

Full Length Research Paper

Field trip to Kazdagi National Park: Views of prospective Biology teachers

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The purpose of the study was to investigate the views of the prospective biology teachers about the field trip to Kazdagi National Park. Participants were 12 prospective Biology teachers studying in Necatibey Faculty of Education in Balıkesir University, Turkey. A semi-structured interview form was used as a data collection instrument. Data were analyzed by descriptive and content analyses techniques. The study results revealed that the students' views and expectations about the aims of the field trip were to a large extent fulfilled. The students were most impressed by Sarıkız Hill, the Legend of Sarıkız, and by being able to see the Kazdagi fir. They were able to learn in practice what they had learned in theory in the course, such as in Systematic Botany and Biogeography. They suggested that the students should be given preliminary information about plants, endemic plants and what was observed in Kazdagi, and the field trips should be well-planned.

Key words: Environmental awareness, field trip, Kazdagi, Kazdagi National Park, prospective Biology teachers.

INTRODUCTION

Protected area is "a clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008). Natural parks are protected areas (Borrini-Feyerabend et al., 2013; Dudley, 2008).

Kazdagi National Park in Turkey, an area of 20.936 hectares, was proclaimed a national park on April 17, 1994. The Park is within the boundaries of the province of Çanakkale, lying to the north of the Gulf of Edremit. Known also as Mount Ida, Kazdagi was named in mythology as "Idaea of a thousand springs" because of its spring waters and cascades. Kazdagi area is an

important social and cultural region. Mythological, the area is identified with Sarıkız Hill and the legend of Sarıkız. Besides the endemic plants, the Kazdagi fir - *Abies nordmanniana* subsp. *equi-trojana*-, the area is endowed with a rich covering of flora. There are approximately 800 plant taxa in the area of Kazdagi along with endemic plant taxa, of which the major component is the Kazdagi fir (Kaz Dağları National Park). There were 78 endemic plant taxa in Kazdagi, 30 of which were unique to the national park, and that for this reason, the entire region was an important area of plant (Satıl et al., 2006). 22 lungwort species are also found in Kazdagi National Park (Gökler and Özenoğlu, 1999). Although the lower levels of Kazdagi are dominated by 600-700 m. red

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pinus, there are chestnuts, beech, durmast oak, Hungarian oak, mountain alder and sycamores. The region is considerably rich with labdanum, erica, blackberries, ivy, as well as medicinal plants such as thyme, sage, and sumac. The upper levels (up to 1400 meters) are flush with black pine, beech and firs (Kazdagi National Park; Kaz Dağları National Park). However, among the main factors adversely affecting the plant diversity in Kazdagi National Park has been the damage to the natural environment produced by visitors to the Sarıkız Hill Festival, fires, air pollution and the building of villas in the area (Satıl, 2009). As part of the efforts to increase environmental awareness (Arı and Soykan, 2009; Oğurlu et al., 2010) and encourage a positive relationship with nature, school teachers can organize a variety of outdoor activities like field trips, hiking trips, and camps, as well as social activities for students in their science classes or related courses (Palmberg and Kuru, 2000).

There are three types of field trips: An informal survey of a neighborhood, a more formal scavenger hunt and a virtual field trip using Google Earth (Krakowka, 2012). Field trips can be made to a natural history museum, a science center, a zoo, aquarium, observatory, cultural/history museum, art museum, city, state or national park, or to similar venues (Anderson and Zhang, 2003; Davidson et al., 2010; Kisiel, 2000). Kisiel (2005) stated that field trips provide eight types of motivation to science teachers. They are to connect with the classroom curriculum, to provide a general learning experience, to encourage lifelong learning, to enhance interest and motivation, to provide exposure to new experiences, to provide a change in setting or routine, to provide enjoyment, and to meet expectations about school. Kiesel reports that making a connection with the classroom curriculum is the most important one. Field trips provide prospective teachers with the opportunity to make a connection between the knowledge they learn in their classes with what they see and observe in a natural environment. Field trips are important for undergraduate experiential learning (Krakowka, 2012; Weeden et al., 2011). In the study of Faria and Chagas (2012), the teachers mainly preferred guided visits to an aquarium. In another study (Güler, 2009) 6 out of 24 teachers participating in ecology-based environmental training had contributed to their knowledge in that they had learned about endemic species, trees and plants. Four of the participants stated that this trip had taught them how a class on the environment could be held. Some participants said that they would use the information to share practical experiences in nature with their students, inspired to conduct field trips with students over the weekends to give them the opportunity to learn about nature. Munday (2008) concluded that 60 teachers found the field trips in geography education at ages 7-10 in Australia difficult to plan, but possible to overcome by

working with other teachers. Hung et al. (2010) used a Personal Digital Assistant (PDA) integrated ecology observation worksheet and PDA is used mobile device in education recently. Hung et al. (2012) used a concept-map integrated dynamic assessment system for ecology observation. Palmberg and Kuru (2000) showed that 11-12 year olds students who participated in outdoor activities in Finland had strong and empathic relationship with nature and better social behavior than the group who had not. Demir (2007) stated that 23% of the prospective classroom teachers had never participated in an observational field trip.

A review of the literature fails to reveal any study reported in Turkey of a field trip to Kazdagi with prospective biology teachers. We think therefore the findings of the present study will contribute to the literature.

Purpose of the study

The purpose of the study was to define the views of fourth grade prospective Biology teachers studying in Necatibey Faculty of Education in Balıkesir University, Turkey about the field trip organized through Kazdagi National Park as part of their Biogeography course. Four research questions guided this study:

1. What are the prospective Biology teachers' views on the aims and expectations of the field trip in Kazdagi National Park?
2. What are the prospective Biology teachers' observations of the field trip in Kazdagi National Park?
3. What are the prospective biology teachers' realization levels of their expectations about the field trip in Kazdagi National Park?
4. What are the prospective Biology teachers' suggestions about the field trip in Kazdagi National Park?

METHODOLOGY

As this study is descriptive in nature, qualitative methodology was used to address the research questions (Yıldırım and Şimşek, 2006). The descriptive and content analysis techniques were used in the data analysis. This study is based on sound methodology. Sound methodology suggests an ideal match to a scientific question that never quite exists in empirical science. For all that the phrase implies, it should be replaced with something much more accurate, like "appropriate" or "persuasive" methodology. Granted, it does not connote the same trust and confidence as the word "sound," although it may describe the process more accurately and honestly" (Davis, 2010).

Participants

A one-day field trip to Kazdagi National Park was organized with 30 fourth and 30 fifth grade prospective Biology teachers at the end of the spring term of the 2010-2011 academic years. Participants were

selected by using convenience sampling method in the study (Büyüköztürk et al., 2011). Participants were 12 volunteers from the group of 30 fourth grade prospective Biology teachers who were taking Biogeography course at Necatibey Faculty of Education, Balıkesir University Turkey during the 2011-2012 academic years.

Prospective Biology teachers in the study had taken General Biology I-II and General Biology Laboratory in the first year, Systematic Botany I-II, Systematic Botany Laboratory as well as Plant Anatomy and Plant Anatomy Laboratory in second year. Furthermore, they had also been offered elective classes such as Environmental Sciences, Environmental Education, and Vegetation of Turkey. In these courses, the students learn the general characteristics of plants, their internal and external structures, and the classification of plants, plant taxonomy and similar knowledge. Besides the knowledge that is offered to the students about the environment, they also learn about environmental protection, sustainability, attitudes and awareness about the environment and many other related topics.

The prospective Biology teachers take Biogeography for 2 h a week in the spring semester of fourth year. The subjects treated in Biogeography class are the following: the definition of biogeography, its history, floristic plant geography, regions and their geographic distribution, endemism and endemic regions, endemism in Turkey, the evolution of plants in the geological ages, the classification of the world's floristic regions, plant geography in Turkey, groups of land plants, grassland, steppe, savannah, forest groups (Balıkesir University Information Package/Course Catalogue).

In this current study, a field trip was organized through Kazdagi National Park for the students in fourth year in the Department of Secondary Science and Mathematics Education (Biology Education) in Necatibey Faculty of Education in Balıkesir University. The trip was important in that it provided an opportunity for the students to combine their theoretical knowledge and the observations they had made on the trip organized to Uludağ National Park in their second year with their observations in Kazdagi National Park. The objectives of the field trip to Kazdagi National Park were: to observe the diversity and types of plants at Kazdagi National Park; see plants in their natural environment; observe the plant layers at Kazdagi National Park, the way they are spread, understand their ecological characteristics, particularly with respect to endemic plants of Kazdagi; to observe the Kazdagi fir, learn the meaning of a national park, and learn about the social and cultural features of this park. Another goal of the field trip was to make a connection between the subjects taught in class, particularly in Biogeography and Systematic Botany, and what was observed on the trip. Other aims were to increase students' positive attitudes toward nature and environmental awareness. These kinds of field trips are social activities that are a combination of travel, entertainment, stress release and doing something together with the students.

Plants are introduced to students in class with images, photographs or by demonstration of particular plants. However, it is necessary that students see plants in their natural environment, get acquainted with them, and make a connection between what they see in class and what they observe in the natural environment. It is because of this that it is useful to organize different activities as part of the course curriculum. It was within this framework that the prospective teachers would be observing the plant layers in Kazdagi area, studying their ecology and the way they are spread out over the land, at the same time observing the plant diversity and the national park.

Data collection

After the field trip to Kazdagi National Park, semi-structured inter-

views were held with 12 volunteer prospective teachers. A semi-structured interview form was used in the interviews (Yıldırım and Şimşek, 2006; Büyüköztürk et al., 2013). A pilot study was conducted with 3 prospective biology teachers taking Biogeography course. The scope of the questions in the interview form was tested with a pilot study to determine the number of questions to be included in the interview form and their comprehensibility. After the needed revisions were made, the interview form took the final version including five open-ended questions. A mathematics educator in the education faculty validated the interview form. Interviews were conducted on a volunteer basis and were held face-to-face. The interviews were completed in approximately 10-15 min and were recorded on a voice recorder.

Data analysis

For an analysis of the interviews, the students' voice recordings were first numbered from 1-12 and a transcription was made of each. Very little of the analysis of the questions in the study was conducted on the basis of predetermined themes and sub-themes (Güler, 2009). The themes and sub-themes for each question in the study were derived from the responses the students gave to the questions in the interview. The responses given by the students for each question were first gathered into a list and from these themes and sub-themes were then picked out. The themes and sub-themes corresponding to each question that were derived from the students' responses were checked and re-checked and needed corrections were made. In other words, coding was repeated many times by the author at intervals. This provided intra-rater reliability. Frequencies were calculated for each sub-theme and tables were set up for each question. If only one person had expressed a statement or concept with respect to a sub-theme, this was not included in the table but sometimes the view of that person was inserted into the text. In order to check the reliability of the findings, the coding of the two faculty members was scored and consistency was found to be 90%.

Although there were 12 interviewees, sometimes students responded with more than one statement in answer to a question. These were gathered under different sub-themes. For this reason, in some questions, frequencies for all themes in a table sometimes exceed 12. The students were encoded in the text with a letter abbreviation for "Student" and a number, e.g., S5. Interesting parts of the students' narratives were included in the text. These were expressed as exact quotes and attributed to the student using the student's coded number. Example: "... " (S5).

RESULTS

"Student' expectations from the field trip to Kazdağı"

The answers given by the students when they were asked about the aims of the field trip in Kazdagi were grouped under two themes: Fulfilling the purposes of the course and seeing the endemic plants of Kazdagi (Table 1).

As can be seen from Table 1, the students had very different responses as to the purpose of the field trip.

The first theme "*fulfilling the purposes of the course*" was characterized by the following student responses:

Seeing the plant layers we learned about in our Biogeography class; examining the areas where these plants

Table 1. Themes and sub-themes related to the aim of the field trip to Kazdagi.

Theme	Sub-theme	f
Fulfilling the purposes of the course	Seeing the plants and plant layers taught in Biogeography.	3
	Seeing the subjects and plants taught in Systematic Botany.	2
	Seeing the flora and vegetation of Kazdagi.	2
Seeing the endemic plants of Kazdagi	Seeing the endemic plants of Kazdagi.	5
	The Kazdagi fir (<i>Abies</i>).	2

were spread out ... (S1)

To see the subjects we learned in our Systematic Botany courses first-hand, to better understand the subjects ... (S6)

The trip was done to recognize the vegetation of Kazdagi. Since I knew Kazdagi had rich vegetation, we went to see this richness. (S5)

The students said particularly that the field trip was organized for them to see the plant vegetation that they had learned about in Biogeography classes and for them to see the vegetation of Kazdagi first-hand in its own environment. In addition, some of the students expressed the thought that the trip aimed to let them recall what they had learned in Systematic Botany courses they had taken before and to see the plants first-hand in their natural environment.

The responses of the students centering on the second theme of "*seeing the endemic plants of Kazdagi*" are found below:

Seeing the endemic plants. The Kazdagi fir ... (S10)

... We went to see the types of endemic plants peculiar to Kazdagi. The fir tree, first of all ... (S8)

Moreover, with regard to the aims of the field trip, one student (S9) mentioned another aim was to take a trip and have fun; S2 said "to see the national park and find out what national parks were for"; S4 mentioned one of the aims of the trip was to see Mt. Kazdagi; S3 stated that the aim was to learn about the history of Kazdagi and find out about the legend of Sarıkız. S9 also highlighted plant blindness stating it could be to raise awareness about plants.

To sum up, their aims in participating in the trip are mostly seeing the plant vegetation learned about in Biogeography, seeing the plants and observing first-hand the subjects studied in Systematic Botany, getting acquainted with the plant vegetation of Kazdagi, seeing the endemic plants of Kazdagi, and the Kazdagi fir. Also, a few students said that their objectives were to raise

awareness about plants, see the national park, learn about the history of Kazdagi, take a trip and have fun.

Students' expectations from the field trip to Kazdagi

The answers the students gave when they were asked about their expectations from the trip to Kazdagi were grouped under five themes. These were: Seeing the endemic plants; having fun and learning; seeing plants in their natural environment; seeing the mountains; extraordinary expectations (Table 2).

According to Table 2, the students had different expectations about the trip. The responses of the students centering on the first theme of "*seeing the endemic plants*" are found below:

... We knew there were many endemic plants in Kazdagi Mountains. We wanted to see these ... (S7)

... We had seen the endemic species in slides before, but we were curious to see them in real life. (S8)

One student (S11) said that because they had seen big pictures of the endemic plants prior to the trip, the expectation was that these plants would be also even bigger and more attractive in real life. Although the student said that all the endemic plants would be found together in the same area, he made the point the endemic plants were found in different places.

It was seen that these students had the expectation of seeing endemic plants on the trip.

The students' views on the second theme of "*having fun and learning*" are found below:

S7 said that one of the aims of the trip was to have fun. S2 said that the trip would be like the scope of the course, but it would be a little bit more entertaining. S2 also mentioned the teacher had made them walk a lot.

The responses of the students centering on the third theme of "*seeing plants in their natural environment*" are found below:

Table 2. Themes and sub-themes related to the expectations from the field trip to Kazdagi.

Theme	Sub-theme	f
Seeing the endemic plants	Seeing the endemic plants./Seeing the firs (Abies).	4
Having fun and learning	Having fun./Learning while having fun.	4
Seeing plants in their natural environment	Seeing firs (Abies), black pine (Pinus nigra) and etc. in their natural environment./Thinking about which plants we would see in Kazdagi./Thinking ahead of seeing those plants in daily life.	3
Seeing the mountains	Seeing the mountains rather than the plants./Seeing the height and green of Kazdagi.	3
Extraordinary expectations	Expecting to see striking colors and extraordinary things related to Sarıkız.	2

... I was wondering whether we'd see these in real life, but I couldn't really identify any of them while I was expecting to be able to identify some of them. (S10)

.... We saw a lot of pictures of plants in Biogeography, Systematic Botany and in Plant Anatomy ... to see the fir, black pine, etc. in their natural environment. (S6)

The students said that they saw many plants in their lessons but wondered which ones they would see in the natural environment of Kazdagi.

The responses of the students centering on the fourth theme of "seeing the mountains" are found below:

This was the first time I went up to the mountains. I was wondering about it. It was very high up. To go up the mountain, to see it ... (S4)

It was seen that the students' expectations had mostly to do with seeing the Kazdagi Mountains.

One of the students' views on the fifth theme of "extraordinary expectations" is given below:

I thought I had bigger expectations before I went on the field trip. We had to go a long way to go up to Sarıkız in Kazdagi. I was expecting more striking colors there, more extraordinary things at Sarıkız ... We didn't really see too many plant species there. Maybe it was because of the season. I had thought we would see different things with every step we took. (S9)

We can see here before the trip to Kazdagi, the student was expecting to see a lot of things but those expectations were not met.

To summarize, it was noted that the students expected mostly the trip to be fun, to learn while they were having fun, to see the endemic plants, especially the firs on the trip, and they were hoping to see the firs, black pines, etc. in their natural environment.

Students' observations of the field trip to Kazdagi

When the students were asked to describe the trip and what they had seen in Kazdagi related to their courses, their responses fell under four themes: Making connection with courses; endemic plants; Sarıkız Hill; forest layers (Table 3).

A review of Table 3 shows the students remembered different things about what they saw on the trip. Also, there were also differences in the way the students making connection between the trip and their courses.

The first theme of "making connection with courses" was treated in some students view as:

We took Systematic Botany in the second year. We reviewed pines and spruces [in the field trip]. Examples of the flora and fauna we learned last year were shown to us ... (S4)

Teachers made connection with Biogeography and so we did too. Kazdagi is mentioned in Biogeography courses ... (S7)

Biogeography courses were more about history ... To tell the truth, this field trip didn't have much to do with Biogeography. We formed a connection with Systematic Botany and Plant Physiology. I made connection with Plant Morphology. (S5)

On the other hand, 2 students said that they could not make the connection between the courses and the trip. S3 said that looking at the environment was not helpful in forming the connection between the courses and the trip. S12 said that a lot had been learned about endemic plants, particularly in Botany class. The student said that this trip would have been more useful if it had been carried out when the knowledge was still fresh in the mind. We were not able to learn anything much when the trip was taken this year instead of last.

Ultimately, 10 students stated that they could make the

Table 3. Themes and sub-themes related to the observations of the field trip to Kazdagi

Theme	Sub-theme	f
Making connection with courses	Plant samples were shown in Systematic Botany.	1
	We saw Mt. Kazdagi and the endemic plants mentioned in Biogeography.	1
	Connection was made with the field trip and Plant Physiology, Plant Morphology, Plant Anatomy, and General Biology.	6
Endemic plants	We saw endemic plants, the Kazdagi fir (Abies).	6
Sarıköz Hill	We went to Sarıköz Hill. We listened to the Legend of Sarıköz.	5
Forest layers	We saw the plants in the structure of a forest in the Kazdagi Mountains. There were fruit trees in the lower layers, then fir (Abies), red pine (Pinus brutia), black pine (Pinus nigra), etc. Then there were Juniperus, and later, herbaceous plants.	3
	After the plant vegetation on the slopes, we went up to the second level and saw how the layers of forest vegetation were distributed. We then walked to the Alpine meadows.	2

connection between the trip and what they had learned in courses, especially Systematic Botany and Biogeography.

The responses of the students centering on the second theme of “endemic plants” are found below:

We saw endemic plants. We walked to look for the Kazdagi fir; we walked for kilometers. It appeared there were many other kinds of endemic plants of Kazdagi. We saw those too. (S10)

The students said that they had seen the endemic plants on the trip, and particularly the Kazdagi fir.

S3 made the following comment that fell into the third theme of “Sarıköz Hill”:

We first stood at the start of the mountain range. We saw the endemic plants. When we climbed the mountain, I saw a vast piece of land. It didn't look very meaningful to me. However, when the teacher related to us the Legend of Sarıköz, it did become meaningful ... (S3)

The student thus stated that after hearing the Legend of Sarıköz, the area of Sarıköz Hill became more meaningful.

Below are views of the some students on the fourth theme of “forest layers”:

Mt. Kazdagi range is an area of forest so we saw trees, firs, red pine, black and the rest. As the bus neared the summit, we learned which plants grew at which altitude. (S6)

We started at the slope firstly. The teacher spoke to us about plant vegetation on the slopes. He told us about the plants there, their Latin names and characteristics ... Later, we climbed to the second level and he showed us

the distribution of the trees in forest vegetation ... After that, we climbed to the top, the Alpines. We visited the tomb of Sarıköz ... We walked for some time in the Alpine meadows. (S2)

In summary, it can be seen that many students were unable to provide details of the trip and could make a limited description. Some students remembered the endemic plants, the firs and Sarıköz Hill.

Also, when the students were asked during the interviews what stuck in their minds the most, they responded by mentioning Sarıköz Hill and the Legend of Sarıköz (6 students), the Kazdagi fir (2 students), the fact that the trip was enjoyable and they ate and had fun (2 students).

When I hear Sarıköz Hill or Kazdagi, that's the place I remember. I was very impressed. Going up there, I felt as if I were in a very different place. Not just anywhere in Turkey, but in a secret place somewhere in the world. I saw some plants never seen before; there were many unfamiliar plants growing in between the rocks. That place, the path going up, the little road, the road leading to Sarıköz. (S7)

Following these responses were also statements about how they noticed Kazdagi itself, the climate at Kazdagi and it was a protected area (2 students), the tall trees (1 student), about learning (1 student), and getting the opportunity to see Akçay (1 student). On the other hand, it was only S9 who said that he had not seen anything very striking on the trip:

... I didn't find anything very striking. Sarıköz is interested from a mythological perspective. It was a nice place. It

Table 4. Themes and sub-themes related to the realization levels of students' expectations from the field trip to Kazdagi.

Theme	Sub-theme	f
Courses	Seeing plants related to Systematic Botany.	4
	Seeing plants related to Biogeography.	3
	Making connection among the field trip and Plant Morphology, Plant Anatomy and Evolution.	3
Kazdagi national park	Seeing national park./Seeing a place would not be seen in the future.	4
Endemic plants	Seeing the endemic plants of Kazdagi.	2
Natural environment	Seeing plants in their natural environment.	2
Having fun and learning	Having fun and learning something.	2

was pleasant to do something together. But was that the Kazdagi National Park, I'm not sure ... (S9)

In terms of negative comments, the students complained the most about having to walk for kilometers (6 students). Following in the negative comment category were complaints about lack of toilet (1 student), fear of ticks (1 student), and how boring the bus ride was (1 student).

... We went up to a certain point in the forest, we arrived somewhere. They said this was the last stop. We walked a lot. We had already seen the Kazdagi firs. We saw them again at this point and then we went back. We trekked up all that way for nothing. (S7)

Realization levels of the students' expectations from the field trip to Kazdagi

When the students were asked their realization levels about their expectations and what they had got out of the trip, the responses of the students were categorized under five themes: Courses; Kazdagi National Park; endemic plants; natural environment; having fun and learning (Table 4).

It can be seen in Table 4 that the realization levels of the students' expectations from the trip were at different levels.

The first theme of "courses" centered on the following examples of the student views:

... I made connection among the courses of Systematic Botany, Plant Morphology and Plant Anatomy. We had learned to classify how to identify different types of pine in Systematic Botany. We had learned about yellow pine, black pine and so on. I thought I could easily tell the difference between the types of pines. (S5).

On the other hand, 1 student (S11) said he had made connection on the trip with Systematic courses, but he

thought it would have been better if the trip had been organized in previous years. S1 said that seeing what was taught in Biogeography on site ensured permanent learning and that she had formed a connection with the course on Evolution. S8 said that the trip had been organized within the scope of the Biogeography course, but that the trip served to make a connection with not only Biogeography but with the other courses too because all of the courses were connected with each other.

In brief, the students expressed their expectations had been fulfilled on the trip because they were able to make the connection between the courses of Systematic Botany, Biogeography, Plant Morphology, Plant Anatomy, and Evolution.

The responses of the students centering on the second theme of "Kazdagi National Park" are found below:

We've been living in Balıkesir for five years. We've been hearing about the Kazdagi Mountains. If we'd gone without seeing the area, it would have been a shame. It's an important park. We saw a lot of plant species ... (S8)

It can be seen that these students were very happy to have the opportunity to go to the natural park. Also, S8 stressed that the concept of plant blindness was remediated during the trip through the park.

Below are some student views on the third theme of "endemic plants of Kazdagi".

... In the courses, they told us that there were several endemic plants of Kazdagi. We saw them in the natural park ... (S4)

It can be seen that these students realized their expectations about seeing Kazdagi National Park and the plants there, observing the endemic plants of Kazdagi and also seeing the sights. In addition, S6 and S7 said that it had been very enjoyable to both take the trip and to learn something from it. S5 highlighted the contribution to

Table 5. Themes and sub-themes related to the suggestions made concerning the field trip to Kazdagi.

Theme	Sub-theme	f
Teacher	Students should be given preliminary information about plants, endemic plants and what was observed in Kazdagi.	4
	Field trips should be well-planned or be organized in parallel to the courses.	3
Student	Students should search information about Mt. Kazdagi and endemic plants.	2

teaching profession:

... I saw an area I would never see again. Since it was a scientific site, I thought it would contribute to my career. I could organize a field trip for my students to a place like this. I saw what I had to do as a teacher. I saw how a plant could be introduced ... (S5)

On the other hand, S12 said that the trip was good but that there were too many participants and because there was only one teacher who could differentiate the plants, students were distracted when the teacher was explaining the topics. S9 explained that the trip made only a medium level of contribution to her knowledge by saying:

... If we went out on a trip like this again I would take a photograph of everything. It was our fault if we could not make sense of it in other courses. Teachers explained them to us but it didn't settle in my mind. (S9)

All in all, some students said that they had gone on the trip without expecting very much but that it had gone much better than they thought. One of the students said that although it was a pleasant trip, there were some problems, while another said that it would have been much better if they had taken photographs of the trip.

Only one student (S10) said that trip contributed nothing to the courses and it would have been better if the trip had been taken in the years before. This student emphasized the following:

... This was more of a touristic tour ... The plants weren't like the pictures we saw in the books, like the dried flowers in herbarium ... This trip should have been organized before, when we were taking Systematic Botany, it should have been when we were taking Anatomy. (S10)

In short, it can be said the realization levels of the students' expectations were high. It was emphasized that the trip contributed more to the courses such as Systematic Botany and Biogeography. The students were happier to have seen the national park, and plants in their natural environments or the place that will not be seen in the future.

Students' suggestions regarding the Field Trip to Kazdagi

When the students were asked about their suggestions concerning the trip to Kazdagi, only one student said he was happy with the trip while the others submitted various suggestions. The students' suggestions were grouped under two themes: Teacher; student (Table 5).

Thoughts of the student (S8) who was satisfied with the trip:

... As we were studying Biology, we went to see these. It was hard walking from there. We walked, looked around, and came back. It was good for me. It could like it was today. I'm satisfied with it. (S8)

As can be seen in Table 5, the students made various suggestions about the field trip.

In the first theme of "teacher," the views of the students are about the way the teachers organized the trip.

... There could be some written information to give to the students at first-something about what we're going to do here, what we're going to see ... (S7)

... We should have been given more information before which plants we would see, which ones were endemic, and about the plants of Kazdagi ... (S10)

This trip should have been organized before, when we were taking Systematic Botany and Plant Anatomy. I thought it should be taken at the same time as the course [Systematic Botany] ... (S10)

Ours was a little poorly planned. Whatever we saw, we stopped to look ... (S2)

S12 also said that there should have been a brochure in their hands about the trip and the brochure should have contained information about the plants, which family they belong to, their types, etc. S9' offer was related that the students should be asked for carrying out preliminary research:

The students can be asked to do some research beforehand. It could have a list. Everybody could look and took notes on it. It could also have pictures of

important ones ... It could be in the form of field trip observation underneath the pictures. I did not remember anything much about the trip ... (S9)

One student (S9) suggested that the students brought pens and paper along with them on the trip. One student (S1) offered this idea: The field trip should be organized for only the fourth grade students who were taking Biography indicating:

I did not really think two groups [fourth and fifth graders] should go together. If they were in the fourth year, they should go as a fourth year class. The students in the fourth year knew the topics, the others did not. The teacher explained everything twice. You lose time ... (S1)

General speaking, the students suggested that the teachers should give preliminary information about plants and endemic plants of Kazdagi, the field trip should be well-planned, the students also carry out preliminary information, it should be organized in the year the course is taken and encompass only a single class.

Some student views on the second theme "*students*" were the following:

If you looked these things up before, without the teacher, and you were curious, the field trip becomes more meaningful. (S3)

Moreover, one student (S9) suggested that the students wear appropriate clothing to ward off thorns.

To summarize, the students' suggestions about the trip were that students should be given preliminary information, the field trip itself should be well-planned, should research about the trip to Kazdagi beforehand.

DISCUSSION AND CONCLUSION

This article has provided an overview of the views of the prospective Biology teachers on the field trip that was organized to Kazdagi National Park as part of Biogeography course. The findings from the study have been summarized below, and some recommendations have been offered in this context.

The aims of the students to participate to the trip were mostly to see the plant vegetation learnt in Biogeography, and to see the plants, and the endemic plants of Kazdagi, especially the Kazdagi fir. Few students also aimed to travel around, have fun, see the national park, learn about the history of Kazdagi, and raise awareness about plant. The students' expectations from the trip were mostly to see the endemic plants, especially the Kazdagi firs, to have fun or learn while having fun, to see plants in their natural environment, and to see the mountains. In short, the field trip organized for the prospective Biology

teachers fulfilled its goals and expectations. Similar to the present study results, Güler (2009) indicated that some teachers' goals were having fun in the ecology-based environmental training.

Seeing and getting acquainted with a national park first-hand was a useful experience for students (Ari and Soykan, 2009; Kisiel, 2005). It was observed that some students provided detailed information about the forest layers in Kazdagi, the endemic plants of Kazdagi on the trip, the national park, and the plants in their natural environment. It would be useful to give a brochure or field trip observation form to students beforehand (Hung et al., 2010; Hung et al., 2012). Thus, they could fill at least some parts of the form during the trip. This could make students remember and learn what they observe in nature and what they learnt in courses. On the other hand, almost all of the students were observed to make connection between the trip and their courses, particularly with Systematic Botany and Biogeography (Kisiel, 2005; Krakowka, 2012; Weeden et al., 2011). Many of the students were most impressed by Sarıkız Hill, the fact that the trip was fun and by the Kazdagi firs, although they were not happy with having to walk long distances. As a result, it was seen that the students' thoughts about the purpose of the trip and their expectations were to a large extent fulfilled by what they saw on the trip and by the realization of their expectations. In the study by Güler (2009), it was seen that some teachers had contributed to their knowledge in that they had learned about endemic species, trees and plants. In the present study there were also some students who professed actually enjoying learning something from the trip and having fun at the same time.

It was striking to observe that one student put an emphasis on plant awareness and the trip made the student more attentive to and selective in his perception of plants. One of the most interesting findings was that one participant believed that the participant could organize such a trip for her students in the future and she had learned how to teach the students about plants. The finding in the present study that the students were inspired to organize a similar trip when they would become teachers was consistent with the findings of Güler (2009). Similar outcomes have been described in Palmberg and Kuru (2000). Their study results were the role that outdoor activities like field trips, hiking and camps can play when biology teachers organize them should be emphasized to prospective teachers and teachers in order to increase students' environmental awareness and positive attitude towards nature (Güler, 2009; Keleş et al., 2010). Science teachers can use field trip technique in their courses with some purposes such as to connect with the classroom curriculum, to encourage lifelong learning, to enhance interest and motivation, to provide exposure to new experiences, and to have fun (Kisiel, 2005).

In conclusion, the prospective Biology teachers had an opportunity with this trip to see first-hand and get acquainted with what they had learned about the nature of a national park. Therefore, field trips provide experiential learning to curriculum. The students were able to learn in practice what they had learned in theory in their coursework and most of them made the point that the trip had contributed to their Biogeography and Systematic Botany courses. The field trip served to enhance the students' environmental awareness. Social activities such as trips also gave the students the opportunity to be entertained while having fun, letting off stress and doing things together.

Finally, almost all of the participants made various suggestions about the field trip. The most striking of the suggestions given by the participants were preliminary information prior to the field trip should be given, field trip should be well-planned for a course curriculum by teachers (Munday, 2008), there should be delivered a brochure to students about the trip, it should have contained information about the plants which family they belong to, their types, and etc. For this reason, there is a need for more systematically organized field trips. The students should perhaps be more informed and coached orally about the trip prior to starting off. This information could be given to the students in the form of a brochure/field trip-observation sheet. In fact, students could be asked to do some preliminary research and fill out a field trip-observation sheet before starting off. It would also be useful to bring along informative books and reading materials on the trip, to take notes during the trip, collect plant samples, and take photographs. Discussing what was seen on the trip immediately following the event will help to retain what was learned.

Although there are various observation forms for field trip on the internet, there was not come across any study suggesting well-organized field trip-observation form in the literature except of some research such as Hung et al. (2010) and Hung et al. (2012).

Here it is proposed a well-organized field trip-observation form to be used in this kind of field tips. A field trip-observation form for the Kazdagi trip could be drawn up in a variety of ways. The field trip-observation form could be filled out before, during or after the trip. This form could be used before, during or after the trip. If the form is to be used before the trip, it should contain parts to be filled out by students after they do some preliminary research. For example, some information about Kazdagi could be given, along with the names and/or photographs of the plants growing there, with boxes besides this information. The students can be asked to mark the boxes with an X to indicate which of the mentioned items they actually observed during the trip. The students can also be asked to add to the form interesting and different plants from what is described on the form. On the other hand, the form can also consist of

only open-ended questions. The form can be drawn up on a piece of A4 paper or folded like a brochure, printed on both sides. The form should not be too long so the students do not feel bored reading it; it should be no longer than 2 or 3 pages. It is important that observations notes are jotted down immediately. Otherwise, forgetting and a lack of retention or a distorted interpretation may ensue as a result of poor memory recall. To make the field trip more effective, the emphasis should be on the theoretical and practical aspects of whichever course is forming the basis of the trip. Students might be asked to summarize their observations in the form later on. For example, in the case of the Kazdagi field trip, more emphasis can be placed on the Biogeography courses and the other relevant courses. Lastly, it would be useful to have the students fill out the forms before the end of the trip if possible and they might be asked to bring them with them to class the next time.

The next class should be centered on the field trip-observation forms that the students brought with them; this will make the knowledge gained more permanent. A general assessment of the field trip and a self-evaluation can be made. Lastly, it should be noted that when a field trip is conducted in a national park such as Kazdagi National Park, the participants should be warn to walk through the park without causing damage to the environment (Satil, 2009).

Since no studies have been encountered about prospective biology teachers in Turkey going on a field trip to Kazdagi, this research will add to the literature. For future studies field trips can be held in other national parks in Turkey too (Oğurlu et al., 2010; Yaşar and Şeremet, 2008). On the other hand, since only the semi-structured interview technique was used in this study and it was a limitation of the study, a case study for field trips can be conducted using several techniques such as surveys, interviews, student work, drawings, photographs of land, or observations during camps for future studies (Davidson et al., 2009; Palmberg and Kuru, 2000). In addition to interview technique, courses that are conducive to the organization of field trips such as Biogeography and Systematic Botany could benefit from asking students to participate in a survey before and after the field trip.

Conflict of Interests

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