitions and explanations for that concept effectively (Andriessen, 2009). Generally, the "benefit" factor plays a decisive role in scientific activities. Any action is meant by benefit. This is especially important for pragmatists. At the same time, it is possible to define other learning ways such as aesthetic and artistic perception as important elements of a research (Cherryholmes, 1999).

It is possible to see metaphors as means of expression that penetrate human thought and contribute to abstract thinking ability. It is not possible to put this concept into certain molds. Because metaphors should be interpreted in relation to other metaphors in certain contexts and in a process that static classification (Mason, 2018). According to Morgan (1998), metaphors expand our imagination by enabling us to develop strong

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Citation: Tarhan M. (2021). Perceptions of pre-service teachers regarding entrepreneurship education: A metaphoric study. *International Journal of Psychology and Educational Studies*, 8(2), 61-75.

<https://dx.doi.org/10.52380/ijpes.2021.8.2.315>

insights, encourage us to think and act differently, gain insight, and pave the way for new possibilities. At this point, it is very important to use metaphors in the education and training process.

It is possible to explain the meaning of the word metaphor as an analogy and description (TDK, 2020). This word is of French origin. The word meta (metha) in the word metaphor, which consists of two different words, means the other (or) ~~ile~~, while the word fora (phora) means to convey (convey) (Keklik, 1990). From this point on, it is possible to define metaphor as a figurative expression of a concept that actually exists. Therefore, it facilitates the expression of concepts that can differ according to variable conditions by loading new words and meanings (Doğan, 2014). Jensen's (2006) defined metaphors as a valuable research tool to gain new perspectives on educational practice and theory. Briefly, metaphors can be expressed as the state of explaining unknown, invisible abstract concepts with concrete concepts (Yetim Karaca & Ada, 2018).

The aim in scientific studies is to approach reality as much as possible. Although efforts are made to find the holistic and concrete truth in scientific studies, the truth can only be reached in a fragmented and limited way (Goldmann, 1998). For this reason, the use of metaphors in expressing reality allows real expressions of any subject or concept to be explained through simulation. A metaphor-based narrative using an analogy method helps to express life issues based on thought (Morgan, 1998). It is possible to explain metaphorical expression as an expression method used in explaining scientific processes or as a situation of transforming scientific processes into meaningful forms of expression (Keskin, 2019).

Metaphors and metaphorical narratives are largely based on the findings of cognitive psychology. In this case, the assumption that meaning and perception are interrelated is generally accepted. The metaphor used for any concept is directly proportional to how we perceive that concept in reality. What causes this situation is that there is a close relationship between the way we perceive and process information about reality. It is also not only the perception of reality that affects our mental representation. Our past experiences towards the concept we are trying to explain and how we perceive that concept in the past affect the use of metaphors. To summarize, our perceptions underlie the interpretation of meaning for any concept cognitively (Fábíán, 2013).

When research is done on the concept of metaphor, it is seen that metaphors have an important and prominent place in the education system. For this reason, Botha (2009) argued that metaphors are not a concept belonging to literature and literati, on the contrary, their use in education has important benefits. Therefore, metaphors are considered as a part of the teaching-learning process. In this context, metaphors constitute a bridge between the past and the present, theory and practice in the learning-teaching process. It is possible to use metaphors to increase students' motivation in order to reach correct answers for the solution of certain problems, to help teachers and students to define, understand, perceive and focus the learning-teaching environment (Yıldız et al., 2018). On the other hand, metaphors help to reveal how a concept or phenomenon is perceived (Aydın, 2011).

In this study, metaphors were preferred in determining pre-service teachers' perceptions for entrepreneurship education and entrepreneurship skills. In the undergraduate program, the elements of entrepreneurship (knowledge, skills and values) are taught to pre-service teachers within the scope of the "economy and entrepreneurship" course. This situation is important for individuals to know about entrepreneurship education and gain experience in gaining entrepreneurship skills when they become teachers. On the other hand, it is thought that it is important to examine the perceptions of pre-service teachers who have taken this course towards entrepreneurship education and entrepreneurship skills. Because the perception of teacher candidates towards entrepreneurship will be beneficial for them in their professional lives and lives. In addition, we choose to think with metaphors within our experiences of life. There are metaphor expressions in the language that we use in our daily life. Metaphors make it easy for us to explain our new experiences in real life in other terms. In addition, metaphors provide the opportunity to convey a new concept encountered more effectively by associating it with elements we know well or in our past life.

Based on this information, this study aims to analyze the perceptions of pre-service teachers taking the "Economics and entrepreneurship" course in the 2019-2020 academic year towards entrepreneurship education and entrepreneurship skills through metaphors. In addition, the following questions were sought:

1. What are the metaphorical perceptions of pre-service teachers regarding to the theoretical framework of entrepreneurship education?

2. What are the metaphorical perceptions of pre-service teachers regarding to the values of entrepreneurship education?

What are the metaphorical perceptions of pre-service teachers regarding to entrepreneurship education skills?

## 2. Method

The research has been designed as a qualitative research. Phenomenology design was preferred as the research design it aimed to determine the perceptions of pre-service teachers regarding the knowledge they gained in the "Economics and entrepreneurship" course. According to Merriam (2013), phenomenology is related to lived experiences. Yıldırım and Şimşek (2005) stated that the aim in phenomenology is to describe the basic structure of experience, and phenomenology that does not have an in-depth and detailed understanding is taken into consideration. At this point, metaphors were seen as important and used to provide richness of socio-cultural expression. It is possible to consider metaphors in two categories as cultural metaphors and social metaphors. Metaphors also represent a basic cognitive strategy of analogical problem solving. In addition to being sensitive to the context in which they are used, metaphors are reflections of abstract reality with mental models and schemas. The versatile properties of metaphors make it attractive for use in qualitative research. Furthermore, metaphors allow to bridge the gap between different (quantitative-qualitative) approaches (Mooser, 2000). The pre-service teachers were different branches. The theoretical scope of this course has been determined by Tarhan (2019) (For the elements of entrepreneurship education, see Appendix 1).

### 2.1. Working Group

The research was carried out with pre-service teachers registered at Faculty of Education at Bolu Abant İzzet Baysal University. The working group of this research consists of 100 pre-service teachers from different branches. In this study, the pre-service teachers participated in this study were attending to Economics and Entrepreneurship course given at Abant İzzet Baysal University in the 2020 academic year. Data on the characteristics of pre-service teachers are included in Table 1.

**Table 1.** Distribution of the study Group by Branches

Pre-service teachers' branch	Gender (Female)	Gender (Male)	Frequency
Pre-School	22	2	24
Elementary Mathematics	13	4	17
Social Studies	8	5	13
English	7	6	13
Guidance and Psychological Counseling	10	2	12
Classroom	8	-	8
Science	6	-	6
Music	2	1	3
Turkish	2	-	2
Art	1	1	2
<b>Total</b>			<b>100</b>

All metaphorical analogies from the participants were included in the study. The metaphors used over the same concepts were evaluated separately due to the differences in their reasons for use. The pre-service teachers included in the study are in ten different branches. According to branches, the distribution of pre-service teachers is given in Table 1 and gender factor was not included in the research process. Gender expression is included in the table to show the diversity of prospective teachers.

### 2.2. Data Collection

In the study, qualitative research tools were preferred to obtain the opinions of pre-service teachers regarding effective domain. Document review (document review form) was used for data collection. In the creation of the document review form, the elements of entrepreneurship knowledge, skills and values were taken into account. Findings were categorized according to these factors and these were interpreted based on metaphors

for gaining entrepreneurial skills. Based on this element, the application process and tools have been developed. Document review form has been prepared in two different ways.

**Form 1:** This form was created in the context of entrepreneurship education elements. It is aimed to obtain data on knowledge, skills and values for entrepreneurship with the form. It is aimed to elicit data in order to prepare theoretical framework.

**Form 2:** In the second form, using the semi-structured interview form, pre-service teachers are asked to fill the following sentence up: "Entrepreneurship education is similar to ..... because ...."

Although Saban (2009) used the term "like" instead of the term "similar", it is thought that the term "similar" is more suitable for the format of the sentence above. The term "similar" was used to determine the metaphor of the participant in order to relate between the source and the participant, while the concept of "because" is used to explain the justification of the metaphor. During the implementation, no intervention was made to the participants and no instructions were given to direct their ideas.

### 2. 3. Analyzing Data

"Metaphorical analysis" and "content analysis" techniques were applied in the analysis of obtained data. Metaphorical analysis can be expressed as examining metaphors in relation to representations and taking them into a certain perspective. This situation helps to construct and make sense of a theoretical concept. In particular, it enables the relationship between different representations to be understood (Andriessen, 2009). Metaphorical analysis is used as a qualitative research tool to learn the opinions of the participants on a particular subject. The metaphorical language expressions voiced by the participants allow the concept to be defined (Cameron & Low, 1999; in Guerrero & Villamil, 2002). Cameron and Low (1999) interpret metaphorical analysis as linguistic metaphors used to explain thoughts about any subject or concept. The purpose of metaphorical analysis is to create explanatory concepts consisting of socio-cognitive connections by associating one concept with another.

On the other hand, it is known that content analysis is a widely used analysis type in qualitative research. Merriam (2013) states that content analysis is a systematic process in defining communication. At the same time, it is possible to express content analysis as a qualitative data analysis method that includes the stages of organizing and classifying findings and reaching theoretical results by comparing them (Cavitt, 2006; Cohen, Manion, & Morrison, 2007). The following stages were applied in the analysis of data during the research process:

**1. Coding and elimination phase.** This stage involves putting the metaphors developed by the pre-service teachers in a certain order, thus creating a simple and temporary list. While creating this list, the ability of the participants to express the metaphor they stated was examined. The purpose of the coding and elimination phase is to simply code the metaphors produced in order to create the first step of the analysis of data by determining whether the participants have expressed a certain metaphor clearly (for example, "Horse, Sun, Field, Flower, etc.").

**2. The stage of compiling metaphors.** At this stage, the metaphors obtained from all data were examined and a total of 100 metaphors were evaluated. Metaphors are associated with entrepreneurial education elements (knowledge, skill, value) that they represent.

**3. Category creation phase.** The main purpose of this stage is to examine the produced metaphors in terms of common aspects. Metaphors containing the same element are grouped under three main categories. These categories are: (1) metaphors regarding the theoretical framework of entrepreneurship education. (2) Metaphors regarding the values of entrepreneurship education. (3) Metaphors regarding entrepreneurship education skills. At the last stage, sub-themes were created by categorizing the metaphors in these three main categories according to their content, and a detailed evaluation was made on knowledge, skills and values.

### 3. Findings

The metaphorical concepts obtained from pre-service teachers' opinions during the research process are given in Table 1. Explanations regarding the reasons for metaphorical concepts are handled within the knowledge, skill and value categorization for entrepreneurship education. The meanings attributed to the concepts have been evaluated within the framework of entrepreneurship education.

**Table 2.** *Metaphors of Pre-Service Teachers (entrepreneurship education is similar to ....)*

1. Family	51. Light (2)
2. Mom	52. Drug
3. Antidepressant	53. Human
4. Car	54. Grammar book
5. Bee	55. Ant
6. Horse	56. Guide
7. Fever	57. Spark
8. Workshop	58. Book (1)
9. Pregnancy	59. Books (2)
10. Brain	60. Square kite
11. Quiz	61. Canned
12. Building	62. Running race
13. Watering a flower	63. Piggy Bank
14. Climbing a mountain	64. One wing of the bird
15. Wheat	65. A leading team captain
16. A living organism	66. Mathematics
17. Exam result	67. Musician
18. Flower (1)	68. Pomegranate (1)
19. Flower (2)	69. Pomegranate (2)
20. Planting flower seeds and watering	70. Oxygen
21. Farmer	71. Crossing the ocean by boat
22. To farm	72. Money
23. Raising a child	73. Compass
24. Sea	74. Picture
25. The lifeguard at sea	75. Painting
26. Going to the sea	76. Empty land you own
27. Language training	77. Art
28. Water resources on earth	78. Art and artist
29. Crawling	79. Water
30. Playing an instrument	80. Fish leaving the flock
31. Universe	81. Repair kit
32. Factory	82. Agriculture
33. Philosophy	83. Field
34. Lantern	84. Field Bread
35. Filter coffee	85. Crop in the field (1)
36. Guiding future	86. Crop in the field (2)
37. Food	87. Technology
38. Star in the sky	88. Seed (1)
39. Glasses	89. Seed (2)
40. Sun (1)	90. Earth (1)
41. Sun (2)	91. Earth (2)
42. Sun (3)	92. Raw material
43. Map	93. Rain (1)
44. Life	94. Rain (2)
45. Life	95. Jigsaw (1)
46. Arrow at the target	96. Jigsaw (2)
47. Hunter	97. Living
48. Statue	98. Captain
49. Sculpture	99. A new game
50. Light (1)	100. New born baby

Based on the information in Table 1, the diversity of the concepts, including the pre-service teachers' thoughts who take the "Economic and Entrepreneurship" course about entrepreneurship education and entrepreneurship skills draw attention. On the other hand, there are pre-service teachers who prefer the same metaphorical concepts. The pre-service teachers who use the same metaphorical concepts have different reasons for using this metaphor ; therefore, it is not considered as similar concepts. For instance, a pre-service teacher using the metaphor of "sun" gave explanation as "Because the sun enlightens people. It provides many

possibilities for human beings, "using the expression" Because the sun rises again every day no matter what. Entrepreneurial individuals do not give up no matter what." While one of these explanations meets the ability to "guide, lead" in entrepreneurship education, the other is related to the values of "being hardworking, being patient". Therefore, metaphors containing similar concepts are included in the list. Metaphoric concepts are interpreted under the following headings within the scope of entrepreneurship education.

### 3. 1. Evaluation of metaphors for the theoretical framework of entrepreneurship education

Under this heading, the metaphors of pre-service teachers related to entrepreneurship education's theoretical framework were discussed. Metaphor expressions about the information and processes that pre-service teachers consider important in the process of entrepreneurship education are given in Table 3.

**Table 3.** Teachers' Metaphors and Explanations for the Theoretical Framework of Entrepreneurship Education

Metaphors (Similar to...)	Relationship (Because...)	Subject	Frequency
Guide	it is a guide.	Entrepreneurship	5
Compass	it shows us a direction when we cannot find our way.	education guides.	
Map	just as the map shows us where and how to go, entrepreneurship education guides us in our future business.		
Lantern	it illuminates our way and shows the truth		
The Sun	the sun gives light around it. It guides and inspires people.		
Books	books raise people. It opens new windows to our lives. They always take us forward	Provides entrepreneurship education and alternative opportunities.	1
Piggy Bank	it grows, develops and contributes over time.	Entrepreneurship	5
Money	money is not available to everyone. Those who have money also know its value and strive harder to earn more.	education provides information about obtaining financing.	
Quiz	the more you know, the more you win.		
Building	the better a country gives this education to its students and does not run away from its expense, the stronger the economic structure of the country and its economy is not easily destroyed.		
Soil	we get crops by cultivating the land. For this reason, thanks to entrepreneurship training, we create an active life for individuals and ensure that they become productive individuals.	Entrepreneurship Training is Product Oriented	17
Life	whatever you plant you reap.		
Sculpting	it does not look like anything at the beginning of its construction, very beautiful works come out at the end.		
Wheat	when wheat is cultivated, harvested and processed, it produces many useful products for humanity.		
Crops in the field	the crop planted in the field produces a product and is beneficial to the whole country and even to the world.		
Bee	bees create their products by drawing their way within their own working system.		
Seed	as it develops, it produces a product and requires effort.		
Crop in the field	the crops in the field yield a harvest. It creates a product.		
Seed	the idea of entrepreneurship is small like a small seed, but it grows and develops over time.		

The progress of the individual playing an instrument on the path of virtuosity	it produces, is open to innovations, it has a structure that does not give up sensitive to future criticism. As a result of this determined work, the ability to obtain every product it wants is in the palm of its hands.		
Food	food feeds people and benefits people.		
Mother	it's like a mother raising her child. He thinks with everything and tries to prevent bad things that can happen to him. A mother wants her child to grow and develop to be a beneficial individual to people and their homeland. In entrepreneurship education, we try to raise individuals who will lead the country to prosperity.		
Puzzle	the entrepreneurial characteristics of people come together at certain rates and form a meaningful whole by conducting interrelated studies.		
Getting the result of an exam we have studied	at the end of that exam, we are entitled to go to the school we want. In other words, we get the reward for our efforts.		
Farming	certain stages are passed and labor is given to produce a product.		
Agriculture	the agriculturalist deals with the soil, the soil yields fruit as a result.		
Field	it grows suitable crops in the fields		
Brain	the brain receives information and shows us how to use it and helps us to understand how to use it over time, great things can be accomplished if the information is used correctly.	Entrepreneurship Education Provides Systematic Information on Entrepreneurship	1
Oxygen	life continues with oxygen, entrepreneurship enables people to continue life.	The Importance of Entrepreneurship Education	2
Rain	it wets it hard at first but then it makes everything grow		
Water	it is very important for the country, society and individual.		
Technology	it provides technological products that make human life easier.	Entrepreneurship Education Provides Benefits	2
Life in a product, entrepreneurship is its raw material	Life in a product, entrepreneurship is its raw material: Because it is one of the most necessary skills for human life.		
Human:	Born, grows, develops and dies ...	Entrepreneurship education and investment	1
Family	entrepreneurship grows and develops over time just like family.	Entrepreneurship Education provides essential information resource for entrepreneurship	6
Jigsaw	when the pieces in the puzzle come together, they form a meaningful whole. In the process of entrepreneurship training, when all the dimensions aimed to be brought to the individual come together, a meaningful and successful entrepreneurial activity takes place.		
Repair kit	if I know how to use tools that work for me, I can be successful in repairing		
Spark	without a spark, a fire cannot burn.		
The Sun	the sun provides enlightenment. Provides many opportunities for human		
Language education	it requires not only knowledge but also an environment to be practiced.		

Lifeguards at sea	whenever something is needed in life, entrepreneurs create a business idea and save people's lives thanks to their skills.	Entrepreneurship Education Create a business idea	1
Water resources on the world	the world has existed since its existence, even if the ready-to-use part is small or decreases from time to time, and it will be as much as disappeared.	Historical continuity of Entrepreneurship Education	1
Pomegranate	when you look at it from the outside, it looks like a single job, but as you enter it, it becomes clear how wide a network it is.	Entrepreneurship education is multidimensional and interdisciplinary.	1
Grammar book	Entrepreneurship education is a world that everyone thinks they know very well, but it is almost impossible to do without training, just like grammar. Someone with a good entrepreneurial skill has completed the most important stage of self-improvement, just like an individual with a good grammar knowledge.	Entrepreneurship Education and personal development	11
Workshop	you give the log, that log is brought back to life by taking completely different shapes there.		
The captain of the sailing ship	only those who can predict in which direction and when the wind will blow can get to their destination.		
Guide	it is a guide.		
Painting	both the teacher and the learner must be willing and talented, you can get good results after receiving training with these two features.		
Watering a flower	if we give water to the flower, it can flourish.		
A living organism	just as a living organism has to evolve constantly, entrepreneurship skill must develop constantly		
Fire	it is flammable when it is right and goes out when it is wrong		
The process of the baby in the womb	if the baby continues its physiological development in the womb, the individual starts from scratch and continues its development with individual and environmental factors.		
Mathematics	it is open to continuous improvement.		
Sea	it contains millions of ores waiting to be discovered.		
A new game	a new game teaches you different things and you can play this game individually and in groups	Entrepreneurship education provides an innovative thinking and learning environment	1

Based on the information in Table 3, the metaphors for the theoretical framework of pre-service teachers' entrepreneurship education were examined and categorized. In this direction, pre-service teachers gave opinions within the framework of the following subjects in the entrepreneurship education process according to the frequency density:

- There is a product output at the end of the entrepreneurship training process. (17)
- Entrepreneurship training helps in personal development. (11)
- Entrepreneurship education is the main source of information for entrepreneurship. (6)
- Entrepreneurship education guides. (5)
- Entrepreneurship education provides information about obtaining financing. (5)
- The importance of entrepreneurship education. (3)



- Entrepreneurship education provides benefits. (2)
- Entrepreneurship education provides an innovative thinking and learning environment. (1)
- Entrepreneurship education provides information about the investment process. (1)
- Entrepreneurship education offers alternative opportunities. (1)
- Entrepreneurship training helps to form a business idea. (1)
- Entrepreneurship education provides information about the historical continuity of entrepreneurship. (1)
- Entrepreneurship education systematically presents information about entrepreneurship. (1)
- Entrepreneurship education is multidimensional and interdisciplinary. (1)

When the relevant data are examined, it is seen that the product output is important at the end of the entrepreneurship training process. Another frequency density is that entrepreneurship training provides personal development. Entrepreneurship education is reflected in the findings as an effective tool for the development of knowledge and skills for entrepreneurship activities in individuals. At the same time, pre-service teachers stated that they helped to gain basic knowledge and skills about entrepreneurship in the process of entrepreneurship education. Tarhan (2019) examined the processes of entrepreneurship skills in five dimensions: business idea, financing, product design and production, promotion-marketing and investment. Findings regarding the dimensions of "business idea, financing, product design-production and investment" were obtained from the data obtained. No solution has been found regarding the promotion and marketing aspect.

### 3. 2. Evaluation of Metaphors Regarding the Values of Entrepreneurship Education

Under this heading, the metaphors of pre-service teachers regarding the values of entrepreneurship education were discussed. The metaphor expressions about the values that pre-service teachers consider important in the entrepreneurship education process are given in Table 4.

**Table 4.** Teachers' Metaphors and Explanations for the Values of Entrepreneurship Education

Metaphors (Similar to...)	Relationship (Because...)	Value	Frequency
Ant	ants carry fifty times more weight than their own and carry food to their nest just to survive. Anything can happen to him in this business he undertakes. But the ant sets out for a purpose and returns to its nest after getting what it wants.	Be challenging	2
Getting the result of an exam we have studied	at the end of that exam, we are entitled to go to the school we want. In other words, we get the reward for our efforts.		
A team captain with leadership	it takes risk and courage. I think these two facts are very important in order to be an entrepreneur.	Being brave Leadership	1
Canned	if the construction phase is intact and stored in good conditions, you will achieve your goal.	To strive to achieve the goal	10
Flower	If you water that flower, the flower will grow. If you don't look at the flower, it will dry out and die. Our entrepreneurial skill is like this. The more we head towards that area and go over it, the longer we go. But if we do not work for something and continue, we will have nothing left.		
Arrow thrown towards the target	the arrow knows the direction to go and the arrow reaches the target with the force on the bow. The more effort is made to stretch the bow, the easier it will be for the arrow to reach the target.		
Planting flower seeds and watering	when we water the flower seeds, the flowers bloom.		
The valuable and empty land you have	it is up to you to beautify and maintain that land. As long as you work and spend your time, it will become more beautiful.		

Farmer	the farmer takes care of what he sow, the more efficient he sows. I think entrepreneurship is the same. Whatever man sows for himself, he benefits.		
Raising a child	the more time you devote to the child, the more effort you put into raising a good child.		
Flower	the flowers become more beautiful as you water them.		
Car	like a car, it goes as far as you want. If you press the gas, you will move forward. You also need to progress in entrepreneurship. Or you will stay where you are.		
Sow the field	only if you sow the field you reap		
Glasses	glasses allow people with eye disorders to see things farther away or near them more easily.	Be useful	3
Soil	you can benefit from soil in every way		
Glasses	glasses allow people with eye disorders to see things farther away or near them more easily.		
Philosophy	the person who deals with philosophy is a little crazy, a little crazy and a little crazy. Entrepreneurial people are also a little crazy, ambitious, crazy. Similar to entrepreneurship, art, a painter tries to finish his painting with devotion, and an entrepreneur tries to finish his work with his vision, just like an artist.	Have a vision	3
Art and artist	the entrepreneur is trying to realize his vision, just as a painter paints a picture or a writer writes his novel. He puts a lot of effort into it and finally sees the painting he wants to see.		
Quiz	the more you know, the more you win.		
Life	it is a process that leads to certain areas in life, where we discover our skills and mature in this way.	Valuing Experience	1
Crossing the ocean by boat	there are many who say you can't. It is necessary to take risks. You fight big waves. But if you reach the shore, you will succeed.	Be determined	2
On-target hunter	he always gets what he wants		
A wing of the bird	Humans are so caught up in the pursuits of their profession that they do not want to make another attempt. We do our own profession, but how much is that enough. Imagine yourself as a bird, your wings that raise and lower you. So the job you do. By taking initiatives related to your own business, you will not stand in your place and raise yourself.	To give importance to personal development	4
Life	you learn as you live		
Antidepressant	if you take this training, you'll be happy		
New born baby	it develops and grows us like being born again. It allows us to take steps.		
Filter coffee	it tastes better as you wait	To be patient and determined	8
The Sun	whatever the sun is, it will rise again every day. Entrepreneurial individuals do not give up no matter what.		
Crawling	reaching a certain point is not a sudden event. It takes labor, much thought, and firm moves. With experience, this foundation gets stronger and over time, people move from crawling to walking.		
Star in the sky	we always shine like a star when we hope, even when we do not give up, even if we are on the way to fulfilling our dreams.		
Climbing the mountain	climbing the mountain requires courage at first and then it is a difficult process. You will encounter difficulties, but if you do not persevere, you will eventually succeed.		
Painting	when I started painting, I couldn't quite draw what I wanted. In most places I make mistakes and draw over		

	and over again. When I continue to draw patiently, a very beautiful picture comes out.
The progress of the individual playing an instrument towards virtuosity	it produces, is open to innovations, it has a structure that does not give up sensitive to future criticism. As a result of this determined work, the ability to obtain any product they want is in the palm of their hand.
Running race	if you fall behind, they always get one step ahead.

Based on the information in Table 4, pre-service teachers' metaphors about the values of entrepreneurship education were examined and categorized. In this direction, pre-service teachers gave opinions within the framework of the following subjects in the entrepreneurship education process according to the frequency density:

- To strive to achieve the goal. (10)
- To be patient and determined. (8)
- To give importance to personal development. (4)
- Be useful. (3)
- To have a vision. (3)
- Being challenging. (2)
- Being stable. (2)
- To have courage (1)
- Being a leader. (1)
- Valuing Experience. (1)

When the relevant data were examined, it was seen that the highest frequency intensity in the entrepreneurship training process was "making an effort to reach the goal". Another frequency intensity is reflected in the findings in the form of patience and determination. This value, which is heard a lot in the entrepreneurship process, is one of the most important characteristics of entrepreneurs. It is also reflected in the findings that teacher candidates care about personal development in the entrepreneurship process. Findings show that enterprise activities should benefit people. Values such as having a vision, being challenging, being determined, and being courageous are the important values and attitudes that an entrepreneur should have. This information reflects the values and attitudes that are deemed important or should be found in entrepreneurs in the process of entrepreneurship training.

### 3. 3. Assessment of Metaphors Regarding to the Skills of Entrepreneurship Education

Under this heading, the metaphors of pre-service teachers related to entrepreneurship education skills were discussed. In entrepreneurship education, metaphor expressions for the skills that pre-service teachers deem important are categorized, and the relevant information is given in Table 5.

**Table 5.** Teachers' Metaphors and Explanations for Entrepreneurship Education Skills

Metaphors (Similar to...)	Relationship (Because...)	Skills	Frequency
Book	books teach new things, improve our horizons, add positives to our ability to speak. It contributes to our ability to think and improves us. Allows us to view life and events from different angles	The ability to think differently. Good speaking ability.	1
Noticing the square kite in the sky	everybody notices the kites, but only some of them can change the shape and color of the kite and get a new kite.	Awareness skill	1
Swimming	as you enter, you get used to it.	Orientation skill	1
Sculpture	when you sculpt, you generate new ideas from scratch from clay. Dynamic ideas are continuous in entrepreneurship.	Thinking creatively and innovatively	7
The progress of the individual playing an instrument on the path of virtuosity	it produces, is open to innovations, it has a structure that does not give up, sensitive to future criticism. As a result of this determined work, the		

	ability to obtain any product they want is in the palm of their hand.		
Medicine	producing something new is like finding a medicine for a disease that has no cure.		
Light	it inspires individuals who benefit from entrepreneurship education by shedding light.		
Light	the light illuminates our surroundings, the brilliant ideas we have thanks to the entrepreneurial skill also illuminate our future.		
Art	it is based on one's imagination and feeds on creativity		
Musician	their inspiration is their most important weapon.		
Rain	rain helps plants grow and develop.	The ability to daydream.	1
Crossing the ocean by boat	Entrepreneurship education also improves thinking skills and enlarges the imagination. there are many who say you can't. You have to take risks. You fight big waves. But if it reaches the shore, you will succeed.		
Fish leaving its school	the fish leaving its school take most risks to survive-		
A team captain with leadership	it takes risk and courage. I think these two facts are very important in order to be an entrepreneur. you're putting something out of scratch. You think and work. You present this to people. In return, you either continue to develop yourself or you fail. However, the important thing here is to start the production of something new, not to close the factory when you fail.	The ability to take risks	4
Factory			
The captain of the sailing ship	only those who can predict in which direction and when the wind will blow can get to their destination.	The ability to see and evaluate the opportunity	2
Universe	it consists of billions of stars. It contains many ideas waiting to be discovered.		
Puzzle	the entrepreneurial characteristics of people come together at certain rates and form a meaningful whole by conducting interrelated studies.	The ability to act together	1
Guiding the future	the future is usually remembered by entrepreneurs in the future and the arguments they put forward continue to live.	The ability to predict / The ability to see the future	1

Based on the information in Table 5, pre-service teachers' metaphors about entrepreneurship education skills were analyzed and categorized. In this direction, pre-service teachers gave opinions within the framework of the following subjects in the entrepreneurship education process according to the frequency density:

- Creative and innovative thinking skills. (7)
- Ability to take risks. (4)
- Ability to see and evaluate the opportunity. (2)
- Ability to think differently. (1)
- Good speaking skills. (1)
- Awareness skill. (1)
- Orientation skills. (1)
- The ability to dream. (1)
- Ability to act together. (1)
- The ability to predict / The ability to see the future. (1)

When the relevant data are analyzed based on the above information, the highest frequency density is seen in "creative and innovative thinking skills" in the process of entrepreneurship education. Another frequency intensity is reflected in "risk taking skill". It is possible to express other skills that are considered important by pre-service teachers to be present in entrepreneurial individuals as being able to see and evaluate the opportunity, thinking differently, speaking well, awareness, orientation, dreaming, acting together, predicting / seeing the future.

#### 4. Conclusion and Discussion

In the study, pre-service teachers' perceptions in different branches of the concept of "entrepreneurship education and entrepreneurship skills" were examined through metaphors. The responses of the pre-service teachers were collected under three main categories and 35 sub-categories under these categories. Considering the metaphors expressed by pre-service teachers based on entrepreneurship education and entrepreneurship skills and their reasons, the relevant results are given below.

Fifteen sub-categorizations in total were made in the category of theoretical framework of entrepreneurship education. These subcategories are: (1) There is a product output at the end of the entrepreneurship training process. (2) It helps in terms of entrepreneurship education and personal development. (3) Entrepreneurship education is the main source of information for entrepreneurship. (4) Provides entrepreneurship training and guidance. (5) Entrepreneurship education provides information about obtaining financing. (6) The importance of entrepreneurship education. (7) Entrepreneurship education provides benefits. (8) Entrepreneurship education is important. (9) Entrepreneurship education provides innovative thinking and learning environment. (10) Entrepreneurship education provides information about the investment process. (11) Provides entrepreneurship education and alternative opportunities. (12) Entrepreneurship training helps to form a business idea. (13) Entrepreneurship education provides information about the historical continuity of entrepreneurship. (14) Entrepreneurship education systematically presents information about entrepreneurship. (15) Entrepreneurship education is multidimensional and interdisciplinary. Tarhan (2019) examined the processes of entrepreneurship skills in five dimensions: business idea, financing, product design and production, promotion-marketing and investment. In the data obtained, results regarding the dimensions of "business idea, financing, product design-production and investment" were obtained.

A total of ten sub-categorizations were made in the main category for the values of entrepreneurship education. These subcategories are: (1) To strive to achieve the goal. (2) To be patient and determined. (3) To give importance to personal development. (4) To be useful. (5) To have a vision. (6) To be competitive. (7) To be stable. (8) To have courage. (9) Being a leader. (10) To value experience. These headings overlap with the findings of researchers who have made studies on entrepreneurship in the literature. Hisrich and Peters (1973) explained the characteristics that successful entrepreneurs should have in the process of entrepreneurship education as "desire to work at a high level, courage, passion and determination, having a personal vision and mission, determination and excitement to finish work, foresight and the habit of seizing opportunities". Besides, Ethemand (2004) explained the values that entrepreneurial individuals should have as "adaptability and flexibility, self-respect, confidence, a creative vision and management".

A total of ten sub-categorizations were made in the main category of entrepreneurship training skills. These subcategories are: (1) Ability to think creatively and innovatively. (2) The ability to take risks. (3) The ability to see and evaluate the opportunity. (4) Ability to think differently. (5) Good speaking skills. (6) Awareness skill. (7) Orientation skills. (8) The ability to dream. (9) Ability to act together. (10) The ability to predict / The ability to see the future. Social scientists conducting research on entrepreneurship have explained the characteristics of entrepreneurs (McClelland, 1965; Chell et al., 1991); individual characteristics of an entrepreneur, taking risks, being talented in certain areas, having an active personality, being creative, being proactive, etc. These explanations directly overlap with the findings of the research. Also, Ferrante (2005) and Koh (1996) stated that factors such as the need to succeed, control, risk taking, being innovative and creative are effective in the development of entrepreneurship skills in individuals. Hisrich and Peters (1973) stated that there is an important relationship between entrepreneurship and personal characteristics. At the same time, they emphasized the importance of entrepreneurship education in the formation of entrepreneurial personality and explained the characteristics of successful entrepreneurs as "Creative thinking skills, desire to

work at a high level, courage, passion and determination, ability to express oneself verbally and in writing, aptitude for team and teamwork".

Berglund and Skoglund (2016) stated that, after the entrepreneurship training process, it is aimed to create individuals who can produce solutions to various social problems, develop alternative methods against existing insecurities (individual or social) and uncertainties, and implement solutions.

In this study conducted on pre-service teachers involved in entrepreneurship education, metaphors were used as a tool and it was seen that the targeted knowledge, skills and values were realized. To increase the effectiveness of the active learning environment in the entrepreneurship education process, the number of researches in the field should increase. More studies need to be done on knowledge, skills and value, especially in the process of entrepreneurship education.

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