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Problems Encountered by Mathematics and Science Teachers in Classrooms where Syrian Students under Temporary Protection Status are Educated and Suggestions for Solution

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Abstract

In this study, problems encountered by mathematics and science teachers in classrooms where Syrian students under temporary protection status and suggestions for solution to these problems were examined. A case study was used among qualitative research methods. 30 volunteer mathematics and science teachers from three state middle schools in the 2018-2019 academic year have attended the study in which criterion sampling was preferred. In the study where a semi-structured interview form was utilized, evaluation of the data was done through content analysis. As the result of this study, it was determined that Syrian students have problems particularly language and communication problems which are stemming from behavioral, parenting, economic, legislative, and their past lives. Underlying the problems encountered by mathematics and science teachers in their lessons is the Syrian students' not having sufficient language skills and having difficulties in perception and learning. Incompatibility of the curriculum, parents' perspective on education, having difficulties in dealing with problems and lack of materials are among the issues that teachers have problems in. The difficulty acquisition levels and course contents, the level difference between students, and the lack of training in the subjects are among the most common problems encountered by teachers in terms of the dimension of the curriculum. The suggestions of mathematics and science teachers are for the students and families to overcome the language problem, increasing the supplementary courses, providing material support, and providing support for the education of the families.

Key words: Mathematics teachers, Science teachers, Syrian students, Temporary protection status

Introduction

Without a doubt one of the most essential phenomenon of history is migration. Being a universal phenomenon, migration can be defined as a common name given to the movement of people from their locations because of economic, social, political, and cultural reasons (Koçak and Terzi, 2012). Another description is the act of moving from one country to another, from one settlement to another connected to specific reasons (Turkish Language Institution [TLI], 2019). Migration is a condition that can be observed everywhere on earth and has existed from the earliest history of humans and will continue to exist in the future (Koçak and Terzi, 2012). Therefore, migration both by its subject and both by its pattern is among the first topics on agendas not only in countries that receive large amounts of migration but in every geography that globalization is felt or experienced intensely, and concerns everyone and every structure (Directorate General of Migration Management [DGMM], 2017). Although there are many reasons for migration; wars, natural disasters, threats, medical services, education services, lack of employment areas are among the main reasons (Özgen, 2012). On many international agreements, it is emphasized that migration is a right (The UN Refugee Agency [UNHCR], 2016; 2019). However, migration is moving, holding on to life and power on one hand and is disengagement, escape, separation, sadness, loneliness, unfamiliarity even pain on the other (Irmak, 2019). Today, especially migration victims who are driven out of their places by force are defined as different concepts such as refugee, asylum-seeker, and migrant (Saraçlı, 2019). The concept of migration is defined as the physical location change of individuals or groups of people from one settlement area to another settlement area by will or by force, permanently or covering a certain period (GNAT Human Rights Review Commission, 2010). However, this change brings a multi-dimensional change as well. Especially social, economic, cultural, and political aspects

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affect the structure of society profoundly (Coşkun and Emin, 2016; Kasdemir, 2010; Oral and Çetinkaya, 2017; Özer, 2004). Therefore migration causes all layers of society to change by beyond just being an act of locational movement. Stemming from the fact that one in every seven people is a migrant, the era we are in defined as the “age of migration” and the size and universality of migration is emphasized (Castles and Miller, 2008; International Organization for Migration [IOM], 2018).

Turkey is one of the countries that received the most influx of migrants throughout history. The existence of an intense migration network in Turkey is stated by many official authorities (DGMM, 2017). Turkey is faced and is going to be faced with migration problems because of both its geographical and strategic position. Especially, the forced migration wave that began in April 2011 with an asylum-seeker group of 252 people has reached 3.6 million today as the civil war escalated (UNHCR, 2019). On the other side, Turkey hosts 400.000 other asylum-seekers from nearby countries, notably Afghanistan, Iraq, Iran, and Somalia (UNHCR, 2019). Especially after it is determined that the Syrian asylum-seekers are going to be staying in Turkey for a long time, it has been a necessity to develop long term policies that would also enable individuals to adapt to social life in addition to precautions taken to accommodate for their emergency needs (GNAT Human Rights Review Commission, 2010). Without a doubt one of the pillars of these policies is education. Because many social scientists; agree that the education is given to children under temporary protection status plays an important role in the healthy development of social adaptation (Castles and Miller, 2008; Machel, 2001; Miller, Mitchell and Brown, 2005; Saraçlı, 2019; Waters and Leblanc, 2005). On the other hand, the education process is where the most exposure to the adaptation process to both social and cultural differences of the host country by the children under temporary protection status occurs. So much so that education is an important step in adapting to social, financial, and cultural life in addition to being a basic human right (Emin, 2018). Today, in many international societies immigrant education is seen as a vital problem such as health, housing, food, and water (IOM, 2018; Machel, 2001; UNICEF, 2015). In this regard, day by day, regulations that would be developed for the education of children under temporary protection status who are born and raised in Turkey or included in the learning process subsequently have become important (Ministry of National Education [MoNE], 2015).

Access to the means of education and make use of the benefits of education is one of the basic human rights of migrant children also and all countries should provide these children with fundamental education (UNICEF, 2015). Intense work has been carried out for the education of the children under temporary protection status in Turkey and starting with 2016, policies have been developed so they would receive education in public schools for them to learn Turkish and adapt to the social, financial, and cultural structure (DGMM, 2017). Thus, the importance of the subject is emphasized by statements; “works will be conducted for refugees, foreigners under temporary protection or also those staying in Turkey as stateless to achieve integration to the education system for them to receive education for the duration they are staying” in the year 2015-2019 strategic plan published by Ministry of National Education (MoNE, 2015). As a result of these policies, as of January 2019, 645.000 Syrian children under temporary protection status who are registered to school are receiving education in Turkey (UNICEF Turkey National Committee, 2019). Despite of all these positive developments, children under temporary protection in Turkey have basic problems such as economic, health, language, social and education (Akdeniz, 2018; Başar, Akan and Çiftçi, 2018; Cin, 2018; Dağdeviren, 2018; Dolapcioglu and Bolat, 2019; Döner, 2016, Emin, 2018; Erdem, 2017; Erol-Emiroğlu, 2018; Güzel, 2019; Özer Komsuoğlu and Ateşok, 2016; Özgün, 2019; Polat, 2012; Şimşir and Dilmaç, 2018; Waters and Leblanc, 2005; Yıldız, 2018). In order to overcome these problems, it is considered very important to bring all children under temporary protection status to education and to ensure their adaptation to social life through education under temporary (IOM, 2018; MoNE, 2015; UNICEF, 2015; 2019). In this regard education activities play a key role in enabling these students to adapt to society and country and reducing adaptation problems that stems from various reasons (Güzel, 2019). On the other hand, with every passing day, some problems arise from the introduction of students under temporary protection to the education system. Notably language, many problems such as; legislation, academic success, curriculum, parity, social, cultural, economic, psychological, teacher, student, acceptance by parent and school managers, view of education by asylum-seeker families affect the learning environment (Bulut, Kanat-Soysal and Gülçiçek, 2018; Erdem, 2017; Jafari, Tonga and Kışla, 2018). Especially in educational institutions affiliated with the Ministry of National Education, Syrian students under temporary protection status who study Turkish in the same learning environment as Turkish students face many problems. under temporary. These problems lead to some negative situations for administrators, teachers, students under temporary protection, Syrian and Turkish students. In this regard, many works and studies are conducted, the problems encountered by students under temporary protection in education environment sought to be identified in the light of many variables such as teachers, managers, students, families, and education institutions (Akdeniz, 2018; Ergen and Şahin, 2019; Güngör and Şenel, 2018; Kiremit, Akpınar and Tüfekçi-Akcan, 2018; Şahin and Doğan, 2018; Şimşir and Dilmaç, 2018; Uysal, 2019). Considering all these negativities which were the starting point of the study being conducted, acknowledging the problems encountered by mathematics and science teachers in

classrooms with students under temporary protection status, emerges as a subject worth investigating. At the same time, a limited number of studies on the problems encountered by both mathematics and science teachers in related literature is considered important to the necessity of the study. Mathematics and science have an important place in all disciplines, so it is important to know the problems experienced in these two courses. Because the awareness of students to develop innovative solutions to the problems they see in their environment and the ability to produce these solutions by blending them with different disciplines such as mathematics and science has become one of the main goals of the education systems of developed countries (MoNE, 2018; OECD, 2011).

When the literature is examined, it is determined that refugee students face more communication difficulties in the learning process after interviews with 20 class teachers by Başar et al., (2018). At the same time related to students isolating themselves from the class environment, existence of adaptation and attitude problems have been reported. After interviews with 17 teachers teaching in different branches, it was determined that foreign students face academic, social, language, and communication problems (Başar et al., (2018). Another finding of the study was obtained from interviews conducted by Güngör and Şenel (2018) with 21 classroom teachers and 24 foreign students. As the result of the study, it is determined that foreign students experience more language and culture differences, basic language skills, understanding, expressing, and commenting, lagging behind the program, and academic failures in their education. In the study conducted by Ergen and Şahin (2019) with 160 classroom teachers, it was determined that the Turkish language and mathematics skills of Syrian students are not adequate, older students face adaptation problems. Moreover, it was determined that these students engage in reciprocated violence between themselves and with Turkish students, choose their friends internally, their school resources and parent participation are not sufficient. In the study conducted by Bulut et al., (2018) with 14 class teachers, it was identified that especially in Turkish lessons, the teachers used the same curriculum for both asylum-seeker children whose native language is not Turkish and other children; they didn't know how to resolve the language problems of these students and because of the lack of Turkish education process for foreigners, they are facing problems. As a result of interviews with 35 teachers conducted by Jafari et al., (2018), it was determined that although there are cultural and social differences, Syrian and Turkish students studying in elementary school do not experience a cultural conflict and the biggest difficulty preventing the cultural amalgamation is the language problem. Another study was conducted by Şahin and Doğan (2018) with 15 middle school science teachers. As the result of the study, it was stated that the leading problems faced in the science course education process of classes with Syrian students are language problems, cultural differences, adaptation problems, and lack of material. On the other hand, it is reported that learning acquisition of science courses are heavy for Syrian students, course content is heavy, the content is not finished on time, and the content needs to be visualized more. As the result of the study conducted by Kiremit et al., (2018) with 19 teachers, it was determined that the biggest problem Syrian students face is not knowing Turkish and having adaptation problems with their peers. At the same time, the biggest problem teachers with Syrian students in their classes are not being able to communicate and include them in the education process. Likewise; as the result of extensive interviews conducted with school managers, teachers, and Syrian families by Emin (2018), it was determined that at the center of the problems encountered by Syrian students in the education process is the language barrier. In another study conducted by Dağdeviren (2018), it was determined that Syrian asylum-seekers face economic, social, and cultural adaptation and integration processes. On the other hand, the existence of problems such as financial difficulties, work and work conditions, trust issues in social relations, and a shortfall of language were reported. As the result of interviews conducted with the school manager, school counselor, class teacher, Turkish teacher, and parents by Erol-Emiroğlu (2018), it was determined that Syrian students have language problems, age differences, communication gap, and a lack of book and materials.

When the studies in the literature are examined in general, it is seen that Syrian students under temporary protection status have more encountered with native language-based problems in their teaching (Başar et al., 2018; Bulut et al., 2018; Demir and Ozgul, 2019; Emin, 2018; Ergen and Şahin, 2019; Erol-Emiroğlu, 2018; Güngör and Şenel, 2018; Kiremit et al., 2018; Taskin and Erdemli, 2018). In addition to this, the existence of problems such as; self-isolation of these students from the class environment (Başar et al., 2018), communication problems (Güngör and Şenol, 2018; Jafari et al., 2018), a social-cultural difference (Dağdeviren, 2018; Şahin and Doğan, 2018), lack of material (Şahin and Doğan, 2018), lack of interest of Syrian parents (Erol-Emiroğlu, 2018) are noteworthy. In this regard, one can say that one of the fields where the sociological effects of migration are felt intensely is education services. As a result, considering Turkey has the potential to receive more migration and the fact that it became a target on this subject, the quality of the studies conducted on the problems encountered in migrant education is rather valuable. In this regard, the base subject of the study fictionalized is to examine the problems encountered by mathematics and science teachers in classes with Syrian students under temporary protection status and also to contribute to both educators and policymakers.

Method

Research Model

In the research, in order to reveal the problems encountered by mathematics and science teachers in classrooms with Syrian students under temporary protection status and their thoughts on the resolutions to these problems, a case study pattern has been used. The case study is a type of pattern within qualitative research that can be both the product and the object of the research (Creswell, 2018). The most important feature of qualitative case studies is to investigate a situation with a focus on depth and reveal the results related to that situation (Yıldırım and Şimşek, 2016). Researchers conducting basic qualitative research are interested in how people interpret their lives, how they build their world, and what meaning they add to their experiences (Merriam, 2013). Research including a situation study is an approach where the researcher gathers detailed and extensive information via multiple sources of information regarding a recent limited system or multiple limited systems in a limited time, real-life (Creswell, 2018). In this regard, the basic approach of the study is to examine the problems experienced or encountered by Syrian students under temporary protection, conditions that hinder their education and solution proposals in the light of views by mathematics and science teachers.

Study Group

The study group of the research consists of mathematics and science teachers from three public middle schools in downtown İzmir in the 2018-2019 academic year. 14 of these teachers are mathematics, 16 of them are science teachers. One of the purposive sampling methods, criteria sampling was preferred in a selection of the teachers who will take part as volunteers for the study. Trying to choose informatively rich situations to gather extensive information is the basic principle of purposive sampling (Creswell, 2018). In this method, choosing one or more special situations that meet the specified criteria or have specific features should be frequently preferred (Merriam, 2013). These criteria could be generated by the researcher as well as specified according to an existing criteria list and could be utilized to ensure successful representation of the people or events (Maxwell, 2005; Yıldırım and Şimşek, 2016; Yin, 2009). In determining the study group used in the research, teaching classes with Syrian students under temporary protection and having at least two years of experience in this field were specified as the criteria. On the other hand, in selecting middle schools, care was given for them to be located in areas where Syrian students under temporary protection are in high density. In this regard, 84 Syrian students are in classes that mathematics and science teachers are teaching. 36 of these students are in fifth, 33 of them are in the sixth, 7 of them are in seventh grade and 8 of them are in eighth-grade education. 14 of the teachers who were asked to give their opinions are female (46.7%), 16 of them are male (53.3%). Of these teachers 12 of them have (40%) 3-9 years, 10 of them have (33%) 10-19 years and 8 of them have (26.7%) have 20 or more years of experience. As per the research ethics, names of the teachers were kept private, participant mathematics teachers are coded as PM₁, PM₂, PM₃...PM₁₄, science teachers are coded as PS₁, PS₂, PS₃...PS₁₆.

Data Collection

In order to gather the opinions of participant that attend classrooms with Syrian students under temporary protection, a semi-structured form was utilized. In preparing the questions for the interviews, a first literature review was conducted and the questions in similar studies were examined and a draft form was created. The created draft form was presented for review of two field experts (science education and sociologist) and two-course teachers (mathematics and science) to achieve scope and appearance validity and according to the suggestions/requests interview form is finalized. In this regard, an interview form with open-ended questions was applied to reach demographic information of the participants and make it possible for participants to express their opinions in a detailed manner (Marshall and Rossman, 1999). The interview form that was created to gather data consists of six questions. For example: What do you think about the adaptation of students under temporary protection status to the Turkish education system? What kind of difficulties do you encountered in teaching mathematics to students under temporary protection status? What can be done for students under temporary protection status to learn science better? Participating teachers were in no way put under obligations, and the voluntary basis was followed. During the interviews, a voice recorder was used by receiving permission, and some statements deemed important were noted. Before interviews, school management was given information regarding the study, and interviews were conducted on available periods according to the class schedules of the mathematics and science teachers who wanted to be a part of the study.

Data Analysis

After the gathering of the data, without making any changes to the gathered data, the researcher moved directly to the transcription method. After the transcription process was completed, the data was read again by the researcher and the data analysis phase was started. Gathered data examined with content analysis method. Content analysis is the careful, extensive systematic examination of the acquired documents and interpreting in the light of gathered findings to determine the patterns, themes, and narratives (Berg and Latin, 2008; Leedy and Ormrod, 2005; Neuendorf, 2002). In a general sense, it can be applied through various communication channels including various text documents, photographs, videos, and voice records (Berg and Lune, 2015). In this regard, the data was gathered, transcribed, identified inductively, codes were transformed into categorical labels and themes, similarities and discrepancies classified by the researcher (Hsieh and Shannon, 2005). Credibility being an important problem in qualitative researches, many activities can be conducted to increase credibility (Creswell, 2018). For instance, as also done in the research, after acquiring the required release recording with a voice recorder and transcribing these may increase the credibility (Silverman, 2005). In addition to this, in analyzing the written data, multiple encoders could be used (Miles and Huberman, 1994). Usually, credibility in qualitative researches means stability in answers by multiple encoders on data sets (Creswell, 2018). In this regard, after the process of determining the draft themes was completed, codes were placed under the themes and opinions of two associate experts in qualitative studies were received. After corrections according to the expert opinion, the analysis process was concluded.

Findings

In this section, following the purpose of the study, findings obtained from the opinions of mathematics and science teachers are included. The determining themes and categories and codes relevant to the themes specified in the conducted content analysis were depicted on the table. On the other side, frequencies and the percentages related to themes were calculated and provided in the text. Additionally, they were supported by the findings gathered in the light of the codes determined directly via the opinions of the teachers. In the scope of the research, both mathematics and science teachers were asked a general question regarding the adaptation of Syrian students under temporary protection to the education system and according to the opinion of the teachers, gathered categories and codes were summarized in the table below.

Table 1. Findings regarding adaptation of Syrian students to the Turkish education system

Theme	Categories	Codes	f	%	
Adaptation	Language and Communication	Inadequacy in verbal communication	26	86.6	
		Weakness in social relations	16	53.3	
		Isolation from the education environment	12	40.0	
		Unwilling communication of Turkish students	6	20.0	
			No language and communication problems	4	13.3
	Academic Problems		Difficulty understanding the lesson	24	80.0
			Problems in reading-writing	21	70.0
			Lagging behind education schedule	16	53.3
			Problems in doing homework	11	36.6
			Academic level difference	9	30.0
			No academic problems	4	13.3
	Behavioral Problems		Problems in following rules	10	33.3
			Undisciplined behaviors	7	23.3
			Behaviors such as fighting, violence	5	16.6
			No behavior problems	4	13.3
	Legislation Related Problems		Differences in curriculum	23	76.6
			Assessment and evaluation	13	43.3
			Attendance and absenteeism	6	20.0
			Early-childhood education	1	3.3
	Effects of Family		Differences in native language	28	93.3
			Cultural discord	27	90.0
			Family opinion on education	18	60.0
			Outsider psychology	5	16.6
	Economic Reasons		Procuring education material	21	70.0
		Problems related to nutrition	5	16.6	
		Appearance problems	1	3.3	
Past Experiences		Effects of past experiences	24	80.0	
		Effects on tutorials	19	63.3	
		Effects on friend relationship	6	20.0	

On examining Table 1, it is visible that the general opinions of the mathematics and science teachers regarding Syrian students under temporary protection are divided into seven different categories. These categories are language and communication, relate to academic, behavioral, legislation problems, effect of family economic status, and past experiences. According to the findings, mathematics and science teachers stated that Syrian students under temporary protection mostly experience problems such as inadequacy in verbal communication (86.6%), difficulty understanding the lesson (80%), differences in the curriculum (76.6%), and native language (93.3%), cultural discord (90%), procuring the education material (70%) and effects of past experience to the education environment (80%) in adapting to the Turkish education system. On the other hand, existence of adaptation problems such as; weakness in social relations (53.3%), problems in reading-writing (70%), lagging behind education schedule (53.3%), problems in following rules (33.3%), problems in assessment, and evaluation (43.3%), opinion of a family on education (60%), problems related nutrition (16.6) and effects of past experiences to the tutorials (63.3%) were stated. Aside from these; unwilling behavior of Turkish students (20%), academic level difference (30%), fighting and violent behavior (16.6%), attendance and absenteeism (20%), early childhood education (3.3%), appearance problems (3.3%), the effect of past experiences on friend relationship (20%) are presented among other problems these students are experiencing in adaptation to the education system. Statements of some mathematics and science teachers are as follows:

They feel lonely when they cannot talk or explain their troubles (PM₁₃). There may be problems making friends. Learning difficulties are experienced as they stay away from education (PM₁₃). Often there are problems in reading... There are difficulties in understanding all sentences (PS₂). Students are often shy, cannot express themselves, cannot communicate with anyone, they are unwilling (PM₁₁). We occasionally fall behind the annual plan. However, there are also good students (PM₈). There are students that I need to constantly remember the classroom rules (PS₉). While I am taking an exam, I may have problems in measurement and evaluation (PM₆). Some of my students are discontinuous too much in my course. So I have to deal with them later (PS₁₅). I think our cultural differences make it difficult for students to adapt to the course... Of course, there are economic reasons (PM₈). My students came to these places because of difficult conditions. I can understand them very well. We are always there and do our best. A difficult situation. Of course what they have experienced causes problems in their learning (PM₁₃). We cannot usually see their families. So I don't know most families. However, we know a few of them. They don't come to school much (PS₁₂).

As the second research question to the mathematics and science teachers: What kind of difficulties are you facing in the education of students under temporary protection? The question was directed. In this regard, the findings gathered from the answers of the teachers to this question are presented below.

Table 2. Findings regarding problems encountered in mathematics and science education

Theme	Categories	Codes	In terms of Math Teachers		In terms of Science Teachers	
			f	%	f	%
Problems Encountered in Teaching	Student Related Reasons	Not having adequate language skill	12	85.7	14	87.5
		Having problems with perception and learning	11	78.5	13	81.2
		Adaptation problem to school and class environment	6	42.8	5	31.2
		Unwillingness in participation	5	35.7	7	43.7
		Joining the class environment subsequently	3	21.4	2	12.5
	Teacher Related Problems	Displaying behavior that is against classroom climate	1	7.1	1	6.2
		Trouble managing problems	10	71.4	8	50
		Inadequacies in teaching methods	6	42.8	9	56.2
	Family Related Reasons	Problems in assessment and evaluation	6	42.8	7	43.7
		Professional inadequacy	2	14.2	1	6.2
	Legislation Related Problems	Communication problem with family	13	92.8	15	93.7
		Opinion of family on education	9	64.2	9	56.2
		Education level of the family	6	42.8	5	31.2
		Lack of communication of family with school administration	5	35.7	6	37.5
		Family economic reasons	3	21.4	2	12.5
	Problems	Disparity of the education program	11	78.5	12	75.0
		Lack of material	10	71.4	11	68.7
Shortcomings of education system		7	57.1	5	31.2	
Not utilizing the courses effectively		2	14.2	1	6.2	

When Table 2 is examined, mathematics and science teachers discuss the difficulties they encountered in teaching Syrian students under temporary protection status in four different categories. These categories consist

of student, teacher, family, and legislation-related reasons. According to the findings, 85.7% of the mathematics teachers stated that the lack of adequate language skills of students, 78.5% stated that experiencing perception and learning problems, 71.4% stated that having trouble managing problems, 92.8% stated that experiencing problems communicating with the family, 78.5% stated that disparity in an education program and 71.4% stated that lack of material caused more problems in mathematics education. On the other side, 87.5% of the science teachers stated that the lack of adequate language skills of students, 81.2% stated that experiencing perception and learning problems, 56.2% stated that inadequacies in teaching methods, 93.7% stated that experiencing problems communicating with the family, 75% stated that disparity in an education program and 68.7% stated that lack of material problems in science education. Statements of some mathematics and science teachers are as follows:

One of the biggest problems situations between the students and us is the language problem. As the number of Syrian students in our school increases, the need for them to speak the Turkish language decreases. Students who know Turkish don't want to talk most of the time. They are like closed books. They don't open themselves up to us completely... They always create withdrawn structures. How can we get along with each other without talking... I often have difficulties in dealing with problems... For example, teaching mathematics or something to Syrian students who don't know reading-writing is rather difficult. Especially we are unable to communicate with families face to face. Families don't come to school often... Usually, they come when there is a problem... It would be better if there are quality additional sources or different course materials that are appropriate for the mathematics education of these students. There are serious problems in learning mathematics especially for children who joined the learning environment subsequently. Because their base is not well established, there are problems in making sense of new learnings (PM₂).

I think the biggest problem between us and the children is the language difference. I think this situation causes communication problems. We are unable to understand their shortcomings because students are unable to express themselves in classrooms. Communication problems lead to misunderstandings and a lack of expression. Most of the time we are experiencing problems in learning abstract concepts. They do not participate in science courses or even if they have the eagerness to participate they may be thinking they would be unable to express themselves fully. We are unable to speak with the families often. Families do not come to school often. I think the biggest concern of the families is the financial struggle. Because education seems not important to them... In many of the students, the disparity of education is very apparent. When we move to another learning environment, it seems something is always missing in students. It could be an issue stemming from their previous learnings. I need adequate materials more (PS₄).

Table 3. Findings including the difficulties of the course progress in terms of the dimensions of the curriculum

Theme	Categories	Codes	For Mathematics Teachers		For Science Teachers	
			f	%	f	%
Curriculum Dimensions	Learning Acquisition	The difficulty of the level of acquisition	8	57.1	9	56.2
		High number of acquisition	7	50.0	10	62.5
	Related Reasons	Shortness of acquisition times	7	50.0	8	50.0
		Problems in teaching acquisition	6	42.8	5	31.2
	Content Related Reasons	Difficulty of course content	10	71.4	8	50.0
		Lack of visuals	9	64.2	10	62.5
	Process Related Reasons	Language and communication inadequacy	3	21.4	4	25.0
		Problem in understanding and commenting	11	78.5	13	81.2
	Assessment Related Reasons	Not being able to complete the course	10	71.4	11	68.7
		Level difference between students	6	42.8	7	43.7
		Shortness of class time	5	35.7	4	25.0
		Unwillingness in class participation	5	35.7	7	43.7
		Inability to provide enough information	2	14.2	1	6.2
		Problems in language and communication	6	42.8	7	43.7
	Related Reasons	Making exams below class level	4	28.5	5	31.2
		Settling for vocal assessment	1	7.1	2	12.5

When Table 3 is examined, mathematics and science teachers discuss the difficulties of Syrian students under temporary protection status in terms of the dimensions of the curriculum in four different categories. 57.1% of mathematics teachers mentioned the difficulty of learning level of acquisition, 71.4% mentioned the difficulty of course content, 78.5% mentioned problems in understanding and commenting and 42.8% mentioned assessment problems related to language and communication problems more. 62.5% of science teachers mentioned several

acquisition achievements being high, 62.5% mentioned inadequacy of visuals, 81.2% mentioned problems in understanding and commenting, and 43.7% mentioned assessment problems related to communication and language problems. Statements of teachers regarding this theme are as follows:

Teaching students new things within the education program is the goal of each of us however, we are experiencing problems in learning acquisition. Subject achievements with a more abstract content structure are especially hard for students. However, I try my best to approach the subject achievements appropriate to the student level. Problems are related to process increases in sections with hard achievement levels. For example, students have difficulties when the subject is algebra. In this case, students are not able to obtain some achievements fully. Because we follow the yearly schedule, these students lag, especially on subjects with a lot of acquisitions. Therefore the development of their understanding and commenting skills are not healthy (PM₇).

Most of the time science course contents are hard for students. When the content is hard, I am unable to achieve my desired level in some achievements. For example, the achievement level of subjects with physics content is hard for these students and they have difficulties. Because we are unable to establish decent communication, I have difficulties in understanding which subject the students learned well and which subjects they have not. In time, I try to lower the level according to the level of students that I've gotten to know, however in this case setbacks in learning of subjects with multiple achievements occur. Problems in providing enough information occur... (PS₁₁).

Table 4 . Findings gathered related to the suitability of the course books to the level of students

Theme	Categories	Codes	For Mathematics Teachers		For Science Teachers	
			f	%	f	%
Coursebook	General Opinion	Suitable	3	21.5	2	12.5
		Not Suitable	11	78.5	14	87.5
	Suitable Aspects of Coursebook	Visuals are enough	5	35.7	6	37.5
		Activities suitable for students	4	28.5	5	31.2
		Adequate content	3	21.4	4	25.0
		Adequate assessment	1	7.1	2	12.5
		Course content level	11	78.5	12	75.0
		Native language is different	9	64.2	10	62.5
	Improper aspects of coursebook	Lack of visual content	9	64.2	10	62.5
		Limited number of activities	8	57.1	9	56.2
		Inadequate assessment	6	42.8	7	43.7
		Content and the writing of texts	1	7.1	1	6.2

When Table 4 is examined, mathematics and science teachers approach the suitability of the coursebooks used in the teaching Syrian students under temporary protection in three different categories. These categories are; general opinion, suitable and not suitable aspects of the coursebook. According to the findings gathered; 78.5% of the mathematics and 87.5 of the science teachers opined that the coursebooks are not suitable. 35.7% of the mathematics teachers and 37.5% of the science teachers believe that the visuals in books are adequate. Aside from these, 78.5% of the mathematics teachers think because of course content level, 64.2% think because of the native language difference, 64.2% think because of the lack of visual content, 57.1% think because of a limited number of activities, and 42.8% think because of the inadequate assessment the books are not suitable. 75% of the science teachers think that because of the course content level, 62.5% think because of the native language difference and lack of visual content, 56.2% think because of the limited number of activities, and 43.7% think because of the inadequate assessment the book is not suitable.

Mathematics book is not appropriate for the level of students, it is above it. Students should receive language education first and then the education of other courses should begin. It does not make much sense to teach mathematics to students who have trouble understanding Turkish. Mathematics book should be prepared appropriately to the level of students... I think there should be a separate mathematics books for these students... The visuals and visual expositions in the book are not adequate. Activities appropriate for students are limited... If these students and Turkish students are going to be subjected to the same mathematics education, there is a need for a more advanced course content level (PM₀).

Many parts of the science book are not suitable for the education of students. It would be better for these students if there were more visuality. It could be easier for children to be taught some concepts

when they look at the pictures. It would be better if there are more example activities for Syrian students in science books. Something should be done in assessing the students... There should be assessment sections in coursebooks or in study aids for these students to understand what they understood well and what they didn't. All in all, even if the quality and the content of the book are good, the shortcomings of students related to the language difference should be made up for (PS₁₃).

Table 5. Findings related to the subjects that students have difficulty in learning

Theme	Categories	For Mathematics Teachers	f	%	For Science Teachers	f	%		
Difficult to Learn	Subjects that are	Rational numbers	11	78.5	Subjects with physics	11	68.7		
		Algebraic statements	10	71.4	Subjects with chemistry	10	62.5		
		Equality and equation	8	57.1	Subjects with biology	7	43.7		
		Ration-Proportion	7	50.0	Force and movement	6	37.5		
		Polygons	6	42.8	Matter and heat	6	37.5		
		Circle and circumference	6	42.8	DNA and genetic code	6	37.5		
		Multipliers and multitudes	5	35.7	Pressure	5	31.2		
		Exponential statements	4	28.5	Propagation of light	3	18.7		
		Square root statements	3	21.4	Electric circuits/charges	2	12.5		
		Geometric shapes	1	7.1	Basic machines	1	6.2		
Difficult Issues in Learning	Subjects that are Easy to Learn	Area and volume measures	1	7.1	-	-	-		
		Natural numbers	5	35.7	Solar system	6	37.5		
		Integers	3	21.4	Human and Environment	3	18.7		
		Angles	2	14.2	Subjects with biology	3	18.7		
		Rational Numbers	1	7.1	Systems in our body	2	12.5		
		Percent	1	7.1	Matter and transformation	2	12.5		
		Polygons	1	7.1	Reproduction in creatures	2	12.5		
		Data analysis	1	7.1	Propagation of light	1	6.2		
		Reasons for Difficult Learning	Reasons for	Language and contact	12	85.7	Language and contact	14	87.5
				Lack of study aid	9	64.2	Inability to subject	9	56.2
Lack of additional books	7			50.0	Abundance of abstract	7	43.7		
Lack of visual content	6			42.8	Lack of visuals	5	31.2		
Lack of family support	3			21.4	Lack of material	4	25.0		
Level difference	1			7.1	Lack of family support	1	6.2		
Reasons for Easy Learning	Reasons for Easy Learning	Concretization	4	28.5	Narration through video	5	31.2		
		Visualization	3	21.4	Use of visual material	5	31.2		
		Participation in class	2	14.2	Use of models	3	18.7		
		Good communication	2	14.2	Show and exercise	2	12.5		
		Previous learnings	2	14.2	Good attitude of teacher	1	6.2		
		Teacher support	1	7.1	-	-	-		

According to the findings in Table 5, subjects that Syrian students under temporary protection have trouble learning gathered under four categories according to the opinions of mathematics and science teachers. These categories are; subjects that are hard to learn, subjects that are easy to learn, reasons for difficult or easy learning. Mathematics teachers stated that students encountered difficulties notably in rational numbers (78.5%), algebraic statements (71.4%), and equality and equation (57.1%). Science teachers stated that students have difficulty in learning subjects with physics (68.7%) and chemistry (62.5%) content. 35.7% of mathematics teachers stated that operations with natural numbers and 21.4% stated that operations with integers are learned by students easier. 37.5% of the science teachers mentioned the solar system, 18.7% mentioned that humans and the environment, and 18.7% stated that subjects with biology are learned by students easier. For mathematics teachers among the notable reasons for having difficulty in learning are language and contact problems (85.7%) and lack of study aids (64.2%). For science teachers, this matter is stated as language and contact problems (87.5%) and inability to make sense of the subject (56.2%).

Students struggle especially on rational subjects. It is rather hard to teach algebra subjects. It is relatively easier to teach operations with natural numbers. I think the most important reason why students struggle in learning is language. The reason is that students act timid because of communication inadequacy. There are no study aids or materials that help Syrian students to learn. Additionally, many families do not keep up with their children on what they are learning in class. Therefore many mathematics subjects are rather hard for students. I think one of the reasons why students learn easily or learn some subjects easily is that they set themselves to work. In this regard, immense responsibility falls to us, teachers. If the participation of the students is increasing, they learn better (PM₅).

It seems that when it comes to subjects with physics and chemistry content, students do not understand anything. It seems to me many of them stare vacantly. I experience difficulties teaching especially force and movement. These are subjects that Turkish students also struggle with. While many Turkish students whose mathematics is not potent are experiencing problems understanding force and movement subjects, trying to teach Syrian students this subject becomes problematic. Language inadequacy is the biggest obstacle between us and the students... I think the education of Syrian students should be carried through different books. Even if we are in the same class environment, there should be more study aids available for these students. If students are included in the learning environment, they learn easier. For example, if students make models or example visualization in a solar and lunar eclipse, they learn better (PS₁₆).

Table 6. Findings gathered regarding better education of mathematics and science courses

Theme	Categories	Codes	f	%
Suggestions	Student	Students should learn Turkish language	22	73.3
		Student should participate in class	19	63.3
		Students should be willing to learn	17	56.6
		Students should attend school regularly	5	16.6
		Students should resolve their information gaps	3	10.0
	Teacher	Student attention should be gathered	15	50.0
		Use of different teaching techniques	15	50.0
		Having more visual material	13	43.3
		Prioritizing social activities	3	10.0
		More communication with families	2	6.6
	Family	Families should overcome the language problem	24	80.0
		Families should support education	22	73.3
		Families should cooperate with schools	5	16.6
	School	Increase number of supplementary courses	14	46.6
		Families should be brought into education	6	20.0
		Organize harmony activities	3	10.0
	Ministry of National Education	Provide material support	20	66.6
		Book content should be rearranged	18	60.0
		Should offer more compliance training	7	23.3
		Should open educational courses for families	3	10.0
		Should educate managers	1	3.3

When table 6 is examined, teacher opinions regarding better mathematics and science education of Syrian students under temporary protection are gathered under five different categories. These categories are; student, teacher, family, school, and Ministry of National Education. According to the gathered data, teachers opined more that to learn their courses better, they need to learn the Turkish language (73.3%), participate more in class (63.3%), and they need to be more willing to learn (56.6%). On the other hand, among the responsibilities that fall to teachers, they stated the need for gathering student attention (50%), use of other methods and techniques (50%), use of visual material more (43.3%). Among the responsibilities that fall to the families, they opined more on that they need to overcome the language problem (80%) and they need to support education (73.3%). As a school, they opined more on making efforts to increase the supplementary courses (46.6%) and bring the families into the education (20%). Teachers expressed their opinion that the Ministry of National Education should provide material support (66.6%) and rearranged the content of the book (60%).

The most immediate need of our students is to learning the Turkish language. In this regard, we need to make more efforts in their learning of the Turkish language. If our Syrian students speak and understand the Turkish language beautifully, they will understand mathematics better. We need to encourage our students in participating in mathematics classes more and we need to spend more time with them in this direction As teachers, to draw their attention, visual materials can be used more and our ministry can provide means of additional resources for us in this direction. Various methods and techniques can also be used. For example showing and exercising, activities with game themes or drama. However, applying these also requires different timeframes and locations. Families should support education and we should be able to communicate with them healthily. More additional courses can be opened for these students. More material support for the education of Syrian students should be provided and should be a different mathematics book for them (PM₁₄).

Science courses are actually courses that all students can learn while having fun however be it level differences, be it language problems we are unable to use time efficiently in science courses with Syrian students. Especially in the teaching of abstract concepts, Syrian students do not ever want to

participate in class and this is why I am making more effort in making them active in classes. If they are more willing, I am sure we can overcome many difficulties. Also, there should be a supportive teacher guidebook for teachers regarding different methods and techniques that could be used in the education of Syrian students. If there was a science set heavy with visual material we could help these students more. Also, families should come to school more often... They should support the education of their children more... Families should also receive language education... (PS₁).

Conclusion and Discussion

In the scope of the conducted research problems encountered by mathematics and science teachers in classrooms where Syrian students under temporary protection receiving education and suggestions for solutions to these problems are examined. As widely known, Turkey is a country that receives continuous migration because of its location. Therefore it continuously encounter some problems related to migration. Without a doubt, one of the most important ones of these problems is the subject of the education of children that come into Turkey. So much so that the education problem of migrant children is not only Turkey's problem, rather among the basic problems of many countries (Machel, 2001; UNICEF, 2015). Although many policies and works are done as a country, related to the continuous nature of migration, adaptation problems of children under temporary protection status to our education system continue (UNHCR, 2016). Therefore, education problems caused by migration becomes a global issue, and satisfying the education needs of migrant children takes on a critical meaning. In this research, problems encountered by mathematics and science teachers in classrooms containing students under temporary protection status were examined according to the opinions of these teachers and it was aimed to reveal them extensively. According to the findings gathered from the research, problems encountered by teachers in mathematics and science education were gathered under different themes and these themes are explained according to categories.

According to the acquired findings, mathematics and science teachers stated that they encountered language and communication, academic, behavioral, legislative, parent, economic and past experience-related problems in an adaptation of Syrian students under temporary protection status to the Turkish education system. This finding also confirms the results of similar studies in the literature (Başar et al., 2018; Erol-Emiroğlu, 2018; Güngör and Şenel, 2018; Jafari et al., 2018; Kiremit et al., 2018; Şahin and Doğan, 2018; Şimşir and Dilmaç, 2018). According to Koçak and Terzi (2012), some positive and negative conditions may arise as a result of migration. Migrant individuals maintain their own lives in places they migrated to and they are unable to break off from their culture. This situation causes them to be otherized by other urban dwellers and causes cultural conflicts. Hence, this situation is also true for students under temporary protection status that have to continue their lives in Turkey. While under the influence of a specified culture and environment in a specified timeframe, these students suddenly transferred to an unfamiliar environment that is beyond their own culture and language. In this regard, it is rather natural for these students to experience problems related to notably language and communication, academic and past experience. Drawing attention to this situation, Güngör and Şenel (2018) indicate that in the education of foreign students, they experience more language and cultural differences, basic language skills, understanding, expression, and commenting, lagging behind schedule, and academic failure problems. Therefore, problems of students who came to Turkey and start their education with the language problem and their parents in adapting to the traditions of Turkey are felt in the education environment. Thus, reasons such as inadequacy in verbal communication, weakness in social relations, and isolation from the learning environment are depicted among the adaptation problems in language and communication by mathematics and science teachers. Additionally, difficulties in understanding the course, problems in reading-writing, lagging behind the learning environment, and problems in doing homework are depicted as adaptation problems experienced in academic problems. On the other hand, problems in following rules, undisciplined behavior are described as adaptation problems in behavior problems. According to mathematics and science teachers, at the helm of the problems related to legislation are differences in curriculum and assessment and evaluation processes. Native language differences of families, cultural incompatibility, acquiring education materials, nutritional problems, and past experience are other adaptation problems mentioned by teachers. Thus, these findings coincide with the discourse in the literature of Syrian students having adaptation problems such as language, communication, legislation, and past experiences (Başar et al., 2018; Coşkun and Emin, 2016; Erdem, 2017). Therefore, Syrian students under temporary protection's access to education and resolving the adaptation problems in continuing education have separate importance. Supporting the development of these students with good education, increasing precautions for them to learn the Turkish language, overcoming communication problems to raise qualified individuals, children having a positive interaction with each other starting from an early age and making Turkey education system appropriate is important for the harmonization.

Another finding of the research is gathered from the difficulties encountered by mathematics and science teachers while teaching Syrian students under temporary protection status. According to this, mathematics and science teachers mostly experience problems related to students, teachers, family, and legislation. According to mathematics and science teachers, lacking adequate language skills, experiencing perception and learning problems, problems in adapting to school and class environment are the main problems related to students in classrooms. These findings validate the discourse that migrant students' pre-learning is rather lacking and they encountered problems in school and class environment related to language problems (Cin, 2018; Erdem, 2017; Uysal, 2019; Şahin and Doğan, 2018). For problems related to themselves, they expressed experiencing troubles in managing problems, feeling of inadequacy in teaching methods, the existence of problems in assessment and evaluation. The cause of another problem encountered by teachers is specified as family. Especially the opinion families regarding education and communication problems experienced with families are obstacles ineffective learning of mathematics and science. Incompatibility of the education program and lack of materials are among the main problems experienced by mathematics and science teachers in the learning environment. All of these findings are coincide with the discourses mentioned in the literature that foreign students receive education at schools in Turkey brings along many needs and problems (Akdeniz, 2018; Cin, 2018; Dağdeviren, 2018; Dolapcioglu ve Bolat, 2019; Emin, 2018, Güzel, 2019; Machel, 2001; Özgün, 2019; Waters and Leblanc, 2005; Yıldız, 2018). In the study conducted by Şahin and Doğan (2018) similar findings were gathered, the most important problems students experienced with science teachers are specified as language problems and cultural differences. According to Erdem (2017), it was stated that the teachers did not utilize education strategies appropriate to the need of migrant students. Thus, many teachers feel inadequate in utilizing education methods. According to Kasdemir (2010), both children who speak Turkish very well and children who do not know it at all receiving education in the same educational environment and using the same materials brings together problems such as academic performance, inability to socialize, distorted communication, inability to express themselves, becoming isolated. Drawing attention to this, Güzel (2019), specifies that students are experiencing difficulties in understanding Turkish and therefore are unable to use Turkish efficiently and be successful in their classrooms. In a similar matter, especially the problem of not knowing Turkish is the most important mentioned the most by students, parents, teachers, school administrators, and personnel and managers of Provincial National Education (Uysal, 2019). Therefore, while many problems diminish the efficiency of learning in classes with migrant students, the time they will spend on them and the period where the teachers get to know these students hinders the education efforts. According to Coşkun and Emin (2016), problems experienced by students in adapting to the school and class climate can lead to students alienating away from education and afterward, them dropping out of school. Especially reasons such as the difference experienced in education systems and lack of professional activities for Turkey teachers in to raise their awareness on this subject and the opinion of the families regarding education can be listed among the important reasons that effect the learning level of students. Hence the large proportion of the migrant students state that the Turkish education system is very different from the education system in their own countries, learning activities are not adequate for them and their families are not adequately interested in their education (Emin, 2018; Ergen and Şahin, 2019; Güzel, 2019; Uysal, 2019).

Another finding of the research includes the difficulties in the course process related to the size of the education program. According to the mathematics and science teachers, quality, number, and time of achievements in courses create difficulties for students under temporary protection. The difficulty of course content, lack of visuals, lack of language and communication, existence of problems in understanding and commenting, inability to complete the course, level differences, and experiencing problems in assessment and evaluation are listed among other difficulties. Gathered data confirms the discourse in the literature that the most important problem in the learning of the students is the differences in education program (Erol-Emiroğlu, 2018; Güngör and Şenel, 2018; Kiremit et al., 2018). Şahin and Doğan (2018) stated that the achievements of science courses are heavy for Syrian students and they are struggling to gain these achievements. Additionally, it was emphasized that the course content of the science class is heavy, content needs more visualization, and problems in language-communication-understanding are experienced. Therefore, suitability, level, and time of the achievements in mathematics and science education are considered as an important barrier. However, in the current situation there are no legislation, method, or long term policy that was constructed related to the adaptation of the migrants to the education processes (Coşkun and Emin, 2016). In this regard, achievement, content, and process-related reasons mentioned by mathematics and science teachers also affect the quality of learning activities.

Another finding of the research is gathered related to the suitability of the existing mathematics and science coursebooks to the Syrian students under temporary protection. The majority of the mathematics and science teachers, stated that books are not suitable for students, visuals are not adequate and the number of activities is limited. This finding confirms the findings determined by Şahin and Doğan (2018) that the science coursebook

is a problem for these students and the subjects are heavy. This situation causes rather serious problems for migrant students who continue their education in the same education program as Turkey students (Bulut et al., 2018). Drawing attention to this situation, Güngör and Şenel (2018) emphasize that the government needs to create an education program suitable for the needs of these students and prepare coursebooks according to the levels of students. However, preparation of coursebooks or materials is considered to be rather valuable in the integration of these students into the education system, communicating with their peers and teachers, and gaining basic language skills (Kiremit et al., 2018). In this regard, the content that is planned to be served to the students needs to be analyzed according to the readiness of the student and needs to be rearranged if needed (Erdem, 2017). On the other hand, opinions such as there are adequate visuals, suitable content and no problems in assessment and evaluation are also encountered. Syrian students starting their elementary education in Turkey and the students' efforts in classes can be mentioned among the most important reasons for this situation. When all of these ramifications are evaluated together, it can be beneficial to diversify the content of mathematics and science coursebooks and provide additional resources in which the needs of the students are considered. Because, during the course period, mostly coursebooks are used, however, books used are designed for Turkish students, they are inadequate for migrant students (Erdem, 2017).

Another finding gathered from the research consists of the subjects in mathematics and science courses that students under temporary protection status have difficulty in learning. According to the mathematics teachers, students struggle while learning rational numbers, algebraic statements, equality, and equation subjects. Although there are many reasons for this situation, according to the mathematics teachers, the base reasons are language and communication inadequacy and lack of additional resources and study aids. On the other hand, the basic mathematical skills that the students have can be problematic. According to Ergen and Şahin (2019), teachers state that the Syrian students do not have adequate mathematics skills and this situation is felt exceedingly. Another reason could be that the teachers strictly sticking to the content of the coursebook and not choosing a different application related to content for migrant students (Erdem, 2017). According to the science teachers, students struggle more in subjects with physics and chemistry content. Language and communication, inability to make sense of the subject, an abundance of abstract concepts, and lack of adequate visuals are listed among the reasons for struggling. These findings are parallel with the findings gathered by Şahin and Doğan (2018). In the study conducted by Şahin and Doğan (2018), science teachers stated that Syrian students are struggling notably in subjects of force and movement, light and reflection, planets, reproduction, and development. Similarly, language, communication and understanding problems, an abundance of abstract concepts are listed among the reasons for difficulties in learning. Findings gathered from the study confirm the findings of the study conducted by Şahin and Doğan (2018) and reveals that the students are experiencing difficulties in learning science. According to the mathematics teachers, Syrian students learn operations with natural numbers and integers easier. According to the teachers, prioritizing concretization and visualization are listed among the reasons for learning easily. The science teachers stated that when the subjects are taught using videos and visual materials, students learn the subjects easier. Drawing attention to this situation, Erdem (2017), when the conditions of the students are taken into consideration, it is hard for them to learn the same content with Turkish students without using any support. Therefore, provided means and course materials procured by the teachers provide important advantages for the students to learn easier.

As the last research question of the study, mathematics and science teachers' opinions related to the better learning of the courses were asked. The majority of teachers expressed that students will learn the lessons better if they know the Turkish language well, their participation in the lesson increases and they are more willing to learn. They stated that in case of drawing the attention of the students who are in the classes they attend and using different education techniques and materials, migrant students will understand their courses better. In this regard, these students not understanding or making sense of mathematics and science courses because of the native language difference comes across as a basic problem. When teacher opinions are considered, it seems unlikely that these students will be proficient in mathematics and science, unless efforts to overcome the language problem gains momentum. Thus, drawing attention to this situation, Polat (2012) states that the academic success of the students are low because of the difference in the native language, they are unable to adapt to the education system, unable to participate in activities and skill lessons, have trouble understanding and unable to fulfill their responsibilities and homework. Therefore, it is obvious that there needs to be more effort in enabling the students to use the Turkish language efficiently. On the other hand, teachers have opinions that the students' course success will increase if the families overcome the language problem and support education. It is stated that increasing the number of supplementary courses and drawing families into education by school partners will have a positive impact on the course success of the students. Increasing the material support and rearranging the content of the books from the Ministry of National Education are among the expectations of the teachers. According to Başar et al., (2018), for migrant students who are receiving education in Turkey, problems in communication, perception, cultural, past experiences and legislation and lack of family

support lead to problems in the learning process (Şimşir and Dilmaç, 2018). In this regard, in preventing the problems experienced by students it can be beneficial to increase school-family cooperation and concentrating on guidance activities. All in all, Syrian students under temporary protection receiving education in schools in Turkey brings many needs in tandem. Therefore, there is a need for a mathematics and science education program arranged according to these students, a learning environment that will satisfy the needs of the students, learning materials designed for each course, and activities to raise the awareness of families. In the light of the findings gathered from the study, some proposals were presented below.

Recommendations

- This study was conducted with middle school mathematics and science teachers. Similar studies can also be conducted for teachers on various education levels.
- The study was limited to the opinions of mathematics and science teachers. In addition to these opinions, the opinions of many more education partners notably managers, families, and students could be asked.
- In order to compensate for the academic deficiencies of Syrian students who migrated to Turkey, compensation programs can be implemented within the scope of separate planning for mathematics and science courses in schools.
- Providing standards for parities of Syrian students who came to Turkey with migration and establishing an assessment-evaluation unit in this regard can prove to be beneficial.
- As the mathematics and science teachers reflected in their opinions, the language barrier effects the learning environment immensely. Therefore, Turkish education courses for both students and families can be increased.
- In addition to the in-service activities that can be conducted for teachers, works in education of the migrant students at faculties of education where new teachers are raised can be conducted. At the same time, studies regarding what can be the different methods and techniques that could be used in classes related to the education of these students, how to increase in-class management and guidance activities, and the correct use of efficient communication strategies can be conducted.

References

- Akdeniz, Y. (2018). *Türkiye’de yaşayan Suriyeli mülteci öğrencilerin uyum sorunları: Şanlıurfa ili örneği* [Syrian refugee students’ adaptation problems in Turkey: Şanlıurfa province sample]. (Unpublished master thesis). Sakarya University, Institute of Educational Sciences, Sakarya.
- Başar, M., Akan, D., & Çiftçi, M. (2018). Mülteci öğrencilerin bulunduğu sınıflarda öğrenme sürecinde karşılaşılan sorunlar [Learning teaching process issues in classrooms with refugee students]. *Kastamonu Education Journal*, 26(5), 1571-1578. <https://doi.org/10.24106/kefdergi.427432>.
- Berg, K. E., & Latin, R. W. (2008). *Essentials of research methods in health, physical education, exercise science and recreation (3rd ed)*. Philadelphia, PA: Lippincott, William and Wilkins.
- Berg, B. L., & Lune, H. (2015). *Sosyal bilimlerde nitel araştırma yöntemleri (8. baskı)* [Qualitative research methods in the social sciences (8th ed)]. (Çev./Trans. Hasan Aydın), Konya: Eğitim Yayınevi.
- Bulut, S., Kanat-Soysal, Ö., & Gülçiçek, D. (2018). Suriyeli öğrencilerin Türkçe öğretmeni olmak: Suriyeli öğrencilerin eğitiminde karşılaşılan sorunlar [Being a Turkish language teacher of Syrian refugee students: Challenges and issues]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 7(2), 1210-1238.
- Castles, S., & Miller, M. J. (2008). *Göçler çağı: Modern dünyada uluslararası göç hareketleri* [Age of migration: International migration movements in the modern world] (Çev./Trans. Bülent Uğur Bal & İbrahim Akbulut), İstanbul: İstanbul Bilgi Üniversitesi Yayınları.
- Cin, G. (2018). *Suriyeli öğrencilere eğitim veren sınıf öğretmenlerinin yaşadıkları sorunlar ve psikolojik sağlamlık düzeyi: Adana ili örneği* [Living problems and self efficacy level of classroom teachers who educate to Syrian students: Adana province example]. (Unpublished master thesis). Çağ University, Institute of Social Sciences, Mersin.
- Coşkun, İ., & Emin, M. N. (2016). *Türkiye’deki Suriyelilerin eğitiminde yol haritası fırsatlar ve zorluklar* [Syrians in Turkey in the training of the road map opportunities and challenges]. Siyaset, Ekonomi ve Toplum Araştırmaları (SETA). Retrieved from <https://www.setav.org/>.
- Creswell, J. W. (2018). *Nitel araştırma yöntemleri (4. baskı)* [Qualitative research methods (4th ed)]. (Çev./Trans. Mesut Bütün& Selçuk Beşir Demir), Ankara: Siyasal Yayın Dağıtım.

- Dağdeviren, G. (2018). *Suriyeli sığınmacıların entegrasyon süreci ve sorunları: Elazığ örneği [Integration process and problems of Syrian asylum seekers: The case of Elazığ]*. (Unpublished master thesis). Firat University, Institute of Social Sciences, Elazığ.
- Demir, S. B., & Ozgul, V. (2019). Syrian refugees minors in Turkey. Why and how are they discriminated against and ostracized? *Child Indicators Research* 12, 1989-2011. <https://doi.org/10.1007/s12187-019-9622-3>.
- Directorate General of Migration Management (DGMM) (2017). *2016 Türkiye göç raporu [2016 Turkey migration report]*. Ankara: Göç Politika ve Projeleri Dairesi. Retrieved from <https://www.goc.gov.tr/>.
- Dolapcioglu, S., & Bolat, Y. (2019). The education issues of Syrian students under temporary protection status. *Research in Education*, 0(0)1-17. <https://doi.org/10.1177/0034523719892019>.
- Döner, H. (2016). *Suriyeli göçmenlerle yaşanan sorunlar üzerine sosyolojik bir araştırma: Hatay ili örneği [A sociological research on the problems with Syrian refugees: Hatay case]*. (Unpublished master thesis). Firat University, Institute of Social Sciences, Elazığ.
- Emin, M. N. (2018). *Türkiye'deki Suriyeli çocukların devlet okullarında karşılaştığı sorunlar Ankara ili örneği [The problems that Syrian children face in Turkish public schools Ankara case study]*. (Unpublished master thesis). Yıldırım Beyazıt University, Institute of Social Sciences, Ankara.
- Erdem, C. (2017). Sınıfında mülteci öğrenci bulunan sınıf öğretmenlerinin yaşadıkları öğretimsel sorunlar ve çözüme dair önerileri [Instructional problems experienced by primary school teachers who have refugee students in their classes and their solutions for problems]. *Medeniyet Eğitim Araştırmaları Dergisi*, 1(1), 26-42.
- Ergen, H., & Şahin, E. (2019). Sınıf öğretmenlerinin Suriyeli öğrencilerin eğitimi ile ilgili yaşadıkları problemler [Problems confronted by primary school teachers in relation to education of Syrian students]. *Mustafa Kemal University Journal of Social Sciences Institute*, 16(44), 377-405.
- Erol-Emiroğlu, S. (2018). *Suriyeli sığınmacı çocukların eğitim ve sorunları [Education and problems of children of Syriael asylum]*. (Unpublished master thesis). Akdeniz University, Institute of Educational Sciences, Antalya.
- Güngör, F., & Şenel, E. A. (2018). Yabancı uyruklu ilkökul öğrencilerinin eğitim-öğretiminde yaşanan sorunlara ilişkin öğretmen ve öğrenci görüşleri [Teachers and students views in problems of the foreign primary school students in education process encountered]. *Anadolu Journal of Educational Sciences International*, 8(2), 124-173. <https://doi.org/10.18039/ajesi.454575>.
- Güzel, S. (2019). *Türkiye'de öğrenim gören geçici koruma altındaki Suriyeli öğrencilerin uyum problemlerinin incelenmesi [Analysis of adaptation problems of Syrian students under temporary protection studying in Turkey]*. (Unpublished master thesis). Ankara Hacı Bayram Veli University, Institute of Graduate Programs, Ankara.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288. <https://doi.org/10.1177/1049732305276687>.
- International Organization for Migration [IOM] (2018). *Total number of international migrants at mid-year 2019*. Retrieved from <https://www.iom.int/>.
- Irmak, C. (2019). *Ortaokul öğrencilerinin mülteci kavramına ilişkin algılarının incelenmesi [Investigation of the perceptions of secondary school students on the refugee concept]*. (Unpublished master thesis). Gazi University, Institute of Educational Sciences, Ankara.
- Jafari, K. K., Tonga, N., & Kışla, H. (2018). Suriyeli öğrencilerin bulunduğu sınıflarda görev yapan sınıf öğretmenlerinin görüşleri ve uygulamaları [Practice and opinions of the teachers who work at the classes have Syrian students]. *Academy Journal of Educational Sciences*, 2(2), 134-146. <https://doi.org/10.31805/acjes.479232>.
- Kasdemir, B. (2010). *Türkiye'de sığınma hareketi: Eskişehir örneği [Asylum seeking movement in Turkey in the case of Eskişehir]*. (Unpublished master thesis). Anadolu University, Institute of Social Sciences, Eskişehir.
- Kiremit, R. F., Akpınar, Ü., & Tüfekçi-Akcan, A. (2018). Suriyeli öğrencilerin okula uyumları hakkında öğretmen görüşleri [Teachers' views about Syrian students' adaptation to school]. *Kastamonu Education Journal*, 26(6), 2139-2149. <https://doi.org/10.24106/kefdergi.428598>.
- Koçak, Y., & Terzi, E. (2012). Türkiye'de göç olgusu, göç edenlerin kentlere olan etkileri ve çözüm önerileri [Immigration factor at Turkey: Influences of migrants' to cities and solution suggestions]. *Kafkas University, Journal of Economics and Administrative Sciences Faculty*, 3(3), 163-184.
- Leedy, P. D., & Ormrod, J. E. (2005) *Practical research: Planning and design*. Prentice Hall, Upper Saddle River, NJ.
- Machel, G. (2001). *The impact of war on children*. London: Hurst & Company.
- Marshall, C., & Rossman, G. B. (1999). *Designing qualitative research (3rd ed)*. Thousand Oaks: Sage Publication.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach (2nd ed)*. Thousand Oaks, CA: Sage.

- Merriam, S. B. (2013). *Nitel araştırma desen ve uygulama için bir rehber [Qualitative research a guide to pattern and application]*. (Çev./Trans. Selahattin Turan), Ankara: Nobel Yayıncılık.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis. A sourcebook of new methods (2nd ed)*. Thousand Oaks, CA: Sage.
- Miller, J., Mitchell, J., & Brown, J. (2005). African refugees with interrupted schooling in the high school mainstream: Dilemmas for teachers. *Prospect*, 20(2), 19-33.
- Ministry of National Education (MoNE) (2015). *Ministry of National 2015-2019 strategic plan*. Retrieved from <https://sgb.meb.gov.tr/>.
- Ministry of National Education (MoNE) (2018). Strong children happy Turkey. 2023 education vision. Ankara. Retrieved from https://2023vizyonu.meb.gov.tr/doc/2023_EGITIM_VIZYONU.pdf.
- Neuendorf, K. A. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage Publications.
- Oral, B., & Çetinkaya, F. (2017). Migration as a sociological phenomenon, definition, causes and migration's theories. *Türkiye Klinikleri J Public Health*, 3(1), 1-8.
- Organisation for Economic Cooperation and Development (OECD) (2011). *Skills for innovation and research*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/>.
- Özer, İ. (2004). *Kentleşme, kentleşme ve kentsel değişim [Urbanization, urbanizing and urban change]*. Bursa: Ekin Kitabevi Yayınları.
- Özer, Y. Y., Komsuoğlu, A., & Ateşok, Z. Ö. (2016). Türkiye'deki Suriyeli çocukların eğitimi: Sorunlar ve çözüm önerileri [Education of Syrian children in Turkey: Problems and suggestions]. *The Journal of Academic Social Science*, 4(37), 76-110. <https://doi.org/10.16992/ASOS.11696>.
- Özgen, N. (2012). *Günümüz dünya sorunları disiplinlerarası bir yaklaşım [An interdisciplinary approach to today's world problems]*. Ankara: Eğiten Kitap Yayıncılık.
- Özgün, E. (2019). *İlkokul öğretmenlerinin Suriyeli öğrencilerin akademik başarı ve okul ortamı uyumuna ilişkin gözlemlerinin incelenmesi [Analysis of observations of primary school teachers on academic achievement and school environment adaptation of Syrian students]*. (Unpublished master thesis). Necmettin Erbakan University, Institute of Educational Sciences, Konya.
- Polat, F. (2012). *Türkiye'de öğrenim gören yabancı uyruklu ilköğretim öğrencilerinin karşılaştıkları sorunlar ve çözüm önerileri [Problems encountered by the foreign elementary school students who study in Turkey and sollution offers]*. (Unpublished master thesis). Fırat University, Institute of Educational Sciences, Elâzığ.
- Saraçlı, M. (2019). *Uluslararası hukukta yerinden edilmiş kişiler (2. baskı) [Displaced persons in international law (2nd ed)]*. Ankara: Adalet Yayınevi.
- Silverman, D. (2005). *Doing qualitative research: Apractical handbook (2nd ed)*. London: Sage Publications Inc.
- Şahin, M., & Doğan, Y. (2018). Suriyeli öğrencilerin bulunduğu sınıflarda Fen Bilimleri öğretiminde karşılaşılan sorunlar: Nitel bir çalışma [Problems encountered in teaching science in the classrooms with Syrian students: A qualitative study]. *International Journal of Scholars in Education*, 1(1), 13-33.
- Şimşir, Z., & Dilmaç, B. (2018). Yabancı uyruklu öğrencilerin eğitim gördüğü okullarda öğretmenlerin karşılaştığı sorunlar ve çözüm önerileri [Problems teachers' face and solution proposals in the schools where the foreign students are educated]. *Elementary Education Online*, 17(2), 1116-1134. <https://doi.org/10.17051/ilkonline.2018.419647>.
- Taskin, P., & Erdemli, O. (2018). Education for Syrian refugees: Problems faced by teachers in Turkey. *Eurasian Journal of Educational Research*, 75, 155-178. <https://doi.org/10.14689/ejer.2018.75.9>.
- The Grand National Assembly of Turkey [GNAT] Human Rights Review Commission (2010). *İnsan hakları ışığında Türkiye'de bulunan mülteciler, sığınmacılar ve yasadışı göçmenlerin sorunları [Human rights in Turkey in the light of refugees, asylum seekers and illegal immigrants' problems]*. Ankara: GNAT Publishing.
- The UN Refugee Agency (UNHCR) (2016). *1951 convention and 1967 protocol relating to the status of refugees*. Retrieved from <https://www.unhcr.org/>.
- The UN Refugee Agency (UNHCR) (2019). *Global report 2017*. Retrieved from <https://www.unhcr.org/>.
- Turkish Language Institution (TLI) (2019). *Turkish language association dictionaries*. Retrieved from <https://sozluk.gov.tr/>.
- United Nations International Children's Emergency Fund (UNICEF) (2015). *The invesment case for education and equity*. Retrieved from <https://www.unicef.org/education>.
- United Nations International Children's Emergency Fund (UNICEF) Turkey National Comitte (2019). *Syrian children in Turkey*. Retrieved from <https://www.unicefturk.org/>.
- Uysal, A. (2019). *Geçici koruma altında olan Suriyeli öğrencilerin lise düzeyinde eğitimlerinde karşılaşılan sorunlar ve çözüm önerileri: Bir çoklu durum çalışması [Recommended solutions for the problems encountered during high school level education of Syrian students under temporary protection: A multiple case study]*. (Unpublished master thesis). Necmettin Erbakan University, Institute of Educational Sciences, Konya.

- Waters, T., & Leblanc, K. (2005). Refugees and education: Mass public schooling without a Nation State. *Comparative Education Review*, 49(2), 129-147. <https://doi.org/10.1086/428102>.
- Yıldırım, A., & Şimşek, H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri (10. baskı) [Qualitative research methods in the social sciences (10th ed)]*. Ankara: Seçkin Yayıncılık.
- Yıldız, F. (2018). *Suriyeli sığınmacı çocukların eğitim sorunları ve entegrasyon süreçleri: Mersin örneği [Problems of education in Syria refugee children and integration processes: Mersin sample]*. (Unpublished master thesis). Marmara University, Middle East and Islamic Countries Research Institute, İstanbul.
- Yin, R. K. (2009). *Case study research. Design and method (4th ed)*. Thousand Oaks, CA: Sage Inc.