Research Article

Examining Secondary Education Students' Cognitive Structures Related to Migration Types[1]

Ortaöğretim Öğrencilerinin Göç Türlerine İlişkin Bilişsel Yapılarının İncelenmesi

Cennet ŞANLI	Adnan KOCABUĞA
Pamukkale University	Ministry of Education
Geography Department	Geography Teacher
cennet2011@gmail.com	adnankocabuga@gmail.com
https://orcid.org/0000-0003-3285-0950	https://orcid.org/0000-0001-6772-1492

Abstract

The research aimed to explore secondary education students' cognitive structures related to migration types. It used a survey research design and sampled 275 students studying at a public secondary education institution. The data were collected using a word association test (wat) consisting of 7 key concepts. As a result of the research, 7663 response words were produced for the 7 key concepts and 1925 related sentences were formulated. The research found that students' cognitive structures related to migration types are insufficient. The highest number of response words was matched with the key concept brain drain, while the lowest number was matched with transit migration. Among students' sentences related to the key concepts, 392 contained scientific knowledge, 873 contained superficial knowledge, and 456 contained misconceptions. Sentences containing scientific knowledge were mainly linked to the key concept brain drain. Sentences without scientific knowledge were mainly associated with the key concept transit migration.

Keywords: geography teaching, migration types, word association test, cognitive structure

1. Introduction

Migration started by first humans to hunt and collect in their immediate surroundings has spread across the Earth for several reasons (such as natural, social, economic, and political) and become a part of daily life. This topic has been of keen interest for researchers from diverse disciplines. While theorists have focused on the history of migration (Castles & Miller, 1998), sociologists have focused on the social effects of migration (Adıgüzel, 2016). Economists have analysed the real consequences of migration with numerical data (Güllüpınar, 2012; Özyılmaz, et al., 2019), while psychologists have focused on human affections in areas of emigration and immigration (Tuzcu & Bademli, 2014). Geographers, on the other hand, have mainly studied the causes and effects of migration (Birinci, 2017; Sezer & Şanlı, 2017). Another issue as important as driving forces of migration is individuals' cognitive structures related to migration. Individuals can always be a potential element of migration. Against this background, this research set out to examine secondary education students' cognitive structures related to the types of migration. It is

---

[1] This study was presented as an abstract paper in 1sd İstanbul International Geography Congress (20-22 June 2019), Istanbul, Turkey.

hoped that the results of the research will contribute to teachers, textbook authors, and curriculum designers in teaching the subject of migration.

Theoretical Background

Migration refers to the movement of individuals or communities from one country to another or from one place to another for economic, social, or political reasons (Tümertekin & Özgüç, 2015). As the focus of this definition, the notion "movement" is associated with multiple disciplines. This movement is geographical as it takes place on a specific location and affects the environment, it is demographic as it affects the population in the places of departure and destination, it is economic as displaced populations lead to economic imbalances between spaces, it is political as states need to control or restrict migrants and refugees who leave or enter the country, it is also connected to social psychology as migrants' motivations for migrating and their problems of adjustment to the host society are also at stake, and it is finally sociological as migration affects the social structure and cultural systems in the places of departure and destination (Sezer & Şanlı, 2017; Tümertekin & Özgüç, 2015). Accordingly, different disciplines have offered various classifications in response to the question of how migration is classified. The most common classifications are based on micro, meso, and macrolevel approaches according to analysis levels (Faist, 2000, p. 13).

Micro theories of migration are centred on the "element of preference in migration" using the criterion of individual freedom and autonomy. Macro theories tend to explain migration with environmental factors such as political, social, and economic conditions, without regard to individual preferences. Environmental factors can be natural causes (climate and earthquake), political causes (wars and population exchange), economic causes (job opportunities and financial difficulties), and social causes (education and culture). Meso theories focus more on the interrelations of these factors than on individual or environmental factors. In other words, meso theories focus on the social impact of the relationship between individual and environmental factors (Faist, 2000, p. 22).

Movement, which is common in macro and micro theories, is directly related to the concepts of "border, continuity, and optional". Depending on whether migrants cross a border or not, migration occurs in two different ways: "internal migration" and "external migration". Migration within a country is called "internal migration". In internal migrations, the direction of movement is from rural to rural, from urban to urban, from rural to urban or vice versa. Migration outside a country is also called "external migration" (international migration). In external migrations, the direction of movement is from one country to another. Migrations occur in two different ways depending on continuity: temporary and permanent migrations. "Temporary migrations" occur due to activities such as agriculture, animal husbandry, construction, and tourism, while "permanent migrations" involve leaving the habitual residence for good. An example of temporary migration is that people migrate from the south-eastern Anatolia region of Turkey to the agricultural city Rize during the harvest period of hazelnuts and return to their place of residence at the end of harvest. It is also known as "seasonal migration" because this movement occurs during certain seasons of the year (Orhan, 2017, p. 60). "Transit migration" is also temporary in nature as it refers to the case where migrants temporarily use the country in which they are currently staying to move to the country of destination (Tepealtı, 2019, p. 126). On the other hand, migrations may be forced or voluntary. "Voluntary" migrations occur mainly for economic reasons and by people's own choice. The basic motivation for voluntary migrations is the desire to live in better conditions. Examples of voluntary migration include "brain drain" that refers to the migration of well-educated and well-qualified individuals who have made a difference in their profession (Bakırtaş & Kandemir, 2010, p. 963) and "labour migration" that involves the movement of workers to enjoy more economic gain (Alberti & Però, 2018, p. 695). "Forced migrations" occur due to coercive factors such as war, political pressure, safety, and natural disasters (Yılmaz, 2014, p. 1687). For example, political reasons led to the migration from Bulgaria to Turkey in 1989 due to pressure from the Bulgarian government (Atasoy, 2010, p. 5;

Çetin, 2008: p. 241). After the Marmara earthquake with its epicentre in Gölcük on 17 August 1999, the migration to Anatolia was driven by natural causes.

Due to its geographical location, Turkey is one of the countries where migrations have frequently occurred from past to present in national and international dimensions. This situation has led to the inclusion of the subject of migration in curricula (geography, history, and literature courses) in the Turkish education system (Sezer & Şanlı, 2017). Additionally, the arrival of millions of migrants to Turkey due to internal conflicts in neighbouring countries in recent years has also increased students' awareness of the issue. Thus, several studies have been conducted on how students perceive and comprehend migration. Previous studies have explored the perception of migration through metaphors in 8th-grade students (Çetin et al., 2015; Türk & Atasoy, 2020) and high school students (Canbaba, 2018). Irmak, et. al., (2018) identified Iraqi Turkmen students' thoughts on the concept of migration using a survey. What is common in these studies is that they have highlighted the importance of the subject and suggested further research to explore students' cognitive structures using alternative measures in different sample groups. In light of these suggestions, the present research investigated cognitive structures related to migration types in a sample of science high school students using a WAT as a measure. In Turkey, science high schools are secondary education institutions admitting students who attain a high level of achievement in the national exams held in the middle school 8th-grade year. It is therefore assumed that the high academic achievement of science high school students is reflected in their cognitive structures. A WAT was used to collect data in this research considering the advantages of this tool in identifying cognitive structures and conceptual networks (Bahar, et al., 1999). Especially in recent years, several studies have been conducted on different topics in social sciences (such as global warming and plants) to explore students' cognitive structures using WATs (Aladağ & Kaya, 2017; Aydemir & Çetin, 2020; Buldur et al., 2020; Çetin et al., 2015; Çetin & Yel, 2019; İnel & Ünal, 2018; Tapur, et al., 2018). In this context, this research attempted to explore secondary education students' cognitive structures and misconceptions related to the types of migration. To this end, it sought answers to the following questions:

● How are the cognitive structures of secondary education students regarding migration types?

● What are the misconceptions of secondary education students regarding migration types?

2. METHODS

2.1. Research Design

The research used a survey research design. Survey research attempts to describe an existing situation (Karasar, 2014, p. 77). The research employed a survey research design because it aimed to investigate secondary education students' cognitive structures related to the types of migration.

2.2. Participants and Procedure

The sample consisted of 275 (100%) students including 161 females (59%) and 114 males (41%) who were studying at Science High School in a city in the Mediterranean region of Turkey in the 2018-2019 academic year. The sample was selected through convenience sampling. Among the participants, 110 (40%) were 9th-grade students, 100 (36%) were 10th-grade students, and 65 (24%) were 11th-grade students. Participation in the research was voluntary. 12th grade students could not participate in the research as they were preparing for the national university entrance exam.

The data were collected using a word association test (WAT). WAT is a technique to identify learners' cognitive structures and the connections between concepts in this structure (Bahar et al., 1999). The following types of migration were selected as the key concepts: seasonal migration, internal migration, external migration, transit migration, forced migration, brain migration, and labour migration. Each page of the measure was designed to include only one key concept (Table 1). The WAT was designed in light of the classification widely used in the literature as described

in the introduction section, the Geography Curriculum, and the 10th-Grade Geography Textbook prepared by the Commissions of the Ministry of National Education (2015). Two geography education experts and one language specialist were consulted to finalize the test.

Table 1. A Sample Item in the Measure

LABOUR MIGRATION
Labour Migration ……………………………………..
Labour Migration ……………………………………..
Labour Migration ……………………………………..
Labour Migration ……………………………………..
Labour Migration **……………………………………..**
RelatedSentence: …………………………………………………………………………

During the implementation phase of the research, the WAT was printed and delivered to the students who were informed about the purpose of the research. For each of the 7 key concepts, the students were asked to write the first five words that come to their mind and a sentence about the relevant key concept. It took approximately ten minutes to complete the test. The implementation phase was carried out by the second author of the research. The author is also the geography teacher of the sample group. At the end of the implementation, the response words and sentences written by the students in the test were transcribed in word documents.

2.3. Data Analysis

The response words were analysed through a frequency table and the response sentences were analysed through a rubric (a scoring key). The cut-off point technique proposed by Bahar et al. (1999) was used to analyse the response words. This technique involves determining cut-off ranges starting from the most frequently responded word in the WAT (Bahar et al., 1999). The cut-off point 10 and above were used in this research. Conceptual networks were created to see the cognitive structure between concepts that were considered linked. The rubric designed by Ercan, et al. (2010) was used to analyse the response sentences. This rubric composed of the following categories: "the number of sentences containing scientific knowledge, the number of sentences containing non-scientific or superficial knowledge, and the number of sentences containing misconceptions". Sentences that are scientifically accurate and relevant to the key concept were treated in the category of sentences containing scientific knowledge, sentences that are scientifically inaccurate, used in daily life, reflect only feelings and ideas, and make sense with experiences and traditions were treated in the category of sentences containing superficial knowledge, and sentences that contain confused, misused or erroneous words and phrases were treated in the category of sentences containing misconceptions.

3. FINDINGS

This section presents the results of the analysis of the response words and sentences that the sample group gave to the key concepts. The total number of response words given for the seven key concepts was 7663 and the total number of response sentences was 1925. Bahar et al. (1999) did not include response words with a frequency of mention of 10 and below in the analysis based on the cut-off point technique. Accordingly, Table 2 shows the 7 key concepts related to migration types and 90 response words provided for the key concepts.

Table 2. *Key concepts and Response Words*

Cut-off Points	Concepts						
	Seasonal Migration	**Internal Migration**	**External Migration**	**Brain Drain**	**Forced Migration**	**Labour Migration**	**Transit Migration**
Over the age of 50	Highland (f: 75) Agriculture (f: 67)	City (f :61) Istanbul (f: 66)	Abroad (f :68) Brain Drain (f :81)	Intelligence (f :71) America (f :59)	-	Money (f: 56) Germany(f :64)	-
40-49	Summer (f: 47) Cotton (f:41)	Village (f:49)	America	Science (f:46) Scientist (f:45)	-	Factory (f:48)	-
30-39	Employee f:37)	Shantytown (f:31)	Europe (f:35) Population Exchange (f:30)	Academy: (f: 37) Turk Engineer(f:35) Science (f:34) Mehmet ÖZ (f:31)	Obligation (f:36) Authoritarian (f:34) Natural Disaster (f:32) War (f:31)	Economy(f:32) Job (f:31) German Turk (f:30)	Car (f:32)
20-29	Adana (f:26) Field (f:25) Season (f:22) Livestock (f:20)	Industry (f:29) Long Distance (f:25) Appointment (f:22) Domestic (f:20) Country (f:20)	Syria (f:22) International (f:21) Country (f:20)	Aziz Sancar (f:28) Liberation (f:28) Poor Country (f:26) Loss (f:23) Mind (f:23) Technology (f:20) Strong Country(f:20) Doctor (f:20) Medicine (f:20) NASA (f:20) Money (f:21)	Population exchange (f:28) Genocide (f:28) Nomad (f:27) Money (f:24) Banishment (f:24) Syrian (f:21)	Industry (f:29) Obligation (f:21) Turkey (f:21)	Turkey (f:23)
10-19	Autumn (f:19) Çukurova (f:18) Factory (f:11) Tent (f:10) Money (f:10) Syrian (f:10)	Family (f:14) Agriculture (f:14) Obligation (f: 15) Migration (f:10) Internal (f:10) Worker (17) Labour Migration (f: 15)	Labour Migration (f:16) Education (f:14) Plane (f:12) England (f:11) Pilot (f:11) Opportunity (f:10) Refugee (f:10) Immigrant (f:10) Refugee (f:10) Strong Country (f:10)	University (f:15) Canada (f:14) Success (f:14) Germany (f:13) Artificial Intelligence (f:13) Silicon Valley (f:10)	Difficulty Armenian (f:12) Involuntary (f:12) Refugee Economy (f:10)	Minimum Wage (f:14) Absence from home (f:13) Construction (f:12) Seasonal Migration (f:12) İstanbul (f:13)	Ford (f:19) Truck (f:15) Football player (f:14) Migration (f:13) Transition (f:10) Travel (f:10) Customs (f:10) Transfer (f:14)

3.1. Students' responses to the key concepts and conceptual networks

The response words to the key concepts and the networks between the response words are shown below taking into account the cut-off points.
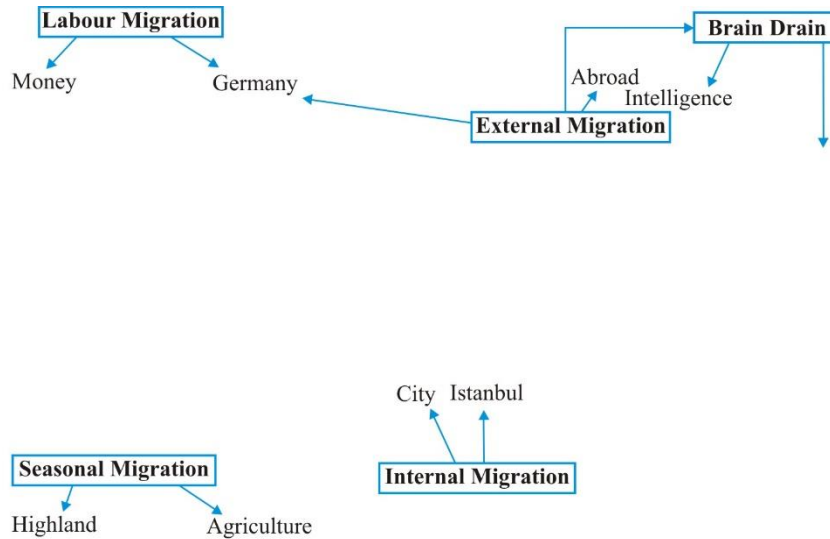

Figure 1. Conceptual Network Created for the Cut-Off Point 50 and above

As seen in Figure 1, 4 of the 7 key concepts emerged at the cut-off point 50 and above. There was a connection between external migration and brain migration. Only one response word (Germany) was associated with both labour migration and external migration. Looking at the network of connections, it can be said that the cognitive structures are yet disconnected from each other at the cut-off point 50 and above.
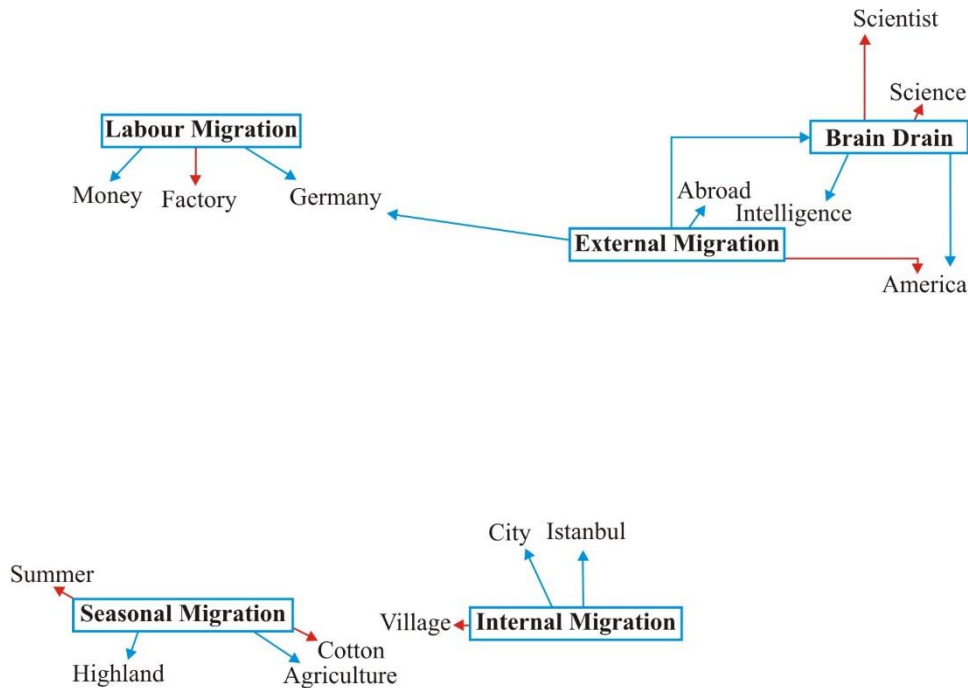

Figure 2. Conceptual Network Created for the Cut-Off Point 40-49

As seen in Figure 2, no new key concepts emerged at the cut-off point 40-49. However, the number of connections between the key concepts increased. A new link (America) was formed between external migration and brain migration. At the cut-off point 40-49, disconnected and unassociated new words in response to the key concepts emerged. Students' cognitive structures related to the types of migration begun to emerge, albeit partially.
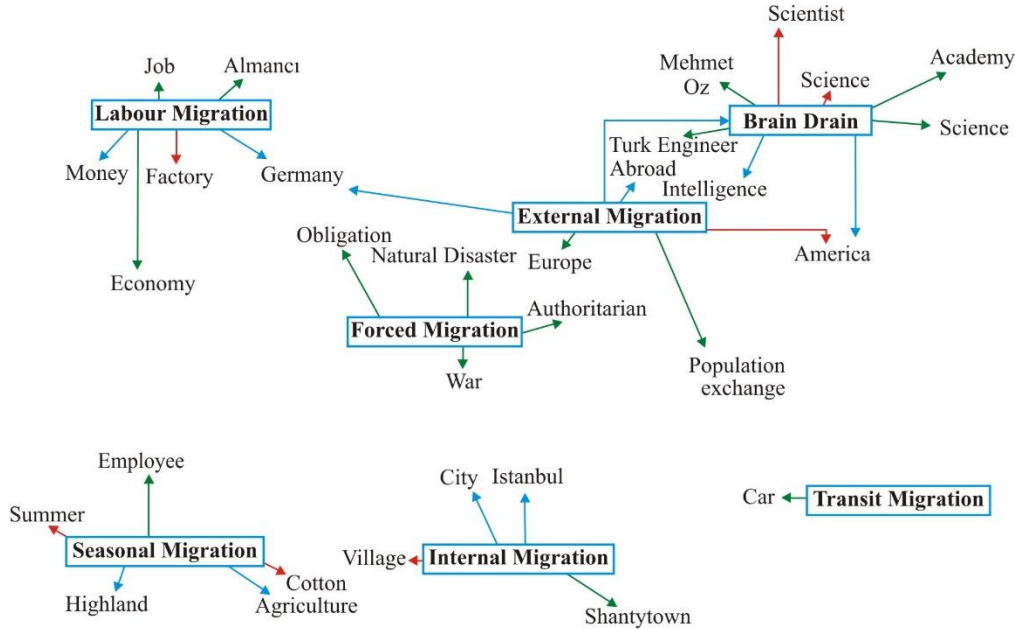

Figure 3. Conceptual Network Created for the Cut-Off Point 30-39

As seen in Figure 3, the key concepts transit migration and forced migration appeared at the cut-off point 30-39. The connections between the key concepts did not change. At this cut-off point, disconnected and unassociated new words in response to the key concepts appeared.
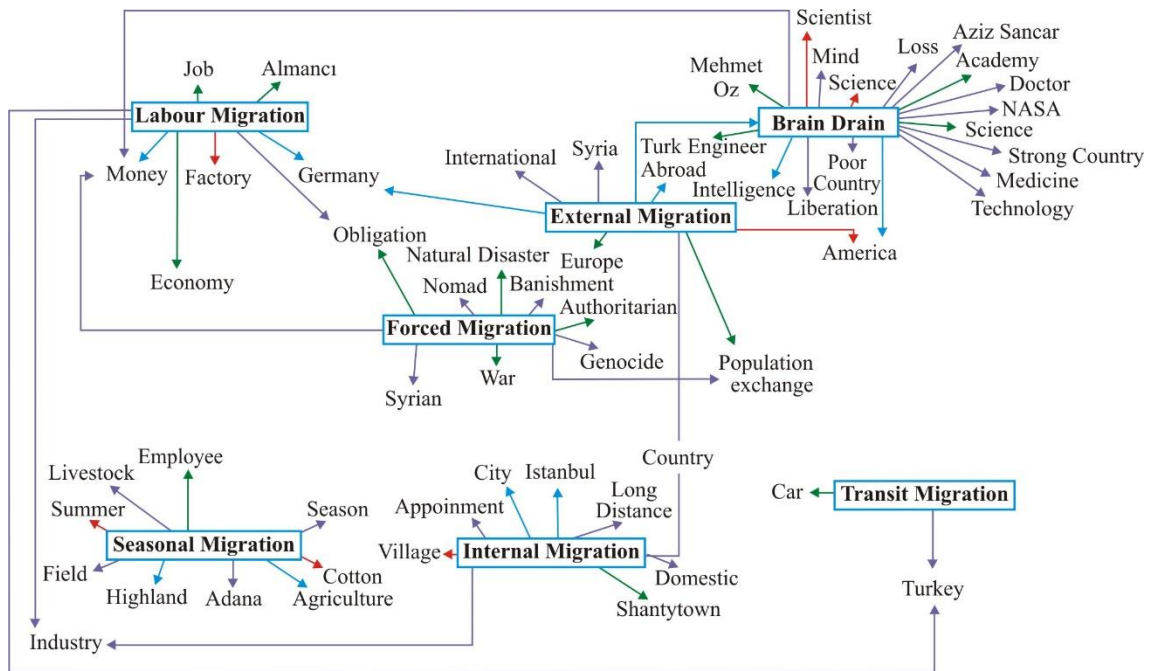

Figure 4. Conceptual Network Created for the Cut-Off Point 20-29

As seen in Figure 4, at this cut-off point, new links were formed between the key concepts *internal migration* and *labour migration* and between *external migration* and *internal migration*. Additionally, the key concepts *labour migration*, *forced migration*, and *brain drain* were linked to "*money*", the key concepts *labour migration* and *internal migration* were linked to "*industry*", the key concepts *labour migration* and *forced migration* were linked to "*obligation*", the key concepts *forced migration* and *external migration* were linked to "population exchange", and the key concepts *transit migration* and *labour migration* were linked to "Turkey". At this cut-off point, many disconnected and unassociated new words in response to the key concepts appeared.
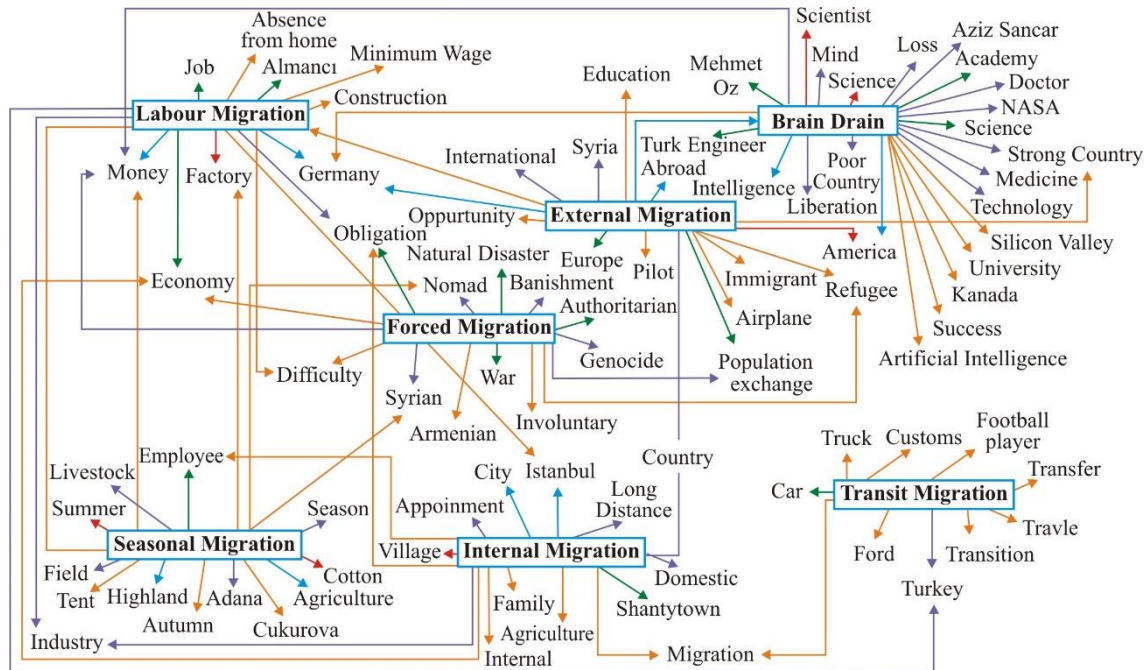

Figure 5. Conceptual Network Created for the Cut-Off Point 10-19

As can be seen from the conceptual network in Figure 5, there was a quite high increase in the number of connections and response words at this cut-off point. New links were formed between the key concepts *labour migration* and *seasonal migration*, between *transit migration* and *internal migration*, and between external migration and labour migration. In the conceptual network, the highest number of connections was in *forced migration*, while the lowest number was in *transit migration*. Additionally, the key concepts *internal migration, labour migration,* and *forced migration* were linked to "economy", the key concepts *internal migration* and *transit migration* were linked to "migration", and the key concepts *forced migration* and *external migration* were linked to "refugee". At this cut-off point, a large number of unrelated new concepts also emerged, which were connected to the 7 key concepts.

3.2. Students' Sentences about the Key Concepts

Table 2 shows the findings as to the sentences written by the students in response to the key concepts. The rubric designed by Ercan et al. (2010) was used to analyse the response sentences.

Table 3. Findings as to Students' Sentences in Response to the Key Concepts

Key Concepts	The Sample Sentences Containing Scientific Knowledge	Frequency	The Sample Sentences Containing Superficial Knowledge	Frequency	The Sample Sentences Containing Misconceptions	Frequency	Left Blank	Frequency	Total
Labour migration	The population decreases in rural areas due to labour migration, whereas it increases in cities.	49	Labour migration is on the rise in recent years.	115	Many workers have been employed thanks to the opening of the new factory.	61	-	50	**275**
Transit migration	Turkey is a transit point in (transit) migration because of its geographical location.	17	Middle Eastern citizens preferred Turkey in transit migration.	56	Mass migrations are done in a transit manner.	118	-	84	**275**
Seasonal migration	Seasonal migration is the migration of agricultural workers during the harvest season.	70	Men migrate in Summer to work in the construction industry.	120	My family migrated seasonally years ago and settled in Adana.	65	-	20	**275**
Forced migration	The population transfer between Turkey and Greece, in accordance with Lausanne Peace Treaty, is forced migration.	55	Forced migration is not a matter of choice.	132	Meskhetian Turks came to Erzincan due to the internal turmoil in Poland.	70	-	18	**275**
Internal migration	Marmara is the region that receives the most immigration.	45	The male population decreased in rural areas due to internal migration.	155	Migration by civil servants is internal migration.	60	-	15	**275**
External migration	Migration from one country to another is called external migration.	61	Developed countries receive more immigration.	128	We will migrate and go away.	72	-	14	**275**
Brain drain	The departure of qualified people from Turkey is a great loss for science.	95	Brain drain is on the rise in comparison with the past years.	167	The people who leave Turkey in search of higher income end up disappointed.	10	-	3	**275**
Total	**392**		**873**		**456**			**204**	**1925**

As seen in Table 3, among the sentences that the students wrote in response to the types of migration, 392 contained scientific knowledge, 873 contained superficial knowledge, and 456 contained misconceptions. Sentences containing scientific knowledge were most frequently produced for the key concepts brain drain (f:95) and seasonal migration (f:70). Transit migration was the key concept with the highest frequency (f:118) of sentences that did not contain scientific knowledge.

4. DISCUSSION

The research set out to explore high school students' cognitive structures and misconceptions related to the types of migration. To this end, the researchers first analysed the response words produced for the 7 key concepts and the connections between the words. The key concepts that appeared in students' cognitive structures at the cut-off point 50 and above included *labour migration, external migration, brain drain, seasonal migration,* and *internal migration.* At this cut-off point, the key concepts *labour migration* and *external migration* were linked to Germany. A possible explanation for this result might be that migrations to Germany in the 1960s to work as migrant workers (Bakırtaş & Kandemir, 2010) are given as examples in the texts on *external migration* and *labour migration* in the Secondary Education Geography Textbooks. Besides, Turkish citizens' journey to Germany in these years and their lives there have been treated in Turkish films for many years (Koçak, 2015). This result, therefore, seems to be expected.

Although new key concepts did not appear in students' cognitive structures at the cut-off point 40-49, the connections between the existing words increased. The key concepts *external migration* and *brain drain* were linked both to each other and to "America". Brain drain is likely to occur from the country of residence to a more developed country. Accordingly, in students' cognitive structures, America was the first most preferred country for the key concept *brain drain*. Pazarcık-Figan (2010) found that a total of 145 Turkish-born social scientists work as faculty members at 54 leading universities in the United States. In the past, Turkey ranked eighth among the countries that send the largest number of students to the United States (Bakırtaş & Kandemir, 2010). It thus appears that the association in students' cognitive structures is consistent with the literature.

The key concepts *transit migration* and *forced migration* emerged at the cut-off point 30-39. *Transit migration* is a phenomenon that Turkey has recently witnessed due to its geopolitical location. It is, however, noteworthy that the subject was not sufficiently known to students and only the word *"car"* was linked to *transit migration*. This might be due to the fact that *transit migrants* planning to arrive at the country of destination stay in Turkey for a temporary period (for reasons such as money supply/transfer and preparation of documents) (Yılmaz, 2014). It is believed that the longer students contact with migrants, the higher number of new connections will be formed in their cognitive structures. In previous studies on middle school students' perceptions of migration, *transit migration* was not among the metaphors used (Güneş & Çetin, 2020; Çetin et al., 2015). Thus, the result of the present study is in accord with these studies.

At the cut-off point 20-29, the key concepts *labour migration* and *forced migration* were linked to *"obligation",* the key concepts *labour migration*, *forced migration,* and *brain drain* were linked to *money,* the key concepts *labour migration* and *internal migration were linked to "industry", the key concepts forced migration* and *external migration were linked to "population exchange",* and the key concepts *transit migration* and *labour migration* were linked to "Turkey". Looking at the concept of networks at this cut-off point, it seems that the students took into consideration the matter of choice (voluntary or not) in the connection between *labour migration* and *forced migration* and between *forced migration* and *external migration,* while they considered economic causes (money and industry) in the connection between *labour migration*, *forced migration* and *brain drain* and between *labour migration* and *internal migration. "Money"* is one of the economic causes of migration. It is thus expected that the 3 key concepts were linked to *"economy"* and *"money"* evoking better living conditions. However, in *forced migration*,

people have to leave their habitual residence not for economic causes but against their will (mostly, for example, due to political pressures and population exchange) (Tekin, 2011). It, thus, seems that the students had misconceptions about this key concept. It is also worth noting that the response word "money" may have indicators different than *labour migration* and *brain drain*. The primary goal in *labour migration* is to shift from a low-income level to a better income level, while that in *brain migration* is to shift from a good income level to a high-income level. However, there was no descriptive response word at the cut-off point 20-29. Given that the students linked the word *"industry"* with the key concepts labour migration and internal migration, it might be that for the students, *labour migrations* within the country are based on industrial activities. Industrial activities are among the attractive factors of internal migrations in Turkey (Sezer & Şanlı, 2017: Birinci, 2017). Thus, this result is in agreement with the literature. It is also noteworthy that *transit migration* and *labour migration* were linked with "Turkey" at the cut-off point 20-29. The students had the idea that Turkey is a *transit country* in *labour migration* while associating *transit migration* only with the word "car" at the higher cut-off point. At this cut-off point, many disconnected and unassociated new words were matched only with the key concepts. These words were most frequently produced for the key concept *brain drain* (loss, academy, NASA, etc.). This result may be related to the sample group. No similar concepts have been found in studies that explore students' perceptions of migration (Çetin et al., 2015; Sever & Özmen, 2019).

At the cut-off point 10-19, connections were formed between the 7 key concepts. In the conceptual network, the highest number of connections was in *forced migration*, while the lowest number was in *transit migration*. There may be several possible explanations for this result. Due to the hot conflicts in different parts of the world (for example, Syria and Myanmar), many people have migrated from their country of origin under pressure from political authorities. The recent occurrence of such events and news on social media may have increased students' awareness of the issue. A possible reason for the weak connections between *transit migration* and the other key concepts of migration types might be students' lack of knowledge about this type of migration due to the above-mentioned reasons. Additionally, at this cut-off point, the key concepts *internal migration, labour migration* and *forced migration* were linked to "economy", the key concepts *internal migration* and *transit migration* were linked to "*migration",* and the key concepts *forced migration* and *external migration were linked to* "refugee". Money and industry are among the main components of the economy (Pohjola, 2002). It is also noteworthy that the response word "migration" was matched only with *internal migration* and *transit migration.* This is because "migration" is a word associated with all the key concepts. Similarly, the response word "refugee" was matched only with *forced migration* and *external migration*. Besides, at this cut-off point, a large number of unrelated new concepts also emerged, which were linked with the key concepts. The highest number of response words was produced for *external migration* (opportunity, pilot, labour migration, education, refugee, airplane, immigrant, and strong country). The lowest number of response words was produced for *seasonal migration* (tent, autumn, Çukurova, and Syrian). Previous research has reported that development projects reduce seasonal migration in the South-eastern and Eastern Anatolian regions (Yakar, 2013). Additionally, the more common use of machines in agriculture across the country in recent years has reduced the need for human labour (Yalçın & Kara, 2016). In this respect, the direction of migration in Turkey students' cognitive structures is mainly *external migration*.

Secondly, the researchers analysed students' sentences about the key concepts to explore misconceptions. Amon the sentences, 392 contained scientific knowledge, 873 contained superficial knowledge, and 456 contained misconceptions. These results show that the students superficially know and confuse the types of migration. This result may be explained by the inefficiencies of curricula and approaches to teaching migration. Sezer and Şanlı (2017) highlighted the need to revise curricula (geography) to include the teaching of up-to-date migration-related concepts. Şahin (2017) proposed using different teaching methods and techniques to teach the subject of migration instead of the traditional teaching method.

Additionally, the students produced the highest number of scientific sentences for brain drain and the lowest number for transit migration. These results are consistent with the number of response words and conceptual network links in their cognitive structures. Previous studies have also reported that students have misconceptions about migration and confuse and misuse migration-related concepts (e.g. refugee, migrants, and nomad) (Canbaba, 2018; Çetin et al., 2015). Thus, the results of this research are in line with earlier observations.

5. CONCLUSION

The research found that students' cognitive structures related to the types of migration are not sufficient. The highest number of response words was matched with *brain drain*, while the lowest number was matched with t*ransit migration*. Addition, students' sentences about the key concepts were mostly in the category of sentences containing superficial knowledge. Students' sentences containing scientific knowledge were mainly matched with the key concept *brain drain*. Sentences that did not contain scientific knowledge were mostly matched with the key concept *transit migration*. These results are consistent with the number of students' words in response to the key concepts *brain drain* and *transit migration*. Given these results, a number of recommendations for the development of students' cognitive structures related to migration types may be offered. Concept teaching may be given more consideration in the teaching of the subject of migration. Teaching process may make use of teaching strategies (such as conceptual networks and mind maps) that help students develop their cognitive structures. Mass media may also have an effect on students' misconceptions. Therefore, media organisations should be more careful about using migration terminology.

References

Adıgüzel, Y. (2016). *Göç sosyolojisi [Sociology of Migration]* Ankara: Nobel Publication.

Aladağ, C. & Kaya, B. (2017). Determining the views of high school students about natural disasters, *Journal of International Scientific Publications,* 15, 228- 235.

Alberti G. & Però, D. (2018). Migrating industrial relations: Migrant workers' initiative within and outside trade unions, *British Journal of Industrial Relations, 56*(4), 693-715.

Atasoy, E. (2010). Geographical-geopolitical location of Bulgaria and its reflections. *Uludağ University Faculty of Arts and Sciences Journal of Social Sciences, 18*(18), 1-35.

Aydemir, A. & Çetin, T. (2020). Using the word association test in the examination of the cognitive structures of 7th grade, students regarding human geography concepts Çetin, T., Kılcan, B., İnel, Y. & Çepni, O (Ed.), in *New Horizons in Social Studies Education*, (pp. 359-378). Lithuania: SRA Academic Publishing.

Bahar, M., Johnstone, A. H. & Sutcliffe, R.G. (1999). Investigation of students' cognitive structure in elementary genetics through word association tests, *Journal of Biological Education, 33,* 134-141.

Bakırtaş, T. & Kandemir, O. (2010). Developing countries and brain drain: Example of Turkey, *Kastamonu Education Journal, 18*(3), 961-974.

Birinci, S. (2017). Migration effectiveness, population turnover and population churn in Turkey (2014-2015), *Turkish Geographical Review*, 69, 1-88. https://doi.org/ 10.17211/tcd.332014

Buldur, A. D., Aladağ, C., Kaya, B. & Duran, Y. (2020). Using the word association test in geography courses as a diagnostic tool: Example of plants. *International Journal of Geography and Geography Education (IGGE), 42*, 1-24.

Canbaba, Z. (2018). An investigation through metaphors method of the perceptions of secondary school students about population and migration concepts, (Unpublished master's thesis). Marmara University, Institute of Education Sciences, İstanbul.

Castles, S. & Miller, M. J. (1998). *The age of migration.* London: McMillan.

Çetin, T. (2008) The socio-economic outcomes of the last Turkish migration (1989) from Bulgaria to Turkey, *Turkish Studies*, *3*(7), 241-270.

Çetin, T., Kılcan, B., Güneş, C. & Çepni, O. (2015). Examining secondary school students' perceptions of the concept of migration: A Qualitative study. *International Journal of Education, 7*(3), 97-120.

Çetin, T. & Yel, Ü. (2019). The perceptions of Iraqi Turkmen children at secondary school regarding the concept of migration, *8th International Symposium on Social Studies Education*, 7-9 November 2019, Ankara.

Ercan, F., Tasdere, A. & Ercan, N. (2010). Observation of cognitive structure and conceptual changes through word associations tests, *Journal of Turkish Science Education, 7*(2), 138-154.

Faist, T. (2000). *The volume and dynamics of international migration and transnational social spaces*. Oxford: Clarendon Press.

Güllüpınar, F. (2012). The economy-politics of migration and a review of the theories of international migration *Yalova Journal of Social Sciences* 4*,* 53- 85.

Güneş, C. & Çetin, T. (2020). Examining secondary school students' perceptions of the concept of brain drain, *Third Sector Social Economic Review, 55*(2), 928-955.

Irmak, C., Bilginer, R. & Çetin, T. (2018). The thoughts on the concept of migration of Iraqi Turkmen students, *Journal of Anatolian Cultural Research, 2*(3), 87-101.

İnel, Y. & Ünal, A. İ. (2018). Middle school students' cognitive structures of the state, and the government concepts, *Journal of Anatolian Cultural Research (JANCR) 2*(2), 1-13.

Karasar, N. (2014). *Bilimsel araştırma yöntemi [Scientific research method]* Ankara: Nobel Publication.

Koçak, S. (2015). *Reflection of labor migration from Turkey to the abroad to the Turkish cinema: Sample of visual analysis through Germany*, (Unpublished master's thesis)., Hacettepe University, Institute of Educational Sciences, Ankara

Orhan, F. (2017). A geographical study for seasonal mobile agricultural labour and living problems in Erzincan, *Turkish Geographical Review*, *69*, 59-68.

Özyılmaz, A., Bayraktar, Y. & Toprak, M. (2019). An empirical study on the relationship between remittances and economic growth: The Turkish Experience in the period of 1974-2018, *Third Sector Social Economic Review, 54*(4), 2038-2052.

Pazarcık-Figan, S. (2010). The phenomenon of brain drain and a study on the Turkish social scientists who work in universities of USA. (Unpublished master's thesis). Onsekiz Mart University, Institute of Social Sciences, Çanakkale.

Pohjola, M. (2002). The new economy: Facts, impacts and policies, *Information Economic and Policy, 14,* 133-144.

Sever, R. & Özmen, F. (2019). Secondary school students' perception about migration concept in mind maps, *III. International Battalgazi Scientific Studies Congress Book,* (pp. 804-819). ISPEC Publishing, Malatya,

Sezer, A. & Şanlı C. (2017). The phenomenon of migration in curriculum and textbooks of geography lesson, *Marmara Geographical Review 36,* 16-25.

Şahin, S. (2017). Examples of teaching methods and techniques used to teach about immigration, *IVth International Eurasian Educational Research Congress Proceedings, 11-14 May.* Anı *Publication,* Ankara.

Tapur, T., Kaya, B. & Aladağ, C. (2018). Determining the views of geography teacher candidates about the concept of landslide, *Journal of International Scientific Publications,* 16, 160-167.

Tekin, F. (2011). Compulsory migration as a cultural trauma. *Selcuk University Journal of Faculty of Letters, 25*, 91-100.

Tepealtı, F. (2019). Migrant movements via Turkey (transit) towards European Union and Turkey's tackling irregular immigration, *Eastern Geographical Review, 24*(41), 125-140.

Tuzcu, A. & Bademli, K. (2014). Psychosocial aspects of migration, *Current Approaches in Psychiatry 1 (6),* 56-66.

Türk, H. & Atasoy, E. (2020). Migration phenomenon in the mind of middle school 8. grade students: A metaphor analysis, *Mehmet Akif Ersoy University Journal of Education Faculty,* 55, 26-44.

Tümertekin, E. & Özgüç, N. (2015). *Beşeri coğrafya insan kültür mekân. [Human geography human culture space] İstanbul*: Çantay Publication.

Yakar, M. (2013). Analysis of the relationship between net inter-provincial migration and socio-economic development in Turkey by using geographically weighted regression analysis, *Aegean Geographical Journal, 22*(1), 27-44.

Yalçın G. E. & Kara, F. Ö. (2016). Rural migration and effects on agricultural production, *Journal of the Faculty of Agriculture*, *20*(2), 154-158.

Yılmaz, A. (2014). International migration: Its types, causes and effects, *Electronic Turkish Studies, 9*(2), 1685-1704.

Examining Secondary Education Students' Cognitive Structures Related to Migration Types

Ortaöğretim Öğrencilerinin Göç Türlerine İlişkin Bilişsel Yapılarının İncelenmesi

Cennet ŞANLI	**Adnan KOCABUĞA**
Pamukkale University	Ministry of Education
Geography Department	Geography Teacher
cennet2011@gmail.com	adnankocabuga@gmail.com
https://orcid.org/0000-0003-3285-0950	https://orcid.org/0000-0001-6772-1492

Geniş Özet

1. Giriş

Göç, ekonomik, toplumsal, siyasi sebeplerle bireylerin veya toplulukların yer değiştirme hareketidir (Tümertekin ve Özgüç, 2015). Literatürde göçün tüm boyutlarıyla daha iyi açıklanabilmesi için pek çok sınıflandırma sistemi yapılmıştır. Bunlar içinde en yaygın olanı "mikro, mezzo (orta) ve makro düzey" teorilerdir (Faist, 2000, s. 13). Mikro düzey göç teorileri, göçü bireyin özgürlük ve özerklik ölçütünü kullanarak "göçte tercih unsurunu" merkeze alır. Makro düzey teoriler, bireyin tercihlerini önemsemeden siyasal, sosyal ve ekonomik koşullar gibi çevresel etmenlere bağlı olarak göçü açıklama eğilimdedir. Çevresel etmenlerle kastedilen faktörler doğal nedenler (iklim, deprem gibi), siyasi nedenler (savaşlar, mübadele), ekonomik nedenler (iş imkânları, geçim sıkıntısı), sosyal nedenler (eğitim, kültür) olabilir. Mezzo (orta) düzey teoriler ise birey yâda çevresel faktörlerden çok, bu faktörler arasındaki ilişkiler üzerine odaklanır. Başka bir ifadeyle mezzo düzey teoriler birey ve çevresel etmenlere arasındaki ilişkinin toplumsal etkisine odaklanır (Faist, 2000, s. 22).

Makro ve mikro düzey teorilerde ortak nokta olan hareketlilik "sınır, süreklilik, isteğe bağlı olma" kavramlarıyla doğrudan ilişkilidir. "Sınır geçme" durumuna göre göç "iç göç ve dış göç" olarak ayrılır. Bir sınır geçilmeyen ve ülke içinde gerçekleşen göçe "iç göç" denir. Bir yada birden fazla sınır geçilerek ülke dışına yapılan göçe ise "dış göç" (uluslararası göç) denir. "Sürekliliğine" göre göçler, geçici ve kalıcı göçler olmak üzere ikiye ayrılır. "Geçici göçler"de ekonomik faliyetlere (örneğin, tarım, hayvancılık, inşaat gibi) bağlı olarak yılın belli zaman dilimlerinde yer değiştirme hareketi yaşanırken, "kalıcı göçler" de yaşanılan yere geri dönmemek söz konusudur. Bir diğer taraftan göçler, isteğe bağlı olabileceği gibi zorunlu da olabilir. "İsteğe bağlı" göçler, daha çok ekonomik nedenlere bağlı olarak ve insanların kendi kararıyla gerçekleşir. Bu göçlerde daha iyi şartlarda yaşama arzusu temel içgüdüdür. İsteğe bağlı göçlere, nitelikli bir eğitim almış, mesleğinde fark yaratmış uzmanların gelişmiş bir ülkeye göç etmesi anlamına gelen "beyin göçü" (Bakırtaş ve Kandemir, 2010, s. 963) veya daha fazla ekonomik kazanç sağlama amacıyla gerçekleştirilen "işçi göçleri" (Alberti ve Però, 2018, s. 695) örnek gösterilebilir. "Zorunlu göçler" ise savaş, siyasi baskı, can güvenliği ve doğada meydana gelen afetler gibi zorlayıcı etkenler sonucu meydana gelir (Yılmaz, 2014, s. 1687). Örneğin, 1989'da Bulgar hükümetin uyguladığı baskı nedeniyle Bulgaristan'dan Türkiye'ye yapılan göçte siyasi nedenler (Atasoy, 2010, s. 5; Çetin, 2008, s. 241) 17 Ağustos 1999'da yaşanan, merkez üssü Gölcük olan Marmara depremi sonrasında Anadolu'ya yapılan göçler de doğal nedenlerin etkili olduğu bir zorunluluk vardır.

Türkiye, bulunduğu coğrafi konum itibariyle ulusal ve uluslararası boyutta geçmişten günümüze sıklıkla göçün yaşandığı ülkelerden biridir. Bu durum Türk eğitim sisteminde konunun öğrencilere kazandırması için öğretim programlarında (coğrafya ve tarih, edebiyat dersleri) yer almasına neden olmuştur (Sezer ve Şanlı, 2017). Ayrıca son yıllarda komşu ülkelerde yaşanan iç çatışmalara bağlı olarak milyonlarca insanın Türkiye'ye gelmesi, öğrencilerin konuya ilişkin farkındalıklarını da arttırmıştır. Alanyazında araştırmacılar göç konusunun öğrenciler tarafından nasıl algılandığı ve bilindiğine ilişkin çeşitli çalışmalar yapmışlardır. Örneğin, Çetin, vd. (2015) ve Türk ve Atasoy (2020) 8. sınıf öğrencilerin ve Canbaba (2018) lise öğrencilerinin göçe ilişkin algıları metaforlar yoluyla ortaya koymuştur. Irmak, vd., (2018) Iraklı Türkmen öğrencilerin göç kavramına yönelik düşüncelerini anket yoluyla tespit etmiştir. Bu araştırmalarının ortak sonucunda ise konunun önemine dikkat çekilerek farklı örneklem gruplarında alternatif ölçme araçları kullanılarak öğrencilerin bilişsel yapılarının ortaya konulması önerilmiştir. Bu bağlamda araştırmada veri toplama aracı olarak KİT'in tercih edilmiş ve bu ölçme aracının bilişsel yapı ve kavram ağlarını saptamadaki avantajları dikkate alınmıştır (Bahar, vd. 1999). Yapılan araştırmada göç türlerine ilişkin ortaöğretim öğrencilerin bilişsel yapıları ve kavram yanılgılarının ortaya konulmasını amaçlanmış ve aşağıda yer alan sorulara cevap aranmıştır:

● Ortaöğretim öğrencilerin göç türlerine ilişkin bilişsel yapıları nasıldır?

● Ortaöğretim öğrencilerin göç türlerine ilişkin kavram yanılgıları nelerdir?

2. Yöntem

Bu araştırmada tarama modeli kullanılmıştır. Araştırmanın çalışma grubunu, 2018-2019 öğretim yılında Türkiye'nin Akdeniz Bölgesi'ndeki bir ilde Fen Lisesi'nde okuyan kolay örneklem yoluyla seçilmiş toplam 161 kız (%59) 114 erkek (%41) toplam 275 (%100) öğrenci oluşturmuştur. Araştırmada, veri toplama aracı olarak Kelime İlişkilendirme Testi (KİT) kullnılmıştır. KİT de yer alan anahtar kavramlar *mevsimlik göç, iç göç, dış göç, transit göç, zorunlu göç, beyin göç, işçi göçü* olarak belirlenmiştir. Her bir anahtar kavram tek bir sayfaya gelecek şekilde form hazırlanmış ve basılı olarak çoğaltılmıştır. Testin uygulanma aşamasında hazırlanan KİT'i öğrencilere dağıtılmış ve araştırmanın amacına ilişkin bilgi verilmiştir. KİT'te yer alan anahtar kavramlara ilişkin öğrencilerin akıllarına gelen ilk beş kavramı ve anahtar kavramla ilgili cümleyi yazmaları istenmiştir. Testin ortalama uygulama süresi 10 dakika sürmüştür. Uygulamalar araştırmanın ikinci yazarı tarafından gerçekleştirmiştir. Uygulamanın bitiminde öğrencilerden toplanan testlerde yer alan cevap kelimeleri ve cümleleri worde aktarılmıştır. Elde edilen cevap kelimeleri, frekans tablosu aracılığıyla; cevap cümleleri ise rubrik (Dereceli Puanlama Anahtarı) aracılığıyla analiz edilmiştir. Cevap kelimelerin analizinde Bahar, vd., (1999) tarafından önerilen kesme tekniği ölçüt alınmıştır. Bu teknikte KİT'te en fazla cevaplanan kelimeden başlanarak kesme aralıkları belirlenmesi esastır (Bahar, vd., 1999). Bu çalışmada kesme noktası 10 ve üstü olarak kabul edilmiştir. Cevap cümlelerin analizde ise Ercan, vd., (2010) tarafından hazırlanan rubrik esas alınmıştır. Bu rubrikte "bilimsel bilgi içeren cümle sayısı, bilimsel olmayan veya yüzeysel bilgi içeren cümle sayısı, kavram yanılgısı içeren cümle sayısı" kategorileri bulunmaktadır.

3. Bulgular

Katılımcıların yedi anahtar kavram için verdiği toplam cevap kelime sayısı 7663 ve toplam cümle sayısı 1925'tir. Bahar, vd., (1999) kesme noktaları tekniği dikkate alınarak yapılan analizlerde, frekansı 10 ve altında olan cevap kelimeleri araştırmaya dâhil edilmediği için 7 anahtar kavram ve bu anahtar kavramlara verilen 90 cevap kelimesi araştırma kapsamında analiz edilmiştir.

50 ve üstü kesme noktasında yedi anahtar kavramdan dördünün ortaya çıktığı; anahtar kavramlar arasında dış göç ile beyin göçü arasında ilişki olduğu ve cevap kelimelerinden sadece birinin (Almanya) hem işçi göçü ile hem de dış göç ile ilişkili olduğu tespit edilmiştir. İlişkiler ağına bakıldığında, öğrencilerin bu kesme aralığında bilişsel yapıların birbirinden kopuk olduğu görülmüştür.

40-49 kesme noktasında yeni anahtar kavram ortaya çıkmamıştır. Buna karşılık bir önceki aralıkta ortaya çıkan, anahtar kavramlar arasındaki ilişkiler artmıştır. Dış göç ile beyin göçü arasında yeni bir ağ (Amerika) oluşmuştur. Bu aralıkta anahtar kavramlarla ilişkilendirilen birbirinden kopuk ve ilişkisiz yeni kavramlarda ortaya çıkmaya başlamıştır. Öğrencilerin göç türlerine yönelik bilişsel yapıları kısmen de olsa oluşmaya başlamıştır.

30-39 kesme noktasında *transit göç* ve *zorunlu göç* anahtar kavramları ortaya çıkmıştır. Anahtar kavramlar arasındaki ilişkiler değişmemiştir. Bu aralıkta ayrıca anahtar kavramlarla ilişkilendirilen birbirinden kopuk ve ilişkisiz yeni kavramlar ortaya çıkmıştır.

20-29 kesme noktasında aralığında ise *iç göç* ile *işçi göçü* anahtar kavramı; *dış göç* ile *iç göç* anahtar kavramı arasında yeni ağlar oluşmuştur. Ayrıca *işçi göç*, *zorunlu göç*, *beyin göçü* anahtar kavramları "para"; *işçi göç* ve *iç göç* anahtar kavramları "sanayi", *işçi göçü* ve *zorunlu göç* anahtar kavramları "mecburiyet"; *zorunlu göç* ve *dış göç* anahtar kavramları "mübadele"; *transit göç* ve *işçi göç* anahtar kavramları ile *Türkiye* cevap kelimeleriyle ilişkilendirilmiştir. Bu aralıkta ayrıca anahtar kavramlarla ilişkilendirilen, birbirinden kopuk ve ilişkisiz pek çok yeni kavram da ortaya çıkmıştır.

10-19 kesme noktasında *işçi göçü ve mevsimlik göç* anahtar kavramları *transit göç ve iç göç; dış göç ve işçi göçü anahtar* kavramları arasında yeni ağlar oluşmuştur. Kavram ağında en çok ilişkilendirme *zorunlu göç;* en az ilişkilendirme *transit göç* anahtar kavramı ile yapılmıştır. Ayrıca *iç göç, işçi göçü ve zorunlu göç anahtar kavramları* "ekonomi"; *iç göç ile transit göç* anahtar kavramları "göç"; *zorunlu göç ve dış göç* "mülteci" cevap kelimeleriyle ilişkilendirilmiştir. Bu kesme noktasında 7 anahtar kavramla ilişkilendirilen çok sayıda ilişkisiz yeni kavram da ortaya çıkmıştır.

4. Tartışma

Bu araştırmada göç türlerine ilişkin ortaöğretim öğrencilerin bilişsel yapıları ve kavram yanılgılarının ortaya konulması amaçlanmıştır. Bu amaç doğrultusunda öncelikle 7 anahtar kavrama ilişkin verilen cevap kelimeleri ve kelimeler arasındaki kavramsal ilişkiler incelenmiştir. 50 ve üstü kesme noktasında öğrencilerin bilişsel yapılarında ortaya çıkan anahtar kavramlar *işçi göçü, dış göç, beyin göçü, mevsimlik göç ve iç göç*tür. Bu kesme aralığında *işçi göçü* ile *dış göç* anahtar kavramları Almanya ile ilişkilendirilmiştir. Bu durumunun Ortaöğretim Coğrafya Ders Kitapları'nda *dış göç* ve *işçi göçüyle* ilgili metinlerde örnek olarak 1960 yıllarda Almanya'ya işçi statüsüyle çalışmak için yapılan göçler verilmesiyle (Bakırtaş ve Kandemir, 2010) ilişkili olduğu düşünülmektedir. Ayrıca vatandaşlarımızın bu yıllardaki Almanya yolculuğu ve oradaki hayatları Türk filmlerine uzun yıllar konu olmuştur (Koçak, 2015). Bu nedenle öğrencilerin bilişsel yapılarındaki ortaya çıkan bu sonucun ortaya çıkması doğaldır.

40-49 kesme noktasında öğrencilerin bilişsel yapılarında yeni anahtar kelimeler çıkamamasına karşın, mevcut kavramlar arasındaki ilişkilerin arttığı gözlemlenmiştir. *Dış göç* ile *beyin göçü* anahtar kavramları, hem birbirleriyle hem de "Amerika" kavramıyla ilişkilendirilmiştir. Beyin göçünde yaşanılan ülkeden gelişmişlik kriterlerini daha iyi olan ülkeyi tercih etme eğilimi söz konusudur. Öğrencilerin bilişsel yapılarında bu anlamda Amerika beyin göçünde çoğunlukla tercih edilen ilk ülke olmuştur. Pazarcık-Fidan'ın (2020) yaptığı araştırmaya göre ABD'lerindeki önde gelen 54 üniversitede toplam 145 Türk Asıllı sosyal bilimci öğretim üyesi olarak çalışmaktadır. Geçmişte de ABD en çok öğrenci gönderen ülkeler arasında Türkiye sekizinci sırada yer almaktadır (Bakırtaş ve Kandemir, 2010). Bu bağlamda öğrencilerin bilişsel yapılarındaki ilişkilendirme alanyazınla bulgularla örtüşmektedir.

30-39 kesme noktasında *transit göç* ve *zorunlu göç* anahtar kavramları ortaya çıkmıştır. Son yıllarda *transit göç* Türkiye'nin jeopolitik konumu nedeniyle maruz kaldığı bir olgudur. Ancak öğrenciler tarafından konunun yeterince bilinmemesi ve bu kategoride *transit göç* ile sadece *"araba"* kelimesinin ilişkilendirilmesi dikkat çekicidir. Bu durumun *transit göçte*, nihai ülkeye varmayı amaçlayan göçmenlerin, geçici bir süre için (para temini/transferi, belgelerin

hazırlanması gibi nedenlerle vb.) Türkiye'de kalmasıyla (Yılmaz, 2014) ilişkili olabileceği düşünülmektedir. Öğrencilerin göçmenlerle temas etme süresi arttıkça bilişsel yapılarında yeni ilişkiler kurulacağı düşünülmektedir. Ayrıca Güneş ve Çetin, (2020) ve Çetin vd., (2015) yaptıkları araştırmada da *transit göç* tespit edilen metaforlar içerisinde yer almamaktadır. Bu durum tespit edilen sonuçların alanyazını desteklediğini şeklinde yorumlanabilir.

20-29 kesme noktasında *işçi göçü ve zorunlu göç* anahtar kavramları *"mecburiyet" ile işçi göçü - zorunlu göç - beyin göçü* anahtar kavramları *"para" ile; işçi göçü* ve *iç göç* anahtar kavramları *"sanayi" ile, zorunlu göç ve dış göç* anahtar kavramları *"mübadele" ile; transit göç* ve *işçi göç* anahtar kavramları *"Türkiye"* ile ilişkilendirilmiştir. Bu aralıktaki kavram ağları incelendiğinde öğrencilerin *işçi göç - zorunlu göç; zorunlu göç - dış göç* anahtar kavramları arasındaki ilişkide tercih durumlarını (isteğe bağlı olup olmama); *işçi göç -zorunlu göç - beyin göçü* ve işçi *göçü - iç göç* arasındaki ilişkide ekonomik nedenleri (para, sanayi gibi) dikkate aldığı görülmektedir. *"Para"* göçe neden olan ekonomik nedenlerden biridir. Bu bağlamda üç anahtar kavramın *"ekonomi"* ve daha iyi yaşam şartlarıyla ilgili *"para"* kelimesiyle ilişkilendirilmesi beklenen bir sonuçtur. Ancak *zorunlu göçte* ekonomik bir kazanç sağlamadan ziyade, bireylerin istemleri dışında (çoğunlukla siyasi baskılar ve mübadele gibi) yaşadıkları yerden göç etme durumları söz konusudur (Tekin, 2011). Bu bağlamda öğrencilerin bu anahtar kavrama ilişkin kavram yanılgıları söz konusudur. Ayrıca öğrencilerin cevap kelimesi olarak verdiği "para" kelimesinin *işçi göçü* ile *beyin göçünden* farklı göstergelere işaret edebileceğini de belirtmek gerekir. *İşçi göçünde* çoğunlukla çok düşük düzeydeki gelir seviyesinden daha iyi gelir seviyesine geçmek amaçlanırken; *beyin göçünde* iyi gelir seviyesinden yüksek gelir seviyesine geçmek amaçlanmaktadır. Ancak bu duruma ilişkin 20-29 kesme noktasında açıklayıcı cevap kelimeleri yer almamaktadır. Bununla birlikte bu kategoride işçi göçü ile iç göç anahtar kavramlarıyla ilişkilendiren *"sanayi"* kelimesi, öğrencilere göre ülke içinde gerçekleştirilen *işçi göç*lerinin sanayi faaliyetlerine dayalı olduğu şeklinde yorumlanabilir. Alanyazında Türkiye'de iç göçlerde sanayi faaliyetlerin çekici faktörlerden biri olduğu belirtilmektedir (Sezer ve Şanlı, 2017; Candan, vd, 2018). Bu bağlamda bu bulgu ilgili literatürü desteklemektedir. Ayrıca bu kategoride *transit göç* ve *işçi göçü* anahtar kavramlarının "Türkiye" ile ilişkilendirilmesinde dikkat çekicidir. Öğrenciler bir üst kategoride *transit göçü* sadece arabayla ilişkilendirirken, bu kesme noktasında Türkiye'nin *işçi göç*ünde *transit bir ülke* olduğu düşüncesine sahiptir. Ayrıca bu aralıkta sadece anahtar kavramlarla ilişkilendirilen birbirinden kopuk ve ilişkisiz pek çok yeni kavram da ortaya çıkmıştır. Bu kelimeler en çok *beyin göçü* anahtar kavramına ilişkin (kayıp, Akademi, NASA, gibi) üretilmiştir. Bu durumun araştırma grubuyla ilişkili olabileceği düşünülmektedir. Alanyazında öğrencilerin göç algılarını ortaya koyan çalışmalar da benzer kavramlara rastlanılamamıştır (Çetin, vd, 2015; Sever ve Özmen, 2019).

10- 19 kesme noktasında yedi anahtar kavram arasında ilişki oluşmuştur. Kavram ağında en çok ilişkilendirme *zorunlu göç;* en az ilişkilendirme *transit göç* anahtar kavramı ile yapılmıştır. Bu durumun ortaya çıkmasında birtakım nedenlerden bahsedilebilir. Günümüzde dünyanın farklı noktalarında yaşanan sıcak çatışmalar (örneğin, sureye, Myanmar gibi) nedeniyle pek çok insan ülkelerinden siyasi otoritelerin baskısıyla zorunlu olarak göç etmiştir. Bu olayların yakın zamanda meydana gelmesi ve sosyal medyadaki haberler, öğrencilerin konuya ilişkin farkındalıklarını artırmış olabilir. *Transit göç* anahtar kavramıyla diğer göç türleri anahtar kavramları arasında zayıf ilişkiler kurulmasında ise bu göç türüne ilişkin daha önce bahsedilen nedenlerle öğrencilerin yeterli bilgiye sahip olmamasının etkili olduğu düşünülmektedir. Ayrıca bu kesme aralığında *iç göç, işçi göçü ve zorunlu göç anahtar kavramları* "ekonomi"; *iç göç ile transit göç* anahtar kavramları "göç" ile zorunlu *göç ve dış göç "mülteci"* cevap kelimeleriyle ilişkilendirilmiştir. Ekonominin temel bileşenleri arasında para ve sanayi vardır (Pohjola, 2002). Ayrıca "göç" cevap kelimesinin sadece *iç göç* ile *transit göç* anahtar kavramlarıyla ilişkilendirilmesi çarpıcıdır. Çünkü "göç" bütün anahtar kavramlarla ilişkili bir kelimedir. Benzer şekilde "mülteci" cevap kelimesinin de sadece *zorunlu göç ve dış göç* anahtar kavramlarının ilişkilendirildiği görülmektedir. Ayrıca bu kesme noktasında anahtar kavramlarla ilişkilendirilen çok sayıda ilişkisiz yeni kavram da ortaya çıkmıştır. En çok *dış göç* anahtar kavramına cevap

kelimesi (imkân, pilot, işçi göçü, eğitim, mülteci, uçak, göçmen, güçlü ülke üretilmiştir. En az *mevsimlik göç* anahtar kavramına (Çadır, Sonbahar, Çukurova, Suriyeli) cevap kelimesi üretilmiştir. Türkiye'de son yıllarda mevsimlik göç azalan bir ivme göstermektedir. Alanyazında da yapılan araştırmalarda kalkınma projelerinin Güneydoğu ve Doğu Anadolulu bölgelerindeki mevsimlik göçü azalttığı yönünde tespitler raporlanmıştır (Yakar, 2013). Ayrıca son yıllarda ülke genelinde tarımda makinelerin daha fazla kullanımı insana olan ihtiyacı azaltmıştır (Yalçın and Kara, 2016). Bu nedenlerle öğrencilerin bilişsel yapılarında Türkiye'deki göçün yönünün ağırlıklı olarak *dış göç* olduğu düşünülmektedir.

Araştırmada ikinci olarak öğrencilerin kavram yanılgılarını görmek için anahtar kelimelere verilen cevap cümleleri analiz edilmiştir. Toplam cümlelerin içinde 392'si bilimsel bilgi içeren, 873'ü yüzeysel bilgi içeren, 456'sı ise kavram yanılgısı içeren cümle tespit edilmiştir. Bu sonuçlar öğrencilerin bilişsel yapılarında göç türlerini yüzeyde düzeyde bildiğini ve karıştırdığını ortaya koymaktadır. Bu durumun ortaya çıkmasında öğretim programlarındaki eksiklerin ve göç konusunun öğretimine ilişkin yaklaşımların etkili olabileceği düşünülmektedir. Sezer ve Şanlı'nın (2017) araştırmasında öğretim programlarında(coğrafya) göç olgusunun öğretiminde güncel kavramlara ilişkin revizyon yapılmasının gerekliliğine dikkat çekmiştir. Şahin (2017) göç konusunun öğretiminde geleneksel anlayışının yerine farklı öğretim yöntem ve teknikleri dayalı uygulamaları kullanılmasını önermiştir. Bir diğer taraftan öğrencilerin en çok beyin göçü; en az transit göç anahtar kavramına ilişkin bilimsel cümle oluşturmuş olması, bilişsel yapılarında oluşan cevap kelimesi sayıları ve kavram ağı ilişkileri ile tutarlıdır. Alanyazında yapılan araştırmalarda öğrencilerin göçe ilişkin kavramları (örneğin, mülteci, göçmen, göçebe gibi) birbiri yerine kullandığı ve kavram yanılgıları yaşadığına ilişkin bulgular da saptanmıştır (Canbaba, 2018; Çetin, vd, 2015). Bu anlamda elde edilen sonuçlar bu bulguları desteklemektedir.

5. Sonuç

Araştırmanın sonucunda öğrencilerin göç türlerine ilişkin bilişsel yapılarının yeterli düzeyde gelişmemiş olduğu tespit edilmiştir. Öğrenciler göç türleri içinde en çok *beyin göçü* anahtar kavramına en az *transit göç* anahtar kavramına ilişkin kavram üretmiştir. Ayrıca öğrencilerin anahtar kavramlarla ilgili cümlelerinin ağırlıklı olarak yüzeysel bilgi içeren kategoride yer aldığı görülmüştür. Öğrencilerin bilimsel bilgi içeren cümleleri ağırlıklı olarak *beyin göçü* anahtar kavramına ilişkindir. Bilimsel bilgi içermeyen cümleleri ise ağırlıklı olarak *transit göç* anahtar kavramına ilişkindir. Bu durum öğrencilerin *beyin göçü* ve *transit göç* anahtar kavramlarına ürettiği cevap kelimelerin sayılarıyla tutarlıdır. Bu sonuçlar dikkate alındığında öğrencilerin göç türlerine ilişkin bilişsel yapılarının geliştirilmesi için birtakım öneriler sunabilir. Bunlar konunun öğretiminde kavram öğretimine daha fazla ağırlık verilmesi; öğrencilerin bilişsel ağlarının gelişmesini sağlayacak öğretim stratejilerinin (kavram haritaları, zihin haritaları gibi) öğretim sürecinde kullanılması olarak sıralanabilir. Ayrıca öğrencilerin kavram yanılgılarında kitle-iletişim araçlarının etkisinin olabileceği düşünülmektedir. Bu nedenle göç terminolojisinin basın-yayın organlarında kullanımında medya kuruluşlarının daha dikkatli olunması gerektiği düşünülmektedir.