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THE REFLECTIONS OF LIFE SKILLS IN THE SCIENCE CURRICULUM TO THE TEACHING PROCESS IN SCIENCE COURSE: PRACTICES OF SCIENCE TEACHERS[1]

FEN BİLİMLERİ DERSİ ÖĞRETİM PROGRAMINDAKİ YAŞAM BECERİLERİNİN FEN BİLİMLERİ DERSİ ÖĞRETİM SÜRECİNE YANSIMALARI: FEN BİLİMLERİ ÖĞRETMENLERİNİN UYGULAMALARI

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ABSTRACT
In this study, it was investigated how much the 7th grade science teachers gave place to the life skills in the science curriculum in the teaching process. Two teachers working in a secondary school located in Yenimahalle district of Ankara were included in the research. The extent to which the teachers included life skills was determined according to the observations made by the researcher and the second observer. They recorded the observation results in the Teacher Practice Observation Form prepared by the researcher. According to the research findings, it was concluded that the teachers did not include enough activities to develop life skills in their teaching processes. According to the results of the observation, the teachers applied the in-class activities aimed at gaining the entrepreneurship and teamwork skills the most and the creativity skills the least. It was concluded that they included activities to develop the remaining communication, analytical thinking and decision-making skills at amoderate level, but this was not at the desired level for students to gain these skills.
Keywords: Science teaching, science curriculum, life skills
JEL KODU: I21

ÖZET
Bu çalışmada fen bilimleri dersi öğretim programında yer alan yaşam becerilerine 7.Sınıf Fen Bilimleri öğretmenlerinin öğretim sürecinde ne kadar yer verdiği araştırılmıştır. Araştırmaya Ankara ilinin Yenimahalle ilçesinde yer alan bir ortaokulda görev yapan iki öğretmen dahil edilmiştir. Öğretmenlerin yaşam becerilerine ne derece yer verdiği ders sürecine katılan araştırmacı ve belirlenen ikinci gözlemci tarafından yapılan gözlemlere göre belirlenmiştir. Gözlemciler, gözlem sonuçlarını araştırmacı tarafından hazırlanan Öğretmen Uygulaması Gözlem Formuna kayıt etmiştir. Araştırma bulgularına göre, öğretmenlerin öğretim süreçlerine yaşam becerilerini geliştirmeye yönelik etkinlikleri yeterince dâhil etmediği düşüncesine varılmıştır. Gözlem sonuçlarına göre öğretmenler ders esnasında en çok girişimcilik ve takım çalışması becerilerini, en az ise yaratıcılık becerilerini kazandırmaya yönelik sınıf içi etkinlikler uygulamışlardır. Geriye kalan iletişim, analitik düşünme ve karar verme becerilerini ise geliştirmeye dair etkinliklere orta düzeyde yer verdikleri ancak bunların bu becerileri öğrencilere kazandırmak için istenen düzeyde olmadığı kanaatine varılmıştır.
Anahtar Kelimeler: Fen öğretimi, fen bilimleri dersi öğretim programı, yaşam becerileri
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1. INTRODUCTION

Gaining the skills expected by the 21st century and catching up with the developing technology are of great importance in the development of a country. In the developing and

[1]This study was derived from a part of the master's thesis of the first author entitled "The Reflections of Life Skills in the Science Curriculum in Textbooks and Teacher Practices.

modernizing world, societies should take initiatives to keep up with innovations and developments and to lead a better-quality life. The best way to catch up with modern education and developing technology and to reach the skills that individuals are expected to have is through education and training because while education is a lifelong process, teaching or instruction is a process that contributes to education in a planned way and thus education-teaching is the easiest and most effective way to have children acquire skills at an early age.

A syllabus serves as a guide for teachers to attain their goals. Thus, it can be defined as a guide that leads students to gain the desired skills and knowledge and how to acquire them. Considering the importance of the curricula in the education-teaching process, as there are new developments in the world, there will be inevitable innovations in the education systems; thus, these innovations should be reflected in the curricula and therefore curricula should be up-dated frequently. In brief, in order to catch up with innovations, it is important that individuals who can keep up with the time should be raised. In our country, our education system is frequently modernized and renewed. The developments concerning the society and the culture of the society in the world and in our country as well as advances in technology and science have brought about the changes and greater expectations from the students. In addition, teachers had to raise the future generations, our hope, as individuals who have improved themselves in terms of knowledge and skills. In this direction, curriculum adjustments were made (MNE-MEB, 2020).

With the change in skills expected from the students, six skills were included in the 2013 Science course curriculum under the title of "Life Skills", which improve individuals problem-solving skills and facilitate their lives, strengthen their roles in society, and enable them to be individuals who benefit to science and humanity. The same attention was given to the acquisition of these skills in the 2018 Science Curriculum.

Considering the importance of curricula in keeping up with the modernizing world and developing technology, and the importance of teachers in achieving the goals in the curricula, this study will make an undeniable contribution to the literature as it will provide feedback to curriculum development experts on to what extent the life skills in the science curriculum are integrated into classroom activities.

1.1.Science Education

Science can be defined as the observation, investigation, identification, and explanation of the universe, nature, and phenomena and the discovery of the world by obtaining new information. Science plays a great role in the economic development and welfare of countries. In fact, advances in many fields such as science, technology, engineering, and medicine are realized thanks to science and science education, and thus making life simpler and more qualified (Karasu, 2019). The countries that are aware of this attach great importance on science education to raise individuals who can generate solutions to new technologies and problems with their existing knowledge in order not to fall behind technological and scientific developments in the world and to make contributions to these developments.

Thanks to science education, individuals recognize their environment much better and become aware of what is going around themselves. Individuals who raise awareness of environment and the world begin to love the world more and interact with their environment a lot. Thus, individuals gain reasoning skills and as a result of this, they will develop their creativity when using their reasoning and knowledge with the problems they encounter. Thanks to science, the learning of individuals with developed skills and abilities in other areas will become much easier and therefore, they will have learned learning with science (Köse, 2010).

1.2.Science Education Curricula in Turkey

It is seen that many curricula have been prepared and implemented for science teaching in our country. This research will focus on analytical thinking, collaboration, teamwork, decision making, creative thinking and communication skills, which are gathered under the title of "life skills", among the skills expected from students in the Science course curriculum in the 2020-2021 academic year.

Basic Approach of Science and Technology Course Curriculum in 2005; while having learners gain the idea that science is not a constant body of information but also it has changed to better explain the facts as new evidence and information, and at the same time it aims at embedding scientific methods around science literacy. Therefore, it can be said that this curriculum adopts "constructivist learning approach" *(MNE-MEB, 2005).*
Basic Approach of Science Course Curriculum in 2013; during the planning and implementation of the lessons, it aims at having learning environments in which students will be active and teachers will be a guide or facilitator. The learning environments are designed considering the "inquiry-based learning strategy" so that the students can gain knowledge permanently and meaningfully" *(*MNE-MEB, 2013).

Basic Approach of Science Course Curriculum in 2018; while designing the learning environment according to the "inquiry-based learning strategy", the application of science in daily life and its contribution to economy has become an important feature. Thus, units, subjects, and learning outcomes are designed according to the approach which aims at creating products to meet the needs in daily life *(*MNE, 2018).

1.3.Life Skills and Science Education

Life skills are skills that make life easier and enable individuals to reveal their potentials as productive individuals in society. As children develop their life skills, they are more likely to cope with problems and have more opportunities to live life the way they choose. In addition, life skills education aims to strengthen students against problems and expand their own capacities (Rooth, 1997).

If life skills education is planned and its progress is checked regularly, the education will not only improve by taking more effective and confident steps but also it will be possible to determine to what extent the students' needs are met and there will be an opportunity to make adjustments accordingly. Therefore, the plans made for the acquisition of life skills should be

examined frequently and the examinations should be recorded and reported to the necessary places and authorities (WHO, 1997).

Communication Skills; communication skill is the ability to express ourselves both verbally and non-verbally, in ways appropriate to our culture and status. This means being able to express our wishes, desires, and fears as well as our opinions, and being able to ask for and give advice and help in time of need (Murthy, 2016).

Individuals with developed communication skills do not hesitate to express their opinions or thoughts. They say what they think about something directly and listen to feedback respectfully. While defending their ideas, they know both their own and others' limits, act accordingly and respect the ideas of others. If they believe that their opinion is correct, they continue to defend, but when they are wrong, they accept their mistakes and try to correct them.

Collaboration (Teamwork) Skills; it can be defined as the work carried out by individuals who produce high- quality results, act together with solidarity, focus on a common goal, and have similar abilities, and responsibilities. Carrying out a teamwork will contribute to a more effective study by providing more data, material, and exchange of ideas. In addition, when people act together and make efforts for the same purpose to produce solutions or create innovations, this will help people to increase their creativity (Ortaylı, 2021).

Analytical Thinking Skills; analytical thinking includes processes such as comparison, evaluation, interpretation, classification, analysis, and association. These, in turn, help the individual to solve problems and make the right decisions (Doyle, 2017). A person who can think analytically is a person who can think critically. This will provide support to the individual in terms of gaining skills such as looking at situations more objectively, viewing events from different perspectives and angles, making realistic evaluations, reaching accurate results, and making more valid inferences. Creative Thinking Skills; creativity can be defined as a person's ability to overcome a problem by establishing connections between the knowledge and experiences he has gained in his life and to present an original idea or material with these connections. Creativity requires skills such as questioning, establishing cause-effect relationships, critical thinking, and making logical connections.

Creative thinking contributes to both problem-solving and decision-making skills because it enables us to look beyond our experiences, that is, to see and realize events outside of our experiences, and thus helps us to evaluate options and to predict the possible consequences of taking or not taking an action (Murthy, 2016).

Entrepreneurship Skills; entrepreneurship is to have the ability to feel the opportunities offered to us in the environment we live in, to dream with these feelings, to turn dreams into reality with projects and to make social life more liveable by being a productive and adventurous individual. Entrepreneurial people have characteristics that distinguish them from other people. These include using opportunities correctly, thinking uniquely and differently, being inquisitive, following developments, being courageous and not avoiding risks, taking

the initiative, being able to overcome problems easily, being determined, and hardworking (Eraslan, 2011).

Entrepreneurial skills are listed as follows: problem solving, creativity, persuasion, planning, making the right decision, self-confidence, being autonomous, self-sufficient, success-oriented, being versatile, being skilful, and dynamic (Iredale & Motsa, 2002; as cited in Gömleksiz & Kan, 2009).

Decision-making Skills; decision-making is finding alternative solutions to the problem when faced with a problem, estimating the possible outcomes of these solutions, evaluating, and reaching the best solution in the end or comparing and evaluating several options in a situation and choosing the most appropriate option.
The ability to make decisions is one of the most important life skills because the right decisions usually lead to positive experiences, while the wrong decisions often lead to negative experiences. By using their minds, individuals try to choose the most suitable option among the options that they frequently encounter throughout their lives, and thus they try to solve their problems and meet their needs (Gürçay, 1998).

Many factors affect the decision-making process and the decisions taken such as life experiences and experience of the world, readiness and prior knowledge, goals and desires, belief and commitment, age, and even economic situation (Dietrich, 2010).

2.THE PURPOSE OF THE STUDY

The aim of this study is to determine to what extent teachers include life skills that the 2018 Science Curriculum aims at being acquired.

2.1.The Significance of the Study

It is considered that this study is important as it examines the teachers' in-class activities in terms of acquisition of life skills according to the 2018 Science Curriculum which has been updated and put into practice since 2018.
Teachers are one of the most important components of the curricula in order to attain their goals (Saraçaloğlu, 2000). Teachers must plan and implement their course contents according to the curricula. During the study, observing teachers' lectures in the class and their in-class practices in their lessons will present findings about their awareness about the goals of the curriculum, the integration of these goals into the courses by the teachers, and the importance they pay attention to develop the skills which students are expected to gain.

2.2.The Statement of Problem

The statement of problem of this study includes the following: "What is the level of science teachers to implement the life skills identified in the 2018 Science Curriculum in their teaching process? To solve this problem, specifically the study sought to answer the following sub-problems during the study:
1. What is the level of science teachers to implement the methods to develop their students' communication skills?

2. What is the level of science teachers to implement the methods to develop their students' decision-making skills?
3. What is the level of science teachers to implement the methods to develop their students' analytical thinking skills?
4. What is the level of science teachers to implement the methods to develop their students' teamwork skills?
5. What is the level of science teachers to implement the methods to develop their students' entrepreneurship skills?
6. What is the level of science teachers to implement the methods to develop their students' creative thinking skills?

3. METHOD

3.1.The Research Model

Due to the nature of the research problem, this study is based on the qualitative research approach. Phenomenology design was chosen from the qualitative research designs. While progressing with this design, the observation method was used. The data was collected from the two science teachers working in the school where the study was carried out. These teachers were chosen as the sample and their teaching processes were observed.

The phenomenological design focuses on phenomena that we are aware of but still do not have a detailed view of. Phenomena can appear in our world in many ways such as situations, experiences, tendencies, and perceptions. However, encountering these phenomena does not mean that we understand and know them very well. In this way, the phenomenology design creates a suitable background in studies that aim to examine the phenomena that we are familiar with but with unclear meaning. Due to the nature of qualitative research, this design may not reveal definite and generalizable results, but it will provide results that will enable us to know and comprehend a phenomenon better (Yıldırım & Şimşek, 2013).

Observational research is a technique where the researchers systematically observe, record, analyse, and evaluate a person or people's interaction with their environment and other people, their actions, and verbal and non-verbal behaviours (Şencan, 2005). Observation is collecting first-hand information about the people, places and situations that compose the subject of the research and the study group. Observation in education is gathering data by objectively observing the desired behaviours in its natural setting to attain the goal through tools such as tables, charts, and scales (Yalçıner, 2006).

Observation forms are essential for examining and observing the ongoing human behaviour in the natural environment in which it typically occurs. For this reason, it is important for the researcher to observe in person by taking part in the environment as a non-participant observer (Yıldırım & Şimşek, 2013). In this study, the researcher made long-term and repeated observations and took notes to describe the teaching-learning process to observe how often the science teachers used the activities or questions in their teaching processes in order to have the students gain life skills, which are one of the goals stated in the 2018 Science Curriculum. Non-participant observation involves observing participants without actively participating in the group the researcher observes by staying separate from the activities. The

researcher does not disguise his identity; thus, the researcher becomes objective rather than being subjective.

3.2.The Study Group

A homogeneous sampling method, which is one of the purposive sampling methods, was used in the selection of the sample. Purposive sampling method has existed precisely within the qualitative research approach. Purposive sampling allows for detailed examination when it is thought that a good level of knowledge is available (Yıldırım & Şimşek, 2013).

A homogeneous purposive sampling focuses on one subgroup or situation related to the research's statement of the problem in the universe in which all the sample members are similar (Büyüköztürk et al., 2010).

The study was carried out with two different science teachers working in a secondary school in Yenimahalle in Ankara (Türkiye) in the spring term of 2020-2021. In order to provide more similar conditions, attention was paid to ensure that teachers' undergraduate graduation dates and tenures were close to each other. In addition, since the education level of the teachers in Turkey is undergraduate, the teachers in the study group were also selected as graduates. The teachers have been working as teachers for 23 and 26 years, and both are female with a bachelor's degree.

In qualitative research, in-depth analysis is carried out by choosing a small sample size. Since in-depth observations would be made for two months in this study, two samples were chosen. It was determined that both teachers who participated in the observation taught 7th and 8th grades. However, the research was carried out with the 7th grades because it was thought that due to exam anxiety of the 8th grade students, students and teachers would be stressed during the participation in the lesson for observation and that the findings might not reflect the truth. Since the 2018 Science Course Curriculum is based on a spiral approach, there are similar contents in the units taught in the same period, albeit at different grade levels. Therefore, in order not to cause the observation period too long and complicated, the data collection resources were limited to the observations made about the teaching practices of the two selected teachers in the 7th grade.

3.3.Data Collection (Measurement) Tool

"Teacher Observation Form-TOF (Appendix-1)" prepared by the researcher was used as a data collection tool. While creating the scale, a literature review was conducted in line with the purposes of these scales. After the national and international sources are examined, a conceptual framework was developed. After determining the general terms, that is, sub-titles, the expressions that would identify the relevant skills were decided and then the items were developed.

While developing the pool of items, the researcher benefited from the data obtained from the literature review and the life skills assessment scale developed by Eskici (2017) and Bolat and Balaman (2017). After developing the pool of items, the field experts discussed the items and each of them completed the expert evaluation form designed by the researcher. An

academician and four science teachers expressed their opinions on the usability of items and their appropriateness to the goals and a linguist expressed that the scale items were written clearly and comprehensibly, and they could be understood by everyone in the same way. After receiving the six experts' views, the percentage of agreement between the experts was calculated.

Within the content of the pool of items, the points of "consensus or agreement" and "disagreement" were determined and discussed. Then, necessary corrections were made, and the form developed was finalized. The reliability formula recommended by Miles and Huberman was used:

$$\textbf{Reliability} = \frac{\textbf{Agreement}}{\text{Agreement + Disagreement}} \textbf{ X 100}$$

As a result of the calculation, the reliability of Teacher Observation Form was found to be as follows: 94% for communication skills, 93% for decision-making skills, 100% of analytical thinking skills, 97% for collaboration (teamwork) skills, and 98% for entrepreneurship skills.

Over 70% of the reliability calculations are considered reliable for research (Miles & Huberman, 1994). According to the obtained result, the developed scales for the research are considered reliable for the given study.

3.4.Data Collection Process

After getting the necessary permissions for the observation, the observations began on May 26, 2021. In order for the lesson observation to yield reliable results and to eliminate subjective opinions and dispositions, a second observer was chosen, and observations lasted a total of 8 weeks and 16 lesson hours for each teacher for two months because of showing ultimate attention to do a large number of observations. The observation was carried out each week on Monday by joining the lessons with the second observer. The first teacher (T1) was observed in her 1st and 2nd lessons and the second teacher (T2) was observed in her 3rd and 4th lessons and Teacher Observation Form was completed both by the researcher and the second observer by comparing the evaluations performed as a result of the observations. The observation procedure of the study lasted 8 weeks and two teachers were observed a total of 32 hours and thus the data for the study were gathered.

Considering the principle that the greater the similarity between the observations and the evaluations of the observers are, the higher the reliability of the measurement is, more than one observer should be included in the research in order to ensure the reliability of the evaluations as a result of the observation, or the same observer should observe the same event again in different time periods (Yalçıner, 2006).

Before entering the classrooms for observation, the two teachers selected for the research were interviewed and informed about why the observation would be done. The two observers

entered the classroom at the same time to observe, and they sat at the desks at the back of the classroom in the corners in order not to be affected by each other's markings and to see the classroom from many angles. Except for the researcher, the second observer who will observe the teaching process in the classroom is a five-year science teacher. Before the observation, the second observer was informed about the subject and purpose of the research and the categories in the observation form. During each observation, two observers were used to reveal the reliability of the Teacher Observation Form, and the average of the gradings made by the observers for each criterion was combined into a single form.

3.5.Scientific Research Ethics

In this research, ethical principles that must be followed while conducting scientific research were followed. In this respect, the names of the teachers who were observed were given by coding. The research was conducted with the permission of Kırıkkale University Social and Human Sciences Research Ethics Committee (20/04/2021-04).

4.FINDING

4.1.Out of 8 Criteria Determined for the Communication Skills

The eight-week observation results for communication skills are as follows;
For T1[5], 34 yes, 3 partially, and 27 no checkboxes were marked throughout 8 weeks.
For T2[6], 37 yes, 2 partially, and 25 no checkboxes were marked throughout 8 weeks.
The distribution of teacher practices regarding the presentation of one communication skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Communication		1	2	3	4	5	6	7	8	-
A teacher gives students the freedom of speech to express their opinions on a subject.	T1	1	1	0	1	1	0	1	0	5
	T2	0	1	0	0	1	0	0	1	3

As an example, only teacher practices related to observation made for this skill are mentioned.

Communication Skill Criteria	Yes	Acceptable	No
T1. 1.Week:" Ask the students, "Do you have any idea about how the colors of the objects you see around you are formed?" asked the question.	x		
T2.1. Week: "Do you think light can pass through any surface?" the teacher asked the students as she/he started the topic. Ask the students, "Why do you think light colors are preferred in summer, and dark colors are preferred in winter?" asked.	X		

It can be stated that both teachers partially included activities for the acquisition of communication skills in the teaching process. It was seen that both teachers gave opportunities for their students to present their opinions and provided a safe environment for

[5] T1: 1. Teacher S. B.
[6] T2: 2. Teacher H. D.

them to exchange ideas. However, it was seen that both teachers did not design case studies/ activities which would enable students to use their mimics and gestures, to transfer their ideas with symbols, and to develop their empathy skills.

4.2.Out of 10 Criteria Determined for the Decision-making Skills

The eight-week observation results for decision-making skills are as follows;
For T1[1], 41 yes, 2 partially, and 37 no checkboxes were marked throughout 8 weeks.
For T2[2], 45 yes, 2 partially, and 33 no checkboxes were marked throughout 8 weeks.
The distribution of teacher practices regarding the presentation of one decision-making skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Decision-making		1	2	3	4	5	6	7	8	-
A teacher enables students to determine types of dependent and independent variables according to a criterion.	T1	0	0	1	0	1	0	0	1	3
	T2	1	0	1	1	1	0	0	1	5

It can be stated that both teachers partially included activities for the acquisition of decision-making skills in the teaching process. It was seen that both teachers allowed students to make a judgment about the misinformation or accurate information, to draw a conclusion by looking a table, figure, or diagram, to evaluate about the results, to reach a correct answer by making a comparison, and to make the right decision for the needs. However, it was seen that both teachers hardly included activities such as giving students a problem to reach the best result or allowing students to determine the advantages or disadvantages of a situation.

4.3.Out of 17 Criteria Determined for the Analytical Thinking Skills

The eight-week observation results for analytical thinking skills are as follows;
For T1[1], 67 yes, 6 partially, and 63 no checkboxes were marked throughout 8 weeks. For T2[2], 76 yes, 6 partially, and 54 no checkboxes were marked throughout 8 weeks.
The distribution of teacher practices regarding the presentation of one analytical thinking skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Analytical thinking		1	2	3	4	5	6	7	8	-
A teacher assigns students tasks to do research.	T1	1	0	1	1	1	1	0	1	6
	T2	1	0	1	1	1	1	1	1	7

When compared to T1, T2 posed more activities /questions for the acquisition of analytical thinking skills; however, it can be stated that both teachers partially included activities for the acquisition of these skills in the teaching process. It was seen that both teachers assigned tasks to their students to do research; they designed tasks/questions that would allow their students to interpret them, integrate their prior knowledge with their new knowledge, compare them, establish cause and effect relationship; they asked questions to their students that would enable them to evaluate the results or observations, to predict, to estimate, or to deduce.

However, it was revealed that both teachers did not include any activities that would enable students to analyse the problem situation by dividing it into its components, to make associations between the concepts, to rank, to draw a concept map, and to determine the positive/negative aspects of a situation based on arguments.

4.4.Out of 7 Criteria Determined for the Teamwork Skills

The eight-week observation results for teamwork skills are as follows;
For T1[1], 35 yes, 9 partially, and 12 no checkboxes were marked throughout 8 weeks. For T2[2], 40 yes, 8 partially, and 8 no checkboxes were marked throughout 8 weeks.

The distribution of teacher practices regarding the presentation of one teamwork skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Teamwork		1	2	3	4	5	6	7	8	-
A teacher assigns students tasks to take responsibility in the group.	T1	0	1	1	1	1	0	0	1	5
	T2	1	1	1	1	1	0	0	1	6

It can be stated that the activities of both teachers for the acquisition of teamwork skills met the criteria determined by the researcher. It was seen that both teachers assigned tasks for students to take responsibility within the group, enabled students to have a part in completing each other's tasks or support them, and designed tasks that would help students act together. In addition, to develop students' sense of justice, both teachers drew attention to this issue while distributing the duties/ roles in the group, guided students to be respectful and tolerant in the discussion environment, enabled students to share work on their own by dividing them into groups, and gave hints and ideas to the students for negotiation against the opposing opinions.

4.5.Out of 11 Criteria Determined for the Entrepreneurship Skills

The eight-week observation results for entrepreneurship skills are as follows;
For T1[1], 50 yes and 38 no checkboxes were marked throughout 8 weeks. For T2[2], 59 yes and 29 no checkboxes were marked throughout 8 weeks.

The distribution of teacher practices regarding the presentation of one entrepreneurship skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Entrepreneurship		1	2	3	4	5	6	7	8	-
A teacher allows students to take responsibility by assigning them tasks.	T1	1	1	1	1	1	1	1	1	8
	T2	1	1	1	1	1	1	1	1	8

It can be stated that although T2 had more activities, the activities prepared by both teachers for the acquisition of entrepreneurship skills met the criteria determined by the researcher. It was seen that both teachers allowed students to take responsibility by assigning them tasks, provided a safe environment for students to express their opinions easily, posed questions and

activities that would help students to become skilful and dynamic, enabled them to become active in the classroom by giving them tasks and freedom of speech, developed individual activities for students to help them perform a duty or solve a problem on their own, and allowed them to do experiments by following the instructions. However, it was revealed that both teachers hardly any included activities that would help students to write a problem statement related to the daily life and generate solutions to this problem, suggest new ideas, and determine the necessary conditions and materials to actualize a plan or to meet a need.

4.6.Out of 11 Criteria Determined for the Creativity Skills

The eight-week observation results for creativity skills are as follows;
For T1[1], 15 yes and 73 no checkboxes were marked throughout 8 weeks. For T2[2], 18 yes and 70 no checkboxes were marked throughout 8 weeks.

The distribution of teacher practices regarding the presentation of one creativity skill by weeks is given below;

Skill Criteria	Teacher	Weeks								Total
Creativity		1	2	3	4	5	6	7	8	-
A teacher asks questions to guess how an incident occurred.	T1	1	1	0	1	1	0	1	0	5
	T2	0	1	0	0	1	0	0	1	3

It can be stated that the activities of both teachers for the acquisition of teamwork skills did not meet the criteria determined by the researcher. It was revealed that in some weeks both teachers only asked questions to students to guess how an event occurred and predict the possible results of the event. However, they did not include any activities that would help students to generate new ideas with questions and problems, design materials considering their needs, concretize their existing knowledge by following a model, develop ways of solutions to a problem by using their prior knowledge, put the shape they have created in their minds down on paper, associate the data and materials in their hands with each other, design different products with the same materials, generate solutions to a problem with the minimum cost using limited and simple materials, and create a statement of problem about a daily life and generate solution to this problem.

Two observers were used during each observation to reveal the reliability of the Teacher Observation Form and the observers calculated the average of the marking for each criterion and then they were combined into a single form. Miles and Huberman's (1994) formula was used to determine the percentage of agreement between the evaluations made by the two observers:

As a result of this calculation, while the reliability of observation for T1 was determined to be 95 % for communication skills, 98% for decision-making skills, 96% for analytical thinking skills, 84% for collaboration (teamwork) skills, 100% for entrepreneurship skills, and 100 % for creativity skills, the reliability of observation for T2 was found to be 98 % for communication skills, 98% for decision-making skills, 96% for analytical thinking skills, 86%

for collaboration (teamwork) skills, 100% for entrepreneurship skills, and 100 % for creativity skills.

5.RESULTS AND SUGGESTIONS

As a result of the research, these six skills, namely communication skills, decision making skills, analytical thinking skills, collaboration (teamwork) skills, entrepreneurship skills and creative thinking skills, which were gathered under the title of life skills, were evaluated after examining them in the teaching processes of science teachers.

As a result of the observations made on the two science teachers included in the research as a sample, it was seen that the teachers carried out in-class activities mostly for the acquisition of entrepreneurship and collaboration (teamwork) skills, but in-class activities introduced by the teachers for the acquisition of creativity skills was the minimum in number. It was observed that regarding teachers' tendencies towards in-class activities to develop the remaining skills including communication, analytical thinking, and decision-making, the teachers met the criteria specified by the researcher at a moderate level. It was concluded that they included these three skills; however, they were not at a desired level to have the students gain these skills.

According to the results of the research carried out by Ursavas and Karal (2019), they argued that science teachers' opinions about life skills were insufficient, they mostly focused on analytical thinking skills, but they used these skills unconsciously, not deliberately and carefully. In addition, the results of the study carried out by Aytar and Ursavaş (2017) which support this opinion revealed that 38% of the elementary school teachers lacked knowledge regarding life skills and the teachers could not explain their reasons why they preferred the life skills they used.

The ability to communicate is acquired as a result of the process that starts in the family and is reinforced with education. It is of great importance for the individuals to be able to express themselves effectively and to be good listeners to communicate well in our socializing and globalizing world. Thanks to communication, individuals can increase their knowledge, expand their perspectives, and improve themselves to become more sensitive, solution-oriented, and productive individuals by sharing ideas, information, and thoughts. This will lead individuals to find new ideas and ways of solutions for the needs and problems. In addition, individuals who can express their opinions clearly will be able to make faster and more accurate decisions regarding solutions and productivity towards their needs and problems. Thanks to such contributions of communication skills, individuals who benefit to the society, develop empathy skills, and increase their sensitivity to social issues will attach importance to collaboration and thus teamwork in social life.

Individuals with analytical thinking skills will be able to detect the root of the problem by breaking it down into sub-components of the needs and problems in daily life and social order, so they will be able to reach factual outcomes and ascertain the most likely solution. This will make contributions to make social life easier. Individuals with good analysis skills will also be able to make better decisions as they will have skills such as better estimation,

establishing cause-effect relationships, and associating concepts with each other. In fact, making the right decisions is of great importance to achieve success because life experiences improve with making good decisions and thanks to good decisions, individuals will be able to reach the place where they will be happy more easily and quickly. In addition to this, individuals who can make good analysis will develop their creative thinking skills because their quick analysis skills against the problem situations and everyday life events will reveal their creative sides. Raising individuals with creative skills has an important place due to some reasons such as being sensitive to social problems, suggesting ways of solutions and new ideas for the needs and problems, providing economic development by making contributions to the manufacturing process, and making contribution to their home country to go beyond other countries.

According to the results of Özdemir's (2015) study carried out to discover what science teachers think about life skills in the science curriculum, it was seen that teachers found it beneficial to include life skills in the curriculum and teachers stated that teaching of science courses was convenient for students to gain these skills. In addition to this, teachers are of the opinion that life skills can be instilled in students through methods such as student-centred project studies and experiments, but they stated that the schools need to be strengthened with the necessary economic power to provide these.

As a result, the following suggestions are made considering the obtained results:

- It is suggested that teachers should draw more attention to the activities for gaining analytical thinking, decision-making and communication skills, especially creativity skills, and they should organize, design, and develop more activities, questions, studies, and etc. for the sake of gaining these skills, so they can use them in teaching processes.
- It is suggested that life skills education should be organized via in-service training or workshops to comprehend life skills and their importance better and teachers should be supported to join them.
- It is suggested that in-class environment where the activities to develop life skills will be practised should be provided and thus school directors should provide full support both economically and morally.
- It is suggested that school directors pay attention to whether activities aim at gaining life skills are included in the classroom observations they make every semester in order to monitor the efficiency of the lessons, and if there is a deficiency, it is suggested that they take measures in this direction by giving feedback to the teachers.

It was concluded that the future studies can contribute to the acquisition of life skills that are deemed necessary to be acquired both in the 21st century and in the curriculum.

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Appendix: Teacher Practice Observation Form (TPO)

Communication Skills Criteria	**Yes**	**Partially**	**No**
A teacher gives students the freedom of speech to express their opinions on a subject.			
Detail:			
A teacher gives students the freedom of speech to express their opinions on a subject			
Detail:			
A teacher provides a safe class environment where students can exchange ideas easily.			
Detail:			
A teacher allows students to share materials and knowledge with their peers.			
Detail:			
A teacher designs activities for students to use their mimics and gestures.			
Detail:			
A teacher designs activity for students to transfer their opinions with symbols.			
Detail.			
A teacher designs case studies/ activities for students to develop their empathy skills.			
Detail:			
A teacher provides a learning environment in which students can listen to one another.			
Detail:			
Decision-making Criteria			
A teacher enables students to determine types of dependent and independent variables according to a criterion.			
Detail:			
A teacher allows students to reach a suitable solution by giving them a problem.			
Detail:			

A teacher helps students to make a judgement whether the knowledge is false or correct.			
Detail:			
A teacher helps students to choose between the options by giving them multiple choice questions.			
Detail:			
A teacher allows students to reach a result by looking at a table/ diagram/ figure.			
Detail:			
A teacher enables students to guess the possible results of a case study or a situation.			
Detail:			
A teacher asks students to make evaluations about the results.			
Detail:			
A teacher enables students to reach the correct result through comparison.			
Detail:			
A teacher enables students to determine the positive or negative sides of a situation.			
Detail:			
A teacher allows students to make choices in line with their needs.			
Detail:			
Analytical Thinking Skills Criteria			
A teacher assigns students tasks to do research.			
Detail:			
A teacher allows students to interpret the information they obtained.			
Detail:			
A teacher guides students to break down the problem situation into components and analyse it.			
Detail:			
A teacher enables students to integrate their prior knowledge with their new knowledge.			
Detail:			
A teacher designs activities/questions for students to make associations between the concepts.			
Detail:			
A teacher designs activities/questions for students to make comparison.			
Detail:			
A teacher designs activities/questions for students to build cause and effect relationship.			

Detail:			
A teacher designs activities/questions for students to make classification.			
Detail:			
A teacher asks questions to students that will help them to make evaluations about the results or observations.			
Detail:			
A teacher designs activities/question for students to make observations.			
Detail:			
A teacher gives students a problem statement to help them determine the dependent-independent variables.			
Detail:			
A teacher designs activities that will help students to determine the differences and similarities between the things.			
Detail:			
A teacher designs activities that will help students to combine the pieces or data.			
Detail:			
A teacher helps students draw a concept map.			
Detail:			
A teacher helps students to classify.			
Detail:			
A teacher designs an activity for students to determine the positive/negative sides of a situation based on arguments.			
Detail:			
A teacher asks questions to students that will help them to predict, estimate, or deduce.			
Detail:			
Teamwork Skills Criteria			
A teacher assigns students tasks to take responsibility in the group.			
Detail:			
A teacher allows students to take roles to complete or support each other in their tasks.			
Detail:			
A teacher designs activities/ experiments or gives a statement of problem to help students act together.			
Detail:			
To develop students' sense of justice, a teacher draws attention to this subject while assigning roles/tasks within the groups.			
Detail:			

A teacher guides students to be respectful and tolerant in the discussion environment.			
Detail:			
A teacher allows students to share tasks on their own by grouping them			
Detail:			
A teacher shares opinions and hints with students to negotiate with each other in case of opposing ideas.			
Detail:			
Entrepreneurship Skills Criteria			
A teacher allows students to take responsibility by assigning them tasks.			
Detail:			
A teacher provides a safe environment for students to express their opinions easily and encourages them.			
Detail:			
A teacher poses activities and questions to help them become skilful and dynamic.			
Detail:			
A teacher enables them to become active in the lesson by giving them the right of expression and tasks.			
Detail:			
A teacher enables students to write a statement of problem about a daily life and generate a solution to this problem.			
Detail:			
A teacher designs an activity for students to create a product.			
Detail:			
A teacher designs an individual activity for students to do a work or to solve a problem on their own.			
Detail:			
A teacher designs an activity/a question to enable students to present new ideas.			
Detail:			
A teacher designs an activity for students to reach a level to be able to draw and interpret a figure/shape.			
Detail:			
A teacher enables students to follow the instructions and do an experiment.			
Detail:			
A teacher enables students to determine the required conditions and materials to carry out a plan or meet a need.			
Detail:			
Creativity Skills Criteria			
A teacher asks questions to guess how an incident occurred.			

Detail:			
A teacher encourages students to generate new ideas /opinions with questions and problems.			
Detail:			
A teacher enables students to design materials for their own needs /problems			
Detail:			
A teacher enables students to concretize their prior knowledge by putting them into pattern.			
Detail:			
A teacher asks questions to help students predict the possible results of an incident.			
Detail:			
A teacher enables students to develop ways of solutions for a problem by using their prior knowledge.			
Detail:			
A teacher allows students to put the figure they have created in their minds into paper.			
Detail:			
A teacher enables students to associate the data and materials in their hands with each other.			
Detail:			
A teacher allows students to design different materials with the same materials.			
Detail:			
A teacher designs an activity to enable students to find a solution to a problem with the limited and simple materials and minimum cost.			
Detail:			
A teacher enables students to create a statement of problem about the daily life and then generate a solution to this problem.			
Detail:			