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An Action Research Study on Teaching the Landform Concepts in a Fifth Grade Social Studies Course

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Abstract

This study aims to find out the effect of activities and practices on concept education to help carry out activities to teach these concepts more effectively and permanently, and determine student preconceptions about the concepts related to the landforms in the 5th-grade social studies curriculum in the learning subdomain called "People, Places and Environments." It was conducted as an action research study, employing a qualitative research design. The participants of the study were 16 fifth graders who were studying at a state secondary school in Bekilli District of the province of Denizli, Turkey. Mind maps, worksheet activities, models and mock-up, focus group interviews and field notes were used as the data collection tools, concept development tools, and process support tools. Collected in four class hours, the data were subjected to statement-based content analysis, and then compared with the criteria developed for the related concept and converted into findings and conclusions. The findings indicate that the student group has a partial preliminary knowledge and perception of the distinctive landforms they see around them. However, the student group's preliminary knowledge and perception of the landforms they do not observe around them is insufficient. The results obtained at the end of the instructional intervention process indicate that the student group is confused about the definitions of the bay, gulf, cape, peninsula, island, strait, and ocean. With the activities implemented after the additional action plan, the student group made progress by effectively learning the basic and sub-dimensional landforms they were confused about. The student group found it useful to carry out mind maps and application activities and achieved effective learning with models and mock-ups. Based on research result, use of sightseeing –observation techniques can be recommended to social studies teachers.

Keywords: Social Studies, Concept Teaching, Landforms, Action Research

Introduction

The modern formal education approach views the type of teaching based solely on factual knowledge as inappropriate because of its immense volume and insufficiency in meeting all learner needs by itself. Instead, it views concept teaching based on factual associations resulting from drawing parallels among similar objects, events, and processes more worthwhile to apply. The concept is an information structure that is expressed in a word, which exists in the mind of the person as a general meaning, and which is used to represent the variable points of different kinds of objects and different phenomena (Ülgen, 2004, p.107). Concepts are tools for making categorical distinctions and associating different facts. Objects, people, events with similar characteristics can be grouped into ideas and processes through concepts (Tokcan, 2015, p.7). In this respect, concepts are special tools used by the human mind in their thinking processes. In understanding and perceiving the world, an individual needs concepts for self-expression and using highly comprehensive and diverse information (Senemoğlu, 2004).

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Considering the context and environment learned, concepts can be learned through socialization in school or in a wide variety of social networks such as family, work environment, and social environment. This type of socialization-based concept learning process is simpler and more random, which consists mostly of concrete concepts. However, the concept teaching process based on school and curriculum is more difficult, because concepts can remain abstract and can consist of complex patterns. Supporting this view, Gagne divides concepts into abstract and concrete, stating that concrete concepts are perceived through sense organs, but abstract concepts cannot. Concrete concepts can be learned in informal ways from an early age, but abstract concepts require a systematic teaching process, i.e. formal education (as cited in Alkaş, 2014, p.70).

The most important tools of formal education are schools and curriculum employed in schools. The social studies curriculum was updated in 2018, placing a stronger emphasis on concept teaching, value teaching, and skill teaching. As an interdisciplinary field of study, the field of social studies primarily focuses on the social sphere and considers the facts and problems related to this sphere. Taking into account previous definitions of social studies, Öztürk (2011, p.24) made the following definition *"Social studies is a curriculum that merges the knowledge and methods obtained from the social and humanities with the aim of educating active citizens who can take decisions based on knowledge and can solve problems in the national and international conditions which are changing in every way."*

Human and human lives are the main subjects in social studies education. Understanding human and human life is only possible by understanding and knowing phenomena and the concepts, and performing relational analyses of them. This phenomena, events, concepts and generalizations are selected from various disciplines.

Concept teaching has always been viewed as crucial in social studies education, which is a multidisciplinary field and has also been highlighted in the updated 2018 national-level curriculum. This is because the social studies course should be taught based on understanding instead of direct transmission of information, and thus helping students understand, use and learn to produce new kinds of information (Bart and Demirtaş, 1997, p.10). In addition, concept teaching enables problem-solving, reasoning, distinguishing between right and wrong, simplifying learning and remembering, and increasing academic achievement (Doğanay, 2005, p.277). For these reasons, the national-level social studies program prepared in 2005 stresses concept teaching by using classifications in teaching concepts, underlines the use of various concept teaching approaches, and advises practitioners to eliminate the confusion of meanings and concepts and to prevent forming misconceptions.

In the social studies course, students are observed to have difficulties in understanding the concepts they encounter for the first time, who may confuse them and form misconceptions (Yazıcı and Samancı, 2003, p.83). Indeed, a review of the related literature reveals that Avcı (2015) investigated 6th- grade students' levels of understanding geography concepts and their misconceptions related to these concepts in a social studies lesson, and found that these concepts were not adequately learned and that the students had many misconceptions regarding these concepts. Gültekin (2016) conducted a thesis study by referring to the opinions of teachers in teaching some concepts in the fifth-grade social studies unit "*Turkey Step by Step*", and reached the conclusion that some concepts in the unit could not be taught, that these concepts were not appropriate for the age level of the students, these abstract concepts were not encountered by the students in daily life, and that teachers struggled to teach these concepts by traditional methods. In his doctoral dissertation research, Akşit (2016) first determined the background knowledge and perceptions of students about some concepts in the unit "the Journey through the Turkish History" in the seventh-grade social studies curriculum, and prepared and implemented some activities to ensure that they learned the concepts in the unit more effectively and permanently. He also observed and evaluated the effects of the prepared activities on the process of concept teaching. Subaşı (2013) examined the learning levels of the concepts in the fifth grade "Turkey Step by Step" unit in his master's thesis and completed his research by administering a 20-item multiple-choice test to 361 students in the schools of Çankaya central district of Ankara. He concluded that the concepts of reign, secularism, cultural element, chronology, place and value in the unit were not fully learned. Doğrukök (2004) selected 45 concepts for his study on the acquisition levels of 6th-grade social studies course concepts and concluded that the level of learning these geography concepts was low. Conducting a study with 6th-grade students, Yükselir (2006) compared the traditional method used in teaching concepts with the concept analysis method experimentally, reaching the conclusion that the concepts related to geography and the Earth are learned more permanently and substantially by applying the concept analysis method. Süer (2010) used the action research method in a 6th-grade social studies course to determine the degree of learning achieved regarding some geography concepts and the readiness levels of students about learning these geography concepts, by using a 20-question achievement test as the pre-test and giving a post-test at the end of the action activities process, and concluded that the targeted concepts and topics were adequately remembered. In addition, the findings demonstrated that the level of concept learning by the student group increased and that the use of multiple methods and techniques in

teaching geographical concepts led to more effective learning. To reveal any misconceptions regarding the concepts taught in the 6th grade "Life on Earth" unit, Akdağ (2010) gave a 30-question achievement test to 197 students in Eskişehir province of Turkey and found that the students had some misconceptions. He concluded that the concepts that the students had the highest number of misconceptions about Sphere versus geoid, meridian versus parallel, meridian versus equator, mathematical position versus special position, map versus sketch, and special map versus physical map. Studying the learner acquisition level of the concepts of life on earth unit in the 6th-grade social studies course, Talay (2011) selected some human and physical geography concepts in the textbook as the research subject and concluded that the course outcomes related to these abstract concepts, especially the concepts related to the physical geography subject were not adequately achieved by the students. In a study of 6th-grade students conducted by Avcı (2015) to determine the level of their understanding geographical concepts and whether they form misconceptions, it was found that the research group did not adequately understand many concepts of geography and that many students had misconceptions.

Dere and Aktaşlı (2019) conducted an action research about teaching the conceptsof production, distribution and consuption. In their research they prepared activities and aimed to reveal the effectiveness of their activities. As a result of research, they concluded that students learned the concepts of production, distribution and consuption better, and overcome misconceptions.In their study with24 middle school students, Dere and Aktaş (2020) gave lecture to students with activities they prepared before to change students conscious consumerism and increase their awereness. They determined that activities prepared as a result of their study in the form of action research, enabled students to perceive "conscious consuption"as a responsible, sustainable and thougtfulsonsuption by positively changing students' conscious consumerism perceptions and awereness.

Our review of the related literature reveals no one-on-one study that matches our research, but the concepts examined in the current study have been the subject of some other studies conducted at different grade levels. It was observed that there is some confusion and misconceptions regarding the geography subjects that are analyzed in our study, the use of traditional methods are insufficient to ensure learning retention of the geographical concepts, and diversifying the teaching process is a must. In line with the renewed curriculum and syllabi, the concept of the *unit* has now been removed from the content of social studies, instead, replaced by the *learningarea* approach. With this new design, grade-based changes were made in the course subjects. Some 6^{th}-grade subjects have been moved to 5^{th} grade. Along with this change, the fact that there has been no study dealing with a similar subject at the grade levels where "People, Places and Environments" learning area is taught reveals the originality of the present study. Therefore, with its particular focus and content, our study can be expected to help researchers working on the teaching of geography subjects in social studies by eliminating the existing gap in the field.

The starting point that attracts the researcher to the study is the following question: "*Are the concepts included in the social studies curriculum learned by the students?"* As such, the aim of this study is to prepare and implement activities for more effective and permanent learning the *"landforms and sub-concepts of landforms"* in the *"People, Places and Environments"* learning domain in the 5^{th} grade social studies program, and to observe the effects of the prepared activities on the process of concept teaching.

Derived from the main problem, the following sub-problems were aimed to be answered in the study:

1. What is the pre-knowledge and perceptions of the students about the concepts of landforms that are covered by the learning domain?
2. What activities can be prepared for the meaningful, effective and lasting teaching of the concepts of landforms covered within the scope of the study
3. How did the activities developed for the study affect or change the concept teaching process?

Method

Research Design

The action research, a qualitative research design, was used in the study. Considering the teacher responsibility of producing solutions to the practical problems of the teaching field, Yıldırım and Şimşek (2005, p.306) use the term "teacher research" for action research. Action research is a type of research that is based on classroom and in-school practice aimed at improving the quality of teaching (Johnson, 2014, p.19). Viewed as such, it is evident that action research is not only about determining a situation and problem but also about application and

process. With a holistic nature, action research has a productive nature, characterized by reflection, participation and development (Yıldırım and Şimşek, 2005, p.78). Action research improves a teacher's reflective thinking skills as well. Action research in the field of practice supports teacher professional development, offers new experiences, and helps apply theory to the field (Johnson, 2014, p.26).

In this study Practise/mutual cooperation/disscussion-oriented action research approach atype of action research has been adopted.In this approach the researcher and practitioner identify possible problems that may arise in practise and the factors that may reveal these problems and possible solitions by working together. Since this approach is aimed at improving the application it is also called practise-oriented action research.

Study Group

The study group of this study was selected by criterion sampling (Yıldırım ve Şimşek, 2005), which is a purposive sampling technique. The study group consists of 16 students studying in the 5th grade of a public secondary school in Bekilli town located in Denizli province of Turkey. Due to research ethics, the real names of the students were kept anonymous and each student was assigned a code as their pseudonym.

The characteristics of the students who constitute the study group were classified, organized and then presented. Using the e-School application data, these characteristics were categorized by parental professional and educational status and the average student scores from the previous school year were explained through subjective values indicating the level of achievement. In the tables, the pseudonyms (codes) are used for the students forming the study group. To determine the financial situation of the participants, the data obtained by the classroom counselor and school counselor were used. The table below explains the demographic characteristics of the study group.

Table 1. Demographic characteristics of the study group

F	Code Name	Gender	Paternal profession	Maternal profession	Paternal Education	Maternal Education	Revenue	Academic level of success
1	Irmak	Girl	Teacher	Teacher.	BA	BA	High	Very High
2	Taha	Boy	Security P.	Housewife	High School Degree	High School Degree	Average	High
3	Yasin	Boy	Farmer	Farmer	High School Degree	High School Degree	Very High	Average
4	İlhami	Boy	Driver	Housewife	High School Degree	Elementary School	Average	Average
5	Ela	Girl	Worker	Baby-sitter	BA	High School Degree	Low	Average
6	Ecrin	Girl	Ironmonger	Housewife	Elementary School	Elementary School	Average	Low
7	Havva	Girl	Farmer	Housewife	High School Degree	Secondary School	High	Average
8	Muham.	Boy	Employee	Baby-sitter	High School Degree	Elementary School	Low	Very High
9	Ayşegül	Girl	Medical Officer	Housewife	BA	High School Degree	Average	Average
10	Muhsin	Boy	Ironmonger	Security P.	BA	BA	Very High	High
11	Fatma	Girl	Employee	Housewife	Secondary School	Elementary School	Average	Average

12	Asunur	Girl	Tradesman	Housewife	High School Degree	High School Degree	Very High	Average
13	Nisa	Girl	Shepherd	Housewife	Elementary School	Elementary School	Very Low	High
14	Ramazan	Boy	Tradesman	Housewife	High School Degree	Elementary School	High	Average
15	Mustafa	Boy	Worker	Housewife	High School Degree	Elementary School	Low	Very High
16	Öykü	Girl	Teacher.	Accountant	BA	BA	High	Average

As the subject of the study is landforms, the characteristics of the particular geographical area where the study group lives are also important. These can be described as follows:

Bekilli town is administratively a part of the province of Denizli. The town is located in the north of Denizli. It is 86 kilometers away from Denizli city center and is located 83 km from the neighboring province of Uşak (an administrative center) in the north. Bekilli's neighboring border from the north is the town of Karahallı, a part of Uşak, bordered by Çal town of Denizli in the south, Ulubey town of Uşak in the west, and Çivril town of Denizli in the east.

The land area of Bekilli is 247 km², with an altitude of 850 meters. Its Gömce neighborhood has the highest altitude. The town is surrounded by hills: the Asar (Hisar) Hill (957 m.) in the south direction, Aslankara Hill in the north, Hocalı Hill (932 m.) in the west, Uzunçalı and Zıntı Hill in the east (894 m.), and Tatar Hill (908 m.) in the southwest.

The central and rural parts of Bekilli are characterized by hilly terrain. The land that can be considered as flatland is the "Medele Plain" located in the neighborhoods of Çokaşlı, Yeşiloba and Kutlubey which lie in the west and northwest of the town center. The Büyük Menderes River runs 5 km south of the district, which is home to some projects of power generation and agricultural irrigation that offer no benefits for Bekilli. Because the valley where the river flows is too deep and steep, personal opportunities for irrigation are rather limited as well.

Data Collection

In this study, various techniques and methods were used under the main headings of pre-implementation data collection tools, data collection tools used during the implementation and data collection tools that support the process. The mind map was used to determine the learning status of the participants in the pre-implementation and post-implementation stages, worksheets and extracurricular activities were used to teach the targeted concepts, and field notes and focus group interviews were used to support the data collection process. In the first hour of the class, each student prepared a mind map so that their existing knowledge and perceptions of the landform concepts could be revealed, during the second hour of class concept acquisition activities and worksheets were used, and during the third hour of the class, to determine the final status of student learning, a mind map regarding the concepts of landforms was prepared again, the gaps in learning were determined and additional activities were implemented in line with the additional action plan. To increase the quality of the data collected, descriptive field notes were taken throughout the process, and focus group meetings were held at the end. The data collection phase of the study was carried out by the researchers themselves.

Data Analysis

Data analysis can be defined as the process of exporting the data obtained by various data collection tools. During the data analysis phase of this research, the data analysis methods proposed by Wolcott (1994) were followed, the authenticity of the data was preserved, the data were subjected to systematic analysis, and the experience gained by the researcher in the process was reflected in the study.

The main data collection tool of this study is the mind maps created on the concepts of landforms. The analysis of these mind maps was performed as follows:

1. All mind map forms related to landform concepts were read at once.
2. All the words that students use in their mind maps were transferred verbatim to the related tables.
3. The frequency of the words that the students expressed was determined.
4. Based on the definitions of landform concepts and the concept analysis proposed by Martorella (Doğanay, 2005, p.277- 278) and the 5th grade Social Studies textbook, a set of criteria was developed for the concept and the secondary dimensions created from students' statements associated with the concept were also added to these criteria.
5. The words expressed by the students were classified as "related" or "unrelated" according to the criteria.
6. The codes and themes, as implied by the words expressed by the participants were obtained.
7. Based on the codes and themes a common mind map was created for the holistic and visual presentation of the data. The valid student statements were indicated on the criterion map with a frequency value.
8. In the final stage, the students' mind maps were described, compared and interpreted in light of the criteria.
9. The worksheets were analyzed by scoring them, and the field notes and focus group interviews were reflected in the findings as they were.

Implementation Process

In this action research study, the data on the concepts of landforms were collected in a week during four class hours. Additionally, it was supported by focus group interviews at the end of the data collection process. The action research cycle proposed by Johnson (2014, p.20) was followed in conducting the study.

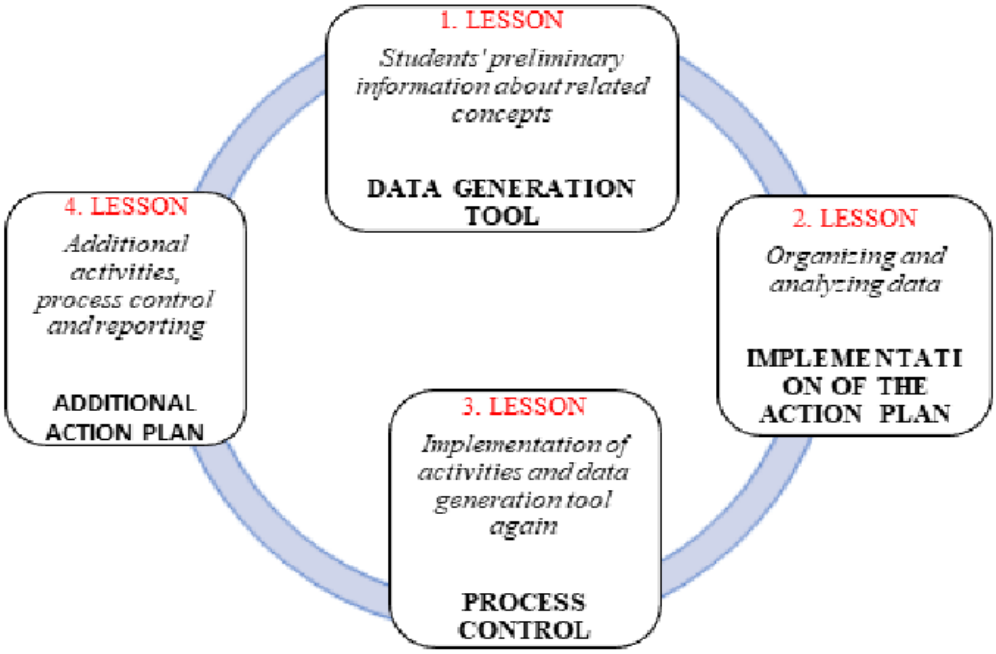

Figure 1. Research cycle proposed by Johnson (2014, p.20)

During the research phase of the study, in the first lesson of the week, the researcher conducted mind map work on the concepts of landforms to reveal the background knowledge and perceptions of the participants about the relevant concept. Following the determination of the background knowledge and perceptions, the concept teaching was carried out with various methods and techniques according to the action plan prepared in the second and third hours, and reinforcement was given by using additional activities and worksheets. In the second half of the third hour, the final assessment of the participants' learning status of the concepts of

landforms was carried out. The same mind mapping tool used in the first assessment was used for the final assessment as well. After the final results were analyzed, if the learning was at a lower level and limited, the additional action plan was used and the additional activities were implemented during the fourth-course hour in the same week. During the research process, field notes were kept during every practice hour, and after the completion of the process, focus group interviews were conducted on the last day of the week during the recesses and lunchbreaks for general evaluation purposes.

According to the action plan created to teach the landform concepts, the steps were taken as described in the table below.

Table 2. Implementation process of the Landform Concepts

	Asessment of the Current Status (1st Hour)	Action Activities and Final Assessment (2nd and 3rd Hours)	Additional Action Plan (Lesson 4)
WEEK 2 (Landforms)	1.Determination of the existing status 2. Review of the 1st week subject 3. Introduction to landforms	1.Teaching the subject of *landforms* 2. Teaching the "Different Landforms" activity 3. Determinationj of the final status	1. Teaching to eliminate any learning gaps. 2. Construction of 3D landforms material
	4. Field notes	5. Field notes	5. Field notes 6. Focus group interviews

A benchmark mind map for the concepts of landforms was developed by the researcher to be able to rigorously analyze the data obtained from the preliminary and final assessments. Martorella's (1998, as cited in Doğanay, 2005, p.278) "*Concept Analysis Strategy*" was used to develop the benchmark mind map. The mind map developed as a benchmark for the concepts of landforms is given below. Initial and final assessment findings were reached by taking into account the above criteria.

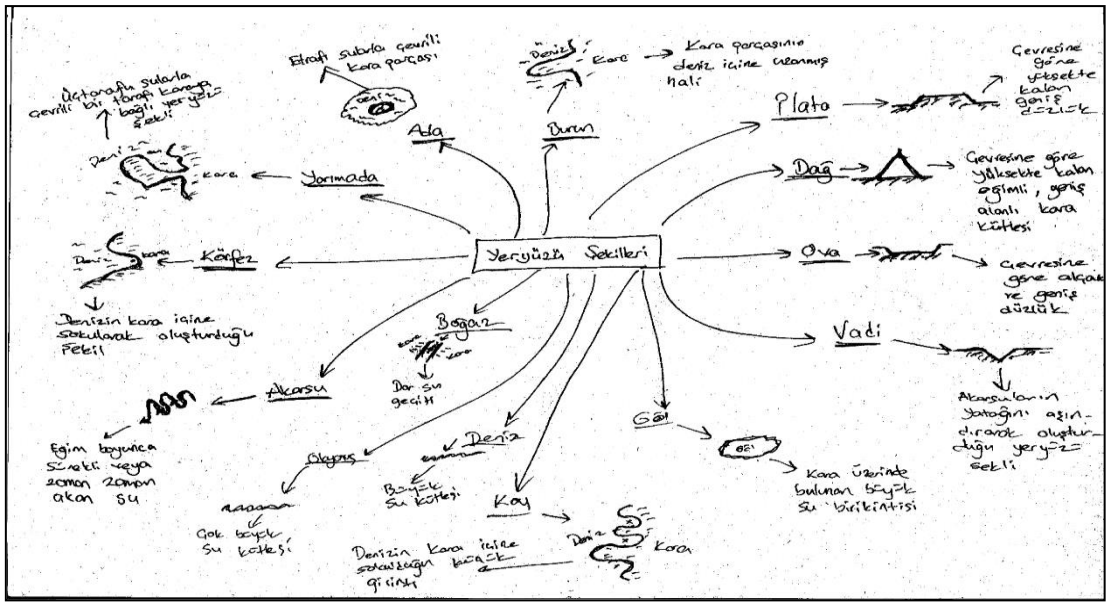

Figure 2. A benchmark mind map for the landform concepts

Results and Discussion

In determining the preliminary knowledge and perceptions of the student group about the landform concepts, 10 students related to the mountain concept, 6 students related to the plain concept, 4 students related to the river concept, 4 students related to the sea concept, 3 students related to the plateau concept, 3 students, 2 students related to the concept of the valley, 1 student related to the concept of ocean left a statement, made a visual

drawing and brought a short definition. No expression was found in the first case determination regarding the concepts of gulf, peninsula, cape, and island, strait, bay. It was understood that the students were familiar with the concepts of island, peninsula, but did not evaluate these concepts in the earth category, so they did not leave an expression to these concepts in the first case study. It is understood from the interviews that the bay, headland, strait and bay concepts are not known as a geographical term. In the first case determination, it is understood from the field notes, focus group interviews and the mind map, which is the tool of data production, that the students do not have information in a structured format about the landforms. In accordance with the action plan for the concepts of landforms, "different landforms" activity was applied and the results of the activity were analyzed after the subject transfer with the support of plain expression and smartboard applications.

Accordingly, 14 students made correct pairings for the island, lowland, ocean and river concepts in the activity based on matching the titles and visual drawings of the landforms with the definitions; 13 students made correct matches for the lake concept, and 12 students made correct matches for the mountain and plateau concepts.
In the second part of the event, 16 students made correct matches for the sea concept, 13 students for the valley concept, 13 students for the peninsula concept, 8 students for the promontory concept, 6 students for the strait concept, and 5 students for the bay and inlet concepts. The student code-named Ela confused the island and lake concepts both in visual drawing and definition, which can be attributed to haste and carelessness because the researcher's field notes indicate that Ela was the first to complete the activity and hand it over. The student code-named Taha confused the visual drawing and short description of the concepts of plateau and mountain. However, he was able to distinguish these two concepts from each other in the focus group interview. Examining the activity paper he submitted, the reason for his confusion about these two concepts appears to be more of haste than lack of learning. The student code-named Ayşegül confused the concepts of lowland and plateau, the concepts of mountain and hill, and the concepts of lake and island. The expression of "wide flatland" under the concepts of plain and plateau, the expression of "mound" under the definition of mountain-hill concepts, the similarity of the images of the lake and island drawings, and the carelessness of the student are seen as the main reasons for making wrong matches. The student code-named Fatma code incorrectly matched the concepts of the mountain - plateau, river - ocean, and plain-lake.

Similar expressions found in the definitions of the concepts, the lack of adequate guidance and the fact that this student was easily distracted can be viewed as the reasons for this failure. The student codenamed Nisa confused the mountain - plateau concepts and river - ocean concepts. The reason is thought to stem from the similarity of definitions and the effect of the inability to concentrate on the subject.

While the concepts of sea, valley and peninsula were learned at a sufficient level in the second part of the activity, the promontory and the bay were confused by the majority of the group. The mind map form was used again and analyzed for final assessment after the activities related to the concepts of landforms were completed. According to the final assessment, 13 students provided a statement on the mind map, made a drawing, and gave a short definition for the mountain concept, 13 students for the plain concept, 10 students for the sea concept, 9 students for the plateau concept, 8 students for the lake concept, 7 for the river concept, 6 students for the valley concept, 2 students for the ocean, promontory, and gulf concepts, and 1 student for the bay, island, and peninsula concepts. Considering the final assessment, it was observed that students made progress in all concepts compared to the initial assessment. However, according to the results of the implemented activity, fewer expressions were found for the concepts in the final assessment of learning than provided for the initial assessment. According to the focus group interview conducted to find out the cause of this problem, the students knew the concepts of landforms but could not express them because they were not guided in the mind map. However, there are instructions, shapes and definitions in the activity. Since the students were asked only to make matches, the number of correct statements was higher than the final assessment. The final assessment showed that the concepts of river, valley, ocean, promontory, gulf, bay, island, and peninsula were inadequately learned, which made the researchers implement an additional action plan to improve learning on these concepts.
Comparison of the initial (10) and final (13) assessments revealed that the mountain was the earth formation that the student group provided the highest number of expressions in both activities. The concept with the highest number of student statements in the final assessment (13) compared to the initial assessment (4) is plain. The strait emerged as the landform that was mentioned in neither assessment. As the potential reasons for this, it might be argued that the teacher was incapable of making this concept more tangible and that the student group had difficulty in creating a scheme related to the concept of strait since they had not encountered this land formation in their immediate environment. In addition, the reason why very few expressions were provided for the concepts of the bay, gulf, peninsula, promontory, island, and the ocean could be because they are very similar landforms whose definitions and images make distinguishing them difficult, and these are not part of students' daily lives.

The analysis of the initial and final assessments of learning revealed that all the students submitted at least one statement in the initial assessment and that the student who submitted the highest number of statements was Ela (5). The student who submitted the lowest number of expression was Asunur (1). Irmak (8), Havva (8), and Muhsin (8) were the students who submitted the largest number of statements in the final assessment. It is noteworthy that Havva was one of the most articulate students who provided the highest number of statements in the final assessment. Havva was made sure to get engaged in the lesson while this concept was being taught, in-class work was performed to increase the level of readiness, and thus Havva's concept learning skill was enhanced. Ela (5) who submitted the highest number of statements in the initial assessment, submitted the same number of statements in the final assessment, which shows that Ela did not have a meaningful learning experience through the activities implemented. In addition, Asunur (1), Ayşegül (1), Nisa (1) were the students who provided the lowest number of expression in the final assessment. Surprisingly, Nisa and Ayşegül submitted a fewer number of expressions than they did for the initial assessment. Students were asked about this during the focus group interviews. Nisa said that she did not like nor understood the social studies lesson, and Ayşegül said that she was careless, had family problems, could not pull herself together and she asked the researcher for help during another assessment work.

According to the action plan, an additional action plan was introduced during the fourth-course hour. Three-dimensional landforms included in the additional action plan were studied with the student group. Accordingly, the student group was aimed to see all the landforms in a holistic and interrelated way, some mortar was prepared by blending straw and mud with the participation of all students, a 3-D model containing the landforms was made under the guidance of the teacher on a suitable platform, and after the mud (the main material of the model) was dry, the landforms were painted appropriately.

The presentation of the subject was repeated with the interaction of the student group on the model that emerged as a result of the activity. As can be inferred from the field notes, the student group worked as a team while performing this activity, did a division of work, and learned by having fun. The focus group interviews with the students about the activity showed that they were happy with their work, that they were proud to produce an original educational material that they were satisfied to contribute to their own learning with their own product. The students' statements during the focus group interviews made it clear that thanks to this activity, they were able to learn the concepts of promontory, bay, peninsula, island, and strait. Considering the geographical context in which the research was carried out, these landforms were among the concepts that the student group had never encountered before. The students interacted with landforms such as mountains, plains, plateaus, streams, and valleys and they were made aware of their interactions through the examples provided by the teacher. After explanations were made when needed, the associations with daily life were made, and the principle of teaching by going from the immediate environment to the distant environment was applied, a significant improvement in learning was demonstrated by all the students in the group and the subject became clear for all of them. Therefore, utmost attention should be paid to the principle of "moving from the closer towards the farther away" in the teaching of geography subjects in the secondary school social studies course. Using the prompts in the immediate environment is the key point in following this principle. In addition, when applying the principle of closer-to-farther, abundant examples should be given, and due attention should be paid to make sure these examples are directly from students' life.

Fifth graders need teacher support and guidance in making sense of the concepts, information and shapes they encounter for the first time and creating new diagrams. A maximum effort needs to be spent on embodying the topics to be learned as much as possible, to add information from daily life, to show concepts three dimensionally. In addition, the ability to distinguish between similar concepts seems to have not sufficiently developed for student groups at this age level since almost all students had problems with these distinctions. In the course of the research, particular attention was paid to the observations reflected in the field notes as stated above. The researcher made a point of updating personal knowledge of the context and subject in each step of the study and making progress by drawing lessons from previous practices.

Conclusion

As regards the landform concepts, the student group had knowledge about the concepts of mountains, plains and streams, as indicated by the initial assessment. Since these landforms were the type they could observe directly around them, it was normal for them to have such preliminary knowledge. However, they had very little knowledge of the concepts of plateau, lake, sea, valley, and ocean. They had no knowledge of the concepts of

gulf, peninsula, promontory, island, strait, and bay, which could be attributed to the fact that they do not come across any of these landforms in the geographical location they live in.

When the student group's recent knowledge and perceptions of landforms considered, it can be said that they made progress in the concepts of mountains, plains, sea, plateau, lake, stream and valley and that the "Various Landforms" action activity worked in teaching these sub-dimensions. In addition, the landforms these students learned best were those that they frequently encountered in their daily lives, which may have helped them enhance their learning. On the other hand, they were not able to make adequate progress in the concepts of promontory, bay, island, and peninsula, and they also confused the visuals and definitions of these concepts. The action activity did not adequately serve the learning of these sub-dimensions. Another reason that may have played a role in this could be that these landforms are too rare for students to encounter in the geographical area they live in. Talay (2011) found that the subjects of physical geography were not adequately understood by the students and that they differed in their acquisition of these concepts. Avcı (2015) also concluded that middle school students confuse the concepts related to geography. While the action activity in the relevant area of our research worked to teach the concepts that were observable in the immediate environment of the group, it failed to teach the concepts that were not around them and remained abstract to the students, leading to conceptual confusion. This may indicate that there is a need for embodiment, abundant sampling, models and materials in the teaching of landforms. This was taken into account in the additional action activities.

The additional activity of "3-D Landforms Material Construction" was carried out to teach all of the aforementioned concepts, especially those that turned out to be challenging for the students, in an effort to ensure holistic learning. The activity was based on making Earth shapes as models from some mortar prepared with soil, straw and water. After the practice, the student group corrected their learning about the Earth formations, about which they experienced a conceptual confusion, and had the opportunity to reinforce what they had already known accurately. In their studies Avşar (2010), Meydan (2001), Çelik (2018) highlighted the importance of using materials in teaching concepts specific to social studies and concluded that they contribute positively to learning, which is a conclusion that supports the findings of the current study. Beyond simply using the given materials, the students participating in the study prepared their own materials as well. The additional activity can, therefore, be considered more effective in teaching landform concepts and in correcting misconceptions regarding landforms.

It was observed that the students in the study group had the utmost pleasure in producing new things and doing the activities where they reached new knowledge through their own observations and experiences. In particular, the additional action activities were based on this type of practice, and the experimental and observational practices were the practices that the student group acquired new learning and addressed their knowledge gaps best. During the research, active learning practices that went beyond the traditional approach made a great contribution to the overall progress of the group. Furthermore, the student group needed plenty of examples, connections to their lives, and achieved meaningful learning to the extent they were able to meet these needs. This is in line with the learning outcomes that the constructivist learning approach aims to achieve as well.

Recommendations

While the students learned the landforms that were visible in their own environment more easily through the worksheets; they had difficulty in learning the landforms that did not exist in the environment they live in, with which they had no personal experiences. Regarding the landforms in the content of the learning domain, practitioners are recommended to teach these concepts by following the principle of "teach from closer-to-farther," presenting plenty of examples, using tangible instructional materials, making students prepare their own course materials, and using a 3-D model.

It was also found that the students who had participated in field trip activities were more successful and responded with a higher number of statements these concepts in their initial and final mind maps. In their study with primary school teacher candidates, Akkuş and Meydan (2013) found that if teacher candidates used field trips in their teaching, student interest in the lesson would increase. Çiftçi and Dikmenli (2016), in their study with geography teachers, found that extracurricular activities increase the retention of learned knowledge. Therefore, using excursions, field trips, and other observation activities are highly recommended in teaching and reinforcing landform concepts.

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