



A Study of the Writing Strategies of Renowned Conservationists: Implications for Place-Based Education in Turkey

Ünlü Doğa Korumacıların Yazım Stratejileri Üzerine Bir Çalışma: Türkiye’de Yöre Odaklı Eğitim için Değerlendirmeler

Ufuk ÖZDAĞ* , Jennie Farber LANE**

ABSTRACT: In today’s world, many young people are disconnected from the natural world. One way to promote constructive engagements with nature has been for learning to take place in local environments, including school grounds, neighborhoods, and community parks. This process, often called place-based education, utilizes many field study techniques including nature journaling. Keeping a journal helps students observe their local environments more in-depth by identifying relationships among living and non-living things and building an appreciation about and for one’s “place.” Providing students with models and guidelines can help them keep a meaningful and useful journal. To identify some best practices for keeping a journal, this study compared writing strategies employed by famous conservationists from the recent history of two different countries. While the writings of Aldo Leopold—the conservationist from the United States—have been used for many years to promote a “Land Ethic,” Hikmet Birand’s work—the conservationist from Turkey—has yet to be used to its full potential for environmental education. Through a content analysis, a framework of five writing themes was created to showcase the attributes and writing intentions of these scientists. The article concludes with recommendations for using the framework to help promote place-based nature journaling into the Turkish national curriculum.

Keywords: place-based education, nature journaling, writing strategies

ÖZET: Günümüzde gençlerin büyük bir bölümü doğal dünyadan bağları kopuk olarak yaşamaktadır. Doğa ile olumlu bağlantılar geliştirmenin bir yolu öğrenmenin okul bahçeleri, yakın semtler ve halka ait parklar gibi yöreye ait doğal alanlarda gerçekleşmesidir. Çoğu zaman yöre odaklı eğitim olarak tanımlanan bu süreç, doğa günlüğü tutmayı da içeren çeşitli arazi çalışması tekniklerinden faydalanır. Doğa günlüğü tutma öğrencilere, yaşadıkları yöreye ait alanları daha derinine inceleyebilmeyi, canlı ve cansız unsurlar arasındaki ilişkileri tespit edebilmeyi ve yaşadıkları yörenin değerine dair farkındalık geliştirmeyi sağlar. Öğrencilere sunulacak yazım modelleri ve yönlendirici bilgiler onların daha anlamlı ve faydalı günlükler tutmalarına yardımcı olacaktır. Bu çalışma, doğa günlüğü tutmanın en etkili uygulamalarını tespit etmek için iki ayrı ülkenin yakın tarihinde ünlü doğa korumacıların yazım stratejilerini kıyaslamıştır. Amerika Birleşik Devletleri’nden doğa korumacı Aldo Leopold’un yazıları kavramlaştırdığı “Toprak Etiği”ni teşvik etmek için uzun zamandır kullanılırken, ülkemizden doğa korumacı Hikmet Birand’ın yazılarının çevre eğitiminde kullanılması benzer potansiyeli ortaya çıkaracaktır. Gerçekleştirilen içerik analizi ile, söz konusu bilim insanlarının öznitelik ve yazım amaçlarını ortaya koyan beş yazım temalı bir çerçeve yaratılmıştır. Makale, Türk milli müfredatında yöre odaklı doğa günlüğü kullanımını teşvik edebilecek bu yapının kullanılmasına yönelik tavsiyelerle sona ermektedir.

Anahtar sözcükler: yöre odaklı eğitim, doğa günlüğü tutma, yazım stratejileri

Perhaps the most serious obstacle impeding the evolution of a land ethic is the fact that our educational and economic system is headed away from, rather than toward, an intense consciousness of land.

—Leopold, 1970, p. 261

1. INTRODUCTION

The evolution of human interactions with the environment follows a similar pattern in many countries and cultures around the world. After a period of exploitation, preservation, conservation, and citizen action follows (Hays, 1959; Udall, 1991). Influential leaders in the environmental movement are often responsible for catalyzing efforts to protect natural resources

* Doç. Dr., Hacettepe Üniversitesi, Edebiyat Fakültesi, Ankara-Türkiye, e-posta: ozdag@hacettepe.edu.tr

** Yrd. Doç. Dr., Bilkent Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara-Türkiye, e-posta: jennie.lane@bilkent.edu.tr

(Gottlieb, 2005; Miller, 2001; Shabecoff, 2003). One such leader, Aldo Leopold, has influenced the environmental movement and environmental education in the United States and around the world. It is through his writings that Leopold introduced his concept of a Land Ethic. His words and how he communicated them have inspired people around the world to appreciate their connections to the land, their sense of place. Educators have incorporated his essays into learning activities that help students explore nature and to apply ecological concepts. As students become more familiar with their local environments, they learn to care and protect the land that is shared by many.

Other countries have had influential conservationists who have written about their natural resources. From Turkey's recent history, botanist Hikmet Birand, has published numerous essays about the land. His words embody the writing attributes and intentions of an environmental leader and, like Leopold's works, can be used to support environmental education.

Turkey, as with all countries around the world, has its share of environmental problems. The causes and effects of these problems are researched and reported by many governmental and non-governmental agencies (e.g., Turkish Ministry of Environment and Forestry, 2007). These reports include recommendations and plans for addressing the issues, including education:

[T]here is a strong connection between sustainable development and education. While the environmental awareness and sustainable consumption approach of the future generations is ensured by courses to be added to the curriculum; realizing sustainable production and consumption will be accelerated by supporting the young generation who will be the actors of the professional life in the near future through formal and non-formal education programs. (Ministry of Development, 2012, p. 2)

Researchers in several studies have surveyed children and adults in Turkey to assess aspects of their environmental literacy. While many studies found that there is a concern for the environment, they also found limited involvement in the environment or for the environment (Kasapoğlu & Turan, 2008; Tuncer, et al., 2004; Erdogan, Marcinkowski & Ok, 2009). To date, very few studies investigate strategies to reconnect students with their local environment. This does not imply that there have not been efforts to increase environmental and outdoor education in Turkey. The Scientific and Technological Research Council of Turkey [TÜBİTAK] has funded many ecology-based nature education projects. The Turkish Ministry of National Education and the TEMA Foundation have jointly created outdoor ecological literacy programs to train teachers in environmental education (see <http://www.tema.org.tr>). However, it is unclear to what extent the writings of environmental leaders in Turkey are incorporated into these programs to enhance place attachment.

While the field study techniques of some outdoor camps for children utilize nature journaling for environmental education in Turkey, the journaling activities are almost exclusively designed for exploration and reflection on local lands. Teachers may utilize the works of famous writers in Turkish Language and Literature classes, but there are no reports of classroom use of nature writing texts. The researchers' intention in authoring this paper is to start a conversation about the need for and benefits of nature journaling through utilizing renowned nature writers' essays in many subject areas found in the Turkish curriculum. The skills and strategies used in this practice can support and enrich students' observation and reflections, and improve their connections to local environments.

1.1. Aldo Leopold, the Land Ethic, and Leopold Education Project (LEP)

Aldo Leopold (1887-1948) was a professor at the University of Wisconsin, Madison in the early 1900's; he proposed and taught a concept called the Land Ethic which stressed the fact that people are a part of the environment and not apart from it. The concept of the Land Ethic was explored and presented within Leopold's famous work, *A Sand County Almanac*, which was published posthumously in 1949 (Leopold, 1968). Through nature writing—a genre that has

gained recognition and appreciation for its emphasis on “place” or one’s local environments (e.g., Fritzell, 1990; Buell 1995)—Leopold celebrated wildlife and wilderness and also critiqued exploitation of the natural environments. Having lived through two world wars, communicated with foreign colleagues, and traveled overseas himself (in 1935), Leopold was keenly aware of international issues and concerns. Many of his writings refer to conservation on a global scale. He recognized, however, that broad, universal generalities were inconsequential unless related to the local and personal. He was able to use his powers of description to foster an appreciation of how intimate ecological communities are nested within larger landscapes and ecosystems—and within longer histories. By writing about the local and immediate, he was able to promote broader understanding of global realities and global connections (C. Meine, personal communication, August 11, 2014).

Did Leopold envision how his works would influence environmental education? It was clear he had views of the purpose of education. Within an enlarged edition of this publication, Leopold questioned the role of education in relation to environmental management:

The question is, does the educated citizen know he is only a cog in an ecological mechanism? That if he will work with that mechanism his mental wealth and his material wealth can expand indefinitely? But that if he refuses to work with it, it will ultimately grind him to dust? If education does not teach us these things, then what is education for? (Leopold, 1970, p. 210)

Universities around the world have indeed been influenced by Leopold’s works, in particular by *A Sand County Almanac*, one of the foundational texts for conservation education. They have used his essays to explore human interactions with and dispositions toward the environment (see <http://sath.asu.edu/syllabi> which includes a list of university courses focusing on Leopold’s Land Ethic; also Irvine, 2014). Leopold’s writings benefit student learning at the elementary and secondary level as well (Laubach, 2013). In Wisconsin, Aldo Leopold’s Land Ethic and writings are integral to the Leopold Education Project (LEP). LEP is a non-profit educational organization that created a curriculum to help teachers use readings from *A Sand County Almanac* to integrate environmental concepts into school subject areas (see www.aldoleopold.org/Programs/lep.shtml).

The Land Ethic concept that LEP is utilizing is based on four key insights: (1) humans are co-members of the ecological community; (2) we ought to love and respect the land; (3) an ethical relation to the land cannot exist without an ecological conscience; and (4) an act is right as it tends to preserve the integrity, stability, and beauty of the biotic community; it is wrong as it tends otherwise (Leopold, 1970, pp. 237-264). The essays in *A Sand County Almanac*, used with various guided teaching tools for the outdoors (see <http://www.aldoleopold.org/AldoLeopold/teachingtools.shtml>), are intended to provide the students with a Land Ethic that comprises all the key insights listed above.

1.2. Aldo Leopold and Hikmet Birand

The career of the pioneering Turkish conservationist, botanist, nature writer, educationist, and environmental historian, Hikmet Birand (1904-1972) reveals a number of similarities to Aldo Leopold. Both traveled extensively across the landscapes of their respective countries; Leopold in the southwest and Midwest of the United States and Birand across the Anatolian landscapes of Turkey. Each produced science-based lyrical works intended to raise environmental awareness in readers in their countries. Both writers were eloquent advocates of wilderness preservation in their respected lands on which they lived. Known as the founder of “plant sociology” in Turkey, Birand helped found Turkey’s first herbarium in 1933 (with his German colleague, famed botanist Kurt Krause) around the time when Leopold played a key role in the development of the Arboretum that was founded in 1934 (see http://biology-science.en.ankara.edu.tr/?page_id=125). Birand’s interest in the restoration of Karapinar area (a place known for its collective effort for

land restoration close to the city of Konya in the South) is another topic that brings him in connection with Leopold; earlier Leopold had helped facilitate the restoration of the Coon Valley in Wisconsin in the 1930s. Birand (1945) wrote his “Land” [Toprak] essay around the time Leopold wrote “The Land Ethic.” In “Toprak,” Birand upholds man’s responsibility towards the land along with his ideas on what soil is, ultimately combining ethics with ecology (p. 2401-2404). Much like Leopold’s growing fame with his *Almanac*, today Birand is largely known for his *Anadolu Manzaraları* [Anatolian Landscapes] (1957) in which he is merging arts and sciences. Birand’s essays, in the 40s, and 50’s, on diverse landscapes of Anatolia, particularly the steppes of Central Anatolia, with references to the destruction of forests in local areas and other degraded landscapes, reveal the early stages of modern environmental consciousness in Turkey (for Birand’s “Bibliography,” see Gür, 2010).

There are limitations to this comparison as the two conservationists write in different languages and come from different cultures. Nevertheless, the various resemblances of Leopold’s and Birand’s careers, the way they valued the natural world, as well as the significance they placed upon authorship (on the necessity to write about the local lands) formed the initial impetus for this research. By analyzing the attributes and writing intentions of these conservation authors, this paper aims to identify strategies that can be used to promote place-based nature journaling.

1.3. Place-Based Education

In addition to Leopold’s conception of the Land Ethic, the process of how he formed this idea is important for education. In particular, his recognition that through observation and journaling one gains an understanding and appreciation of one’s environment. This process fits especially well with the currently popular educational strategy of place-based education. Place-based education utilizes local communities as a learning resource for education, in particular to foster one’s sense of place. A goal is to create an appreciation for the natural environments leading to responsible environmental behavior. Place-based education diverges from classroom-based learning in that it is rooted in the students’ local environment—its environmental history, flora, fauna, ecology, and other aspects (Sobel, 2004).

Smith (2007) emphasizes that place-based educational experiences strive to foster “a sense of affiliation with the places where they live” (p. 192). Knapp (2005) presents interconnections between Leopold’s writings and “pedagogy” of place. He identifies ten themes or “ways of knowing nature” in children’s local environment (or place) and explains how the writings of Leopold exemplify these themes. These ways consist of wondering and questioning, knowing local history, observing seasonal changes, listening intently, counting and measuring, empathizing with and personifying nature, connecting elements in cycles, finding beauty, seeking solitude for reflection, and improving land health (p. 281-283).

One program that uses place-based education is the Leopold Education Project. Their educational CD, *Exploring the Outdoors with Aldo Leopold: An Outdoor Activities Guide for Educators* (2009), contains hands-on activities that help children gain a greater understanding of the natural world. The activities take place in students’ local environments, such as the school grounds, a park, or their backyards. Each activity in the CD is based on an essay from *A Sand County Almanac*. In one activity, students read the essay, “Draba,” in which Leopold draws attention to tiny spring flowers. This reading supports students’ exploring and appreciating the local plants. The reading of the “Home Range” essay, where Leopold describes what he learned by watching animals in their home environment, helps students explore habitats where local animals look for food, water, and shelter. The “Cheat Takes Over” essay leads students to explore the differences between local native plant species and invasive plants, and learn to remove the invasive plants. Several activities suggest students record observations in a journal; however, the process of *how to* nature journal is limited within the guide.

1.4. Nature Journaling and Place-Based Education

A number of educators and researchers have examined and promoted student writing and reflection to promote awareness, develop metacognitive skills, and foster critical thinking. Dirnberger, McCullagh, & Howick (2005) provide journaling strategies and explain how the technique can help teachers examine students' misconceptions, constructive thinking, and naturalistic multiple intelligences. Balogopal & Wallace (2009) propose guided writing activities for students to promote ecological thinking skills. Within the advent of new technologies, researchers such as Arnold (2011) share strategies for online journaling through social networks and blogs. While the modes and methods may differ, the common component of these approaches is the use of observation and reflective writing to gain a greater appreciation and understanding of one's place.

A variety of educational studies have examined and endorsed the use of reflective writing for student learning (Balogopal, Wallace, & Dahlberg, 2012; Hammond, 2002). This support of nature journaling is apparent in the burgeoning scholarly interest in the field of literature and environment, which has led to publications for the writing classes in various grade levels for environmental education (Levy & Hallowell, 1994; Slovic & Dixon, 1994; Ross, 1995). To further justify the use of journaling as part of schooling, educational periodicals are providing teachers with strategies to monitor student learning (e.g., Moutoux, 2002).

While journaling has been shown to help students understand science content, the importance of the affective benefits of recording experiences with nature through writing and drawing remains a key justification for keeping a journal (Cormell & Ivey, 2012; McMillan & Wilhelm, 2007). Strategies for and the benefits of nature journaling have been investigated by a number of educators and researchers. Leslie and Roth's (2000) *Keeping a Nature Journal* provides a colorful and instructive guide for starting a journal. The authors emphasize that simple sketches and descriptive writing helps learners connect with nature. They also listed skills and knowledge supported through nature journaling, including observation, creative writing and drawing, reflection, and self-expression.

In gaining an appreciation for nature through journaling, another benefit is acquiring a keener "sense of place." Thus, nature journaling is often connected with place-based education (Knapp, 2005; Warkentin, 2011; Wirsch, 2010). Although these studies may not mention environmental leaders specifically, famous nature writers are important role models for promoting environmental awareness.

1.5. Research Purpose

This paper examines the writings of two conservation leaders to learn how they communicate their environmental message. One reason to look to famous conservationists for inspiration about nature writing is that every country and culture has its own role models. Just as the conservation movement in the United States was (and continues to be) facilitated by the wisdom of Aldo Leopold and his Land Ethic, other countries can benefit from the messages of their own nature writers. As Leopold (1970) pointed out in his "The Land Ethic" essay, an ethic "evolve[s] in the minds of a thinking community" (p. 263). This is a meaningful statement as Leopold implies that the concept of the Land Ethic belongs to the entire world, not just to the United States.

A purpose of this paper is to encourage educators in Turkey and other countries to use the works of their past conservationists and naturalists to promote a Land Ethic and a sense of place. In particular, this paper highlights the writings of the renowned botanist from Turkey, Hikmet Birand. Through a modified content analysis of Birand's and Leopold's major works, the researchers created a framework of writing themes. These themes can be utilized in nature journaling to help students gain a greater appreciation for their sense of place.

2. METHOD

For this study, the researchers used a descriptive approach to carry out a modified content and document analysis of *A Sand County Almanac* and *Anadolu Manzaraları*. Content analysis has been described as a method for investigating the characteristics and messages of written or visual materials (Frankel & Wallen, 2000; Patton, 2002; Tashakkori & Teddlie, 2003). Some researchers consider the method qualitative (e.g., Patton, 2002, p. 453) and others describe it as quantitative (e.g., Nuendorf, 2002, p. 1). For qualitative researchers, content analysis results with an “emergent framework” (Ary et al., 2006, p. 464). Quantitative researchers use counting, coding, and statistics in their analysis (e.g., Ryan & Bernard, 2000, p. 785).

The research methods used for the current study reflect content analysis for many, but not all, of the common criteria. The lead author has been reading and analyzing both Leopold’s and Birand’s works for many years, frequently translating one into the language of the other. The other author is an expert in environmental education and has extensive experience using the works of nature writers such as Leopold in environmental education programs. Through the researchers’ analysis and review of the literature for Leopold in particular, several key themes have emerged regarding writing strategies. Upon post hoc reflection of the research methods the researchers used to investigate the works of Leopold and Birand, it was determined that content analysis had the strongest, albeit a modified, fit.

The study began with an examination of Leopold’s essays since his works have been used extensively in environmental education and nature journaling. One focus of this examination was on the writing intentions of Leopold. Therefore, a first step of the study was to find evidence that Leopold was conscious of his writing strategies and goals. His essays were examined to find references to his role as a writer. Upon finding this evidence, the researchers used a familiarization process to examine essays from Leopold’s *A Sand County Almanac* (familiarization [Ritchie, Spencer, & O’Conner, 2003, p. 221]). This process involved a reading and re-reading of the essays to identify examples of writing strategies used by Leopold. The researchers also studied the works of other Leopold scholars to gain further insights into Leopold’s writing strategies and intentions (Knapp, 2005; Meine, 2010). Furthermore, the themes created by LEP were referenced to ensure comprehensiveness. These cross-references validated the trustworthiness of the researchers’ analysis. The review revealed attributes of Leopold; his insights and understandings especially those that he used to develop his Land Ethic concept. The intentions and attributes were grouped and categorized into overarching themes. To ground the writing themes in practice, publications and studies related to keeping a nature journal were cross-referenced.

The researchers created a framework out of the writing themes and used the framework to examine seven essays in Birand’s *Anadolu Manzaraları*. The purpose was to ascertain if Birand had similar attributes and writing intentions to Leopold. The final stage of the study involved the researchers narrowing their focus to two essays, one from each author, to do a more concentrated one-to-one comparative analysis. The essays “Ankara Çiğdemi” [Ankara Crocus] by Birand and Leopold’s “Prairie Birthday” were chosen because both pieces exemplified most of the themes found through the analysis.

3. FINDINGS

The descriptive research methods used to analyze the writings of Leopold and Birand revealed five attributes that the scientists shared. These attributes manifest themselves into writing strategies that the authors used intentionally (writing intentions) to communicate their sense of place. *Figure 1* illustrates the interplay of the attributes and intentions (which together create writing themes).

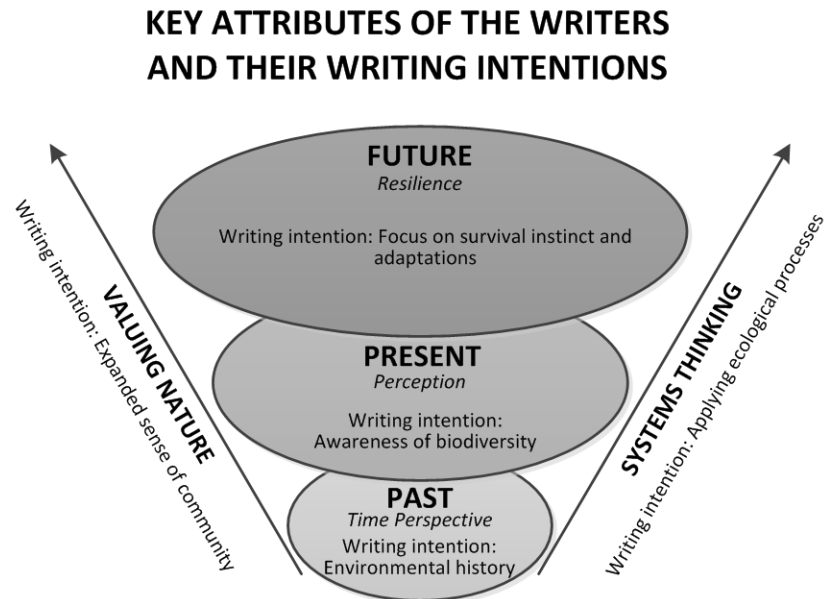


Figure 1. Common Writing Themes of Leopold and Birand

The attributes include having a historic perspective (past), being perceptive to the current environment (present), and appreciating resiliency and persistence of nature (future). Two attributes, valuing nature and systems thinking, are a part of past, present, and future ways of knowing.

From each of these five attributes, certain writing intentions emerged. These include writing to promote knowledge about environmental history (past), to increase awareness of biodiversity (present), and to focus on survival instincts and adaptations (future). As with the attributes, two writing intentions pervade and connect these three themes; these include writing to understand and apply ecological processes (systems thinking) and to foster an expanded sense of community (valuing nature).

By examining the motives of Leopold as a *writer* and comparing these to Birand's works, key strategies can be ascertained for reflective and transformational nature writing. The transformation is the development of a Land Ethic through place-based education that can be used for student learning in Turkey and throughout the world.

3.1. Authorship

When gaining an understanding of Leopold's and Birand's attributes, the first important step was learning how the scientists viewed themselves as writers. Document and content analysis provided evidence of their authorship.

Towards the end of the "Great Possessions" essay within *A Sand County Almanac*, Leopold (1970) states, "At the end of each poem sits the author—if we can find him" (p. 46-47). In this sense, this essay is special as Leopold reveals himself as the author of his text. In this essay, Leopold is inviting his readers to listen, to observe, and to write their own almanacs:

At 3:30 a.m., with such dignity as I can muster of a July morning, I step from my cabin door, bearing in either hand my emblems of sovereignty, a coffee pot and notebook. I seat myself on a bench, facing the white wake of the morning star, I set the pot beside me. I extract a cup from my shirt front, hoping none will notice its informal mode of transport.

I get out my watch, pour coffee, and I lay notebook on knee. This is the cue for the proclamations to begin. (p. 44-45)

This is a reference to both nature's proclamations and Leopold's proclamations that he put in his notebook. Leopold's 1947 Foreword to the *Almanac*, then titled *Great Possessions*, is important in terms of the necessity for authorship: "[I]n these sketches, it remains a fact that few writers have dealt with the drama of wild things since our principal instruments for understanding them have come into being" (qtd. in Meine, 2013, p. 878).

Similarly Birand (1957), in his Foreword to *Anadolu Manzaraları*, stated that his intention was to encourage nature authorship in his readers: "In this country, texts on our soils, plants, trees, seas and mountains—our entire natural landscapes—are scarcely written. But just imagine, how much there is a need for that!" (p. ii¹). In his foreword, Birand announced his own authorship saying,

My intention was to write about my observations during my trips, to describe the beauty and vibrancy of the country's landscape, its composition and decay, reasons for its deterioration, in a language that will be understood by everyone, not just in academic circles. I wished to write such a book on Turkey. (p. ii)

Accordingly, Birand's writing is one that is attentive to the senses of a local environment so that his readers will be prompted to write as well, on their own local lands. His writing establishes natural environments (wilderness areas) as inviolable lands, to be kept away from the pressures of heedless development projects.

The years Birand worked with his colleague Krause is the time when Birand developed an interest in writing about natural environments. He wrote *Büyükada'nın Yeşil Örtüsü* [The Green Cover of Büyükada] in 1936, and this booklet coincided with when he began his field studies and ecological explorations. Even in this very early work, it is interesting to note that Birand is describing the need to write about the lands. He stated,

Getting to know the island's plant societies, the individual members that make up this society, their kinds, and their mysterious adaptation to the conditions of the lands means that one has gained familiarity with our country's vegetation to a large extent. But it is a pity that there is no written text on this neither in our language nor in a foreign language. (p. 3-4)

The works that Birand wrote in the following years, *Batı Karadeniz Kıyılarında Bir Botanik Gezisi* [A Botanical Trip on the Shores of Western Black Sea] (1945), *Keltepe Ormanlarında Bir Gün* [A Day in the Keltepe Woods] (1948), and *Kurak Çorak* [Arid and Barren] (1962) show Birand's determination to make scientific information accessible to a large reading public, through the act of writing. In *Kurak Çorak*, Birand grieves over the fact that the healthy functioning of landscapes, that had been in place for millennia, could not be protected. In this work Birand points out that written texts are one way of keeping historic records of the vegetation of native lands.

3.2. Five Writing Themes Exemplified through the Essays "Prairie Birthday" and "Ankara Çiğdemi"

The analysis of Leopold's nature writing created a framework of five major writing themes comprised of attributes and intentions (see *Figure 1* above). Upon examining Birand's work, he too possessed these aspects. In other words, the conservationists shared these ways of looking at their "place" and, through their writing, aim to share their insights with their reading audience. To further explain and illustrate these themes, the following is a comparison of two essays from the authors: "Prairie Birthday" from *A Sand County Almanac* and "Ankara Çiğdemi" [Ankara

¹ All translations from Turkish are original work by U. Özdağ.

Crocus] from *Anadolu Manzaraları*. In his famous essay, “Prairie Birthday,” Leopold grieves over the fact that native prairie plants are disappearing due to mowing and grazing, and complains that humans cannot perceive the blooming times of plants. Birand’s “Ankara Çiğdemi” is the story of a fine March morning when Birand goes out to the Ankara hills, to look for the newly blooming Ankara crocuses.

3.2.1. Time perspective – Environmental history

Both Leopold’s and Birand’s essays reflect a profound sense of time on the nature of existence. Their deep time perspective comprises patterns of seasonal time, as well as the immense age of Earth. The corresponding writing intention is an interest in environmental history and/or life history of individual species. Leopold (1970) takes note of the Silphium plant not in its constricted present but in its past, noting that the plant is “a surviving celebrant of that once important event [prairie birthday]” (p. 48). For Leopold, “[t]he erasure of Silphium from western Dane County is no cause for grief if one knows it only as a name in a botany book” (p. 52), but it certainly causes grief if one knows that the plant “may have been older than the oldest tombstone, which is dated 1850. Perhaps it watched the fugitive Black Hawk retreat from the Madison lakes to the Wisconsin River; it stood on the route of that famous march” (p. 53). Similarly, Birand’s (1957) deep sense of time gets reflected in the past history of the Ankara crocus (*Crocus ancyrensis*). Endowed with human traits and attributes, the prairie flower narrates: “[m]y surname is older than the surname act. We are the old natives of Ankara. Long before the old Ankara was founded—even before the sons of Adam stepped on these lands—we settled on these hillsides—to Etlik, to Keçiören, to Hüseyingazi, to Mount Teke, to Mount Çal, to the Çankaya hillsides. We are natives from times immemorial” (p. 41). In the long dialogue between the author and the Ankara crocus, the reader goes back a hundred years in time and learns about the historical figures that collected the corms from Ankara’s environs and raised them elsewhere. Hence, both authors have an understanding of the age of the plants living in their studied lands and express their appreciation through their writing.

3.2.2. Perception – Awareness of biodiversity

Both Leopold and Birand have an exceptional ability to perceive minute details of the natural environment. This attribute of the writers influences their writing intention; their texts abound with reports of species diversity and richness. In “Prairie Birthday,” Leopold’s observations of native dandelions, corollas, catalpas, and the Silphium plant reveal his extensive knowledge of plant species in first bloom. Comparing the diversity of plants living on the university campus to a backyard farm, he found nearly twice as many plant species (226) in rural areas compared to urban areas (120) and wrote, “it is apparent that the backward farmer’s eye is nearly twice as well fed as the eye of the university student or businessman” (p. 51). Birand’s “Ankara Çiğdemi” also reflects his perceptual ability in relation to Ankara’s wild plants, particularly the various kinds in the crocus family. Birand’s mention of the willows, oleasters, poplar trees, almonds, hawthorn trees, oaks, quince trees, ash trees, blackberries, wild roses, thyme, veronica, sage, ephemerals, and the spring starflower in his text is grounded in this attribute. Both authors’ inventory of plant species indicate their awareness of diversity and interest in sharing this awareness with their readers.

3.2.3. Resilience – Focus on survival instinct and adaptations

The attribute of resilience provides the necessary stimulus for writing about survival instinct of all life. The following quote from “Prairie Birthday” reveals the complexity of Silphium’s root system when Leopold decides to dig one up to move to his farm: “...Silphium root went clear through to bedrock. I got no Silphium, but I learned by what elaborate underground stratagems it contrives to weather the prairie drouths” (p. 52). Similarly, Birand makes mention of Ankara crocus’s survival tactics referencing to its root system: “Before the hot

days arrive ..., my flowers will wilt, my leaves will gradually turn yellow. While my roots are shrinking, they will drag my corm to deeper and safer layers of the soil” (p. 50). These are just two examples found in the writers’ works about the resiliency of nature. Readers can gain an appreciation for how some organisms have adapted to their environments and can survive into the future.

3.2.4. Systems thinking – Ecological processes

Throughout the time-related themes, the conservationists have employed their understanding of ecological processes. The attribute of systems thinking influences Leopold’s scientific outlook on the interactions between organisms and their environment and the healthy functioning of ecosystems. In “Prairie Birthday,” one can observe his turning ecology into a recognizable topic for the young readers of the time: “Why does Silphium disappear from grazed areas?” asks Leopold, and moving on from the feeding habits of cattle, he reasons that “the buffalo once had the same preference for Silphium”; without the fences, “the buffalo’s pasturing was discontinuous, and therefore tolerable to Silphium” (p. 54). Therefore, while young readers may not care about a plant, they do notice cows grazing in the field. They can understand that although organisms have a history and resiliency, organisms continue to be affected by their surroundings. Our actions (e.g., raising cattle) *do* interact with the world around us. In “Ankara Çiğdemi,” Birand, too, explores interactions among organisms [Ankara crocus and the butterfly]:

As soon as it had set down, the butterfly started to suck the sherbet that I [Ankara crocus] had prepared, and flew away the same instant it had gulped the syrup. However I didn’t treat it to my sweet sherbet for nothing. It has to repay me for the feast with a favour. I had placed the nectar in the most hardly accessible place, therefore in order to drink it the butterfly has to stick its head right into my flower, so that it rubs against my stamen, as a result the pollen from my torn anthers fall on its head and chest; this way they will be forwarded to the other flowers which the butterfly will visit in search for nectar. (p. 47)

It is notable to point out the differences in the writing strategies of the authors in the examples above. Birand writes from the perspective of the Ankara crocus, writing in first person. This anthropomorphic approach while unusual for Western conservation writers, may work with Turkish readers to gain a more intimate understanding of the interrelationships among natural systems. Although Leopold does not write in first person, he does express a sense of empathy in his writing. This attribute is further explained in the last theme below.

3.2.5. Valuing nature – Expanded sense of community

The themes work together over time and in systems to foster a sense of place and an expanded sense of community. Environmental degradation is closely connected with lack of proper environmental values that would otherwise enhance ethical long-term decision making. Both Leopold and Birand held that nature and all species have value in and of themselves, and that all members of the biotic community contribute to the total well-being. Their love, respect, and commitment to the inherent value of the natural world are manifested in the ways in which they try to create an internal change through their writing. The corresponding writing intention in both nature writers is to strengthen their sense of community. For this writing intention, Leopold and Birand create an analogy between humans and the natural world (e.g., humans and the prairie plants) pointing at the idea of co-existence. Whereas Birand attributes human qualities, feelings, and behavior to the Ankara crocus (he converses with the flower throughout the essay), Leopold’s large sense of community is reflected in his use of language that reflects empathy with the compass plant, Silphium (*Silphium lacintatum*). Telling the lyrical story of this native prairie plant that has yellow blooms each July, and noting the complexity of its root system, Leopold writes: “Silphium first became a *personality* to me when I tried to dig one up to move to my farm” (emphasis added, p. 52). In this essay, Leopold’s language includes *plant birthdays* and

anniversaries, funeral of the native flora, and juvenile seedlings, all of which point out the intensity of personifications in the rest of the essays in *A Sand County Almanac*. As with Leopold, Birand recognized humans as part of a larger community (a cog in an ecological mechanism). In “Ankara Çiğdemi,” this gets reflected in his conversing with the crocus throughout the essay: “At last I find the Ankara crocus—her bright, deep yellow flowers facing the sun. She has spread her thin, green, ribbon-like leaves onto the gravel, contented and happy... Immediately, I squat by her side and start a chitchat” (p. 40), says Birand. After a long talk with the Ankara crocus, Birand ends the essay saying, “On this hillside I felt both younger and a thousand years older. I told myself: ‘In this desolate place, there is no difference between the grass, the clouds, the stones of the hillside and myself.’ Oh, how comfortable I feel!” (p. 52). Valuing the natural world and the corresponding writing intention to foster an expanded sense of community is an essential outcome of all the other key attributes and writing intentions that preceded this final attribute and writing intention.

4. DISCUSSION AND RESULTS

By comparing two historical conservationist nature writers from two different countries, this article explored the potential for nature journaling, to promote place-based education. This comparison is an analysis of and argument for how a Turkish nature writer could, like Leopold, inspire and motivate a greater appreciation for one’s sense of place. Furthermore, the analysis helps explain how knowledge of place supports protecting and sustaining natural resources for future generations. As mentioned at the beginning of this paper, the goal of this analysis was to start a conversation about the need for place-based education in Turkey and how a country’s nature-writing heritage can be a source for fostering a sense of place. Ideally, students could write their own almanacs through nature journaling in the outdoors, which ideally will contribute to conservation as well as land restoration practices in local areas.

Similar to how Leopold’s works have inspired environmental education in the United States, Birand’s words can be used as a springboard for place-based nature journaling in Turkey. Furthermore, now that *A Sand County Almanac* has been translated into Turkish, students can read and compare the two authors (Leopold, trans. 2013). Environmental educators in Turkey can model the Leopold Education Project’s activity guides and resources (see <http://www.aldoleopold.org/Programs/lep.shtml>). They can create lessons that use the works of Turkish nature writers to help students explore their environment and to record their observations and reflections in nature journals.

Rather than simply using the journal as a recording device, the framework of writing themes in this paper can help ensure a more comprehensive approach to nature journaling. Each of the writing themes discussed in this paper could be highlighted in nature journaling assignments. For example, related to the time perspective/environmental history theme, students could create a timeline of their studied area. They could conduct ecological activities to measure biodiversity. Through scenario writing, they may envision what their place will look like five, ten, twenty years from now. By keeping the framework in mind throughout the nature journaling process, teachers can monitor student learning and help aspiring nature writers emulate the practices of conservationists from Turkey’s past.

The challenge will be taking the ideal to the practical. In a world threatened with nature deficit syndrome (Louy, 2008), it will take time to hone students’ observational skills and interest in events not screened in a videogame. Şimşek (2011) notes that although there is information about the natural world in science curriculum, ethics and aesthetics education is lacking. Tuncer et al. (2004) found that students want to do something to protect the environment. Erdoğan, Bahar, & Uşak (2012) in their content analysis of environmental education research found that cognitive domains of environmental education were addressed, but there was little emphasis on

affective or behavioral domains. They recommended that other disciplines such as geology and social sciences can promote environmental literacy as well. Upon examining Ministry of National Education's curriculum plan, there are many opportunities to "fit" the recommendations put forth in this paper into Turkish curriculum. History classes can read and analyze the cultural heritage of conservation writers, Language Arts classes can explore writing strategies modeled by famous naturalists, and science students can map and monitor the ecosystems of their schoolyard. Another consideration is grade level emphasis. Some aspects of the framework of writing themes are better for younger learners (e.g., perception and awareness), while older students have the abstract thinking skills to utilize systems thinking and project future trends.

To bring these ideas to reality will require further revisions to the curriculum and increased teacher education, especially regarding the integration of place-based education in classroom instruction. Teachers will need to be comfortable with and supported in taking students outside, and students will need time to build an affinity with the natural areas of their school grounds and community. Furthermore, teachers will be challenged to motivate students to read text less exciting than a graphic novel or suspense thriller. Fortunately, teachers have the skills to introduce students to classical literature and history. They know how to take abstract concepts and make them meaningful and real for their students. Ironically, innovations in the technological world can enhance nature journaling; students can use their tablets and phones to record, capture, and express their observations and reflections. The hope here is to further apply the writing themes of renowned conservationists, whether by traditional means or using modern technology, to help students better understand their sense of place.

Leopold and Birand teachings may affect how we wake up to the senses of land. The conservationists both lived in the early 1900s and both created essays that employed nature-writing techniques that students today can use to examine, understand, and appreciate their local environments. Reading *A Sand County Almanac* and *Anadolu Manzaraları*, then, will involve learning how to appreciate the authors' attributes as well as their intentions. The students, once they internalize the writing themes of Leopold and Birand, might carry out effective nature journaling on their own places through guided outdoor activities.

As reflected in this study, writing about nature helps create an intimate relationship with one's local places, many of which may be no further than the school grounds or a community park. Through a mastery of writing themes presented in this paper, students will have a framework for their own journaling practices. Leopold's *A Sand County Almanac* and Birand's *Anadolu Manzaraları* are guiding lights for nature journaling in place-based education.

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Uzun Özet

İnsanın doğa ile etkileşim süreci dünyada birçok ülkede benzerlikler gösterir. Çevre hareketinde belli başlı liderler doğal kaynakların korunmasında önemli rol oynar (Gottlieb, 2005; Miller, 2001; Shabecoff, 2003). Bu liderlerin kimisi kaleme aldıkları eserlerle çevre bilinci yaratmaya çalışır ve bu eserler çevre eğitiminde önemli rol oynar. Bu çalışmanın temel düşüncesi, ülkelerde geçmişten günümüze güçlü doğa korumacı yazarların ortaya çıkmış olması ve kaleme aldıkları doğa yazılarının yöre odaklı eğitimi geliştirmek üzere kullanılabilmesidir. Çalışmada, ülkemizden botanik profesörü Hikmet Birand'ın (1904-1972) doğa yazıları bu bağlamda incelenmiş, yazılarının yöreye bağlanma sağlayan öznelik ve yazım amaçları Amerika Birleşik Devletleri'nden bir diğer doğa korumacının yazılarının yöreye bağlanma sağlayan öznelik ve yazım amaçlarıyla karşılaştırılarak benzerlikler araştırılmıştır.

Günümüzde gençlerin büyük bir bölümü doğal dünyadan bağları kopuk olarak yaşamaktadır. Doğa ile olumlu bağlantılar geliştirmenin bir yolu öğrenmenin okul bahçeleri, yakın semtler ve halka ait parklar gibi yöreye ait doğal alanlarda gerçekleşmesidir. Çoğu zaman yöre odaklı eğitim olarak tanımlanan bu

süreçte amaç öğrencinin doğada gözlem yaparak doğayı tanıması ve buna bağlı olarak gelecekte sorumluluk alabilmesidir. Yöre odaklı eğitim, doğa günlüğü tutmayı da içeren çeşitli arazi çalışması tekniklerinden faydalanır. Doğa günlüğü tutma öğrencilere, yaşadıkları yöreye ait alanları daha derinine inceleyebilmeyi, doğanın unsurları arasındaki ilişkileri tespit edebilmeyi ve yaşadıkları yörenin değerine dair farkındalık geliştirmeyi sağlar. Yöre odaklı eğitim, öğrenme kaynağı olarak, ve özellikle doğaya sevgi ve saygı aşılama için, yörenin doğal bitki örtüsünden, yaban hayatından, ikliminden, su kaynaklarından ve diğer unsurlarından faydalanır. Yöre odaklı eğitim, öğrencinin yaşadığı yörenin çevre tarihi, florası, faunası, ekolojisi, ve diğer yönleriyle bağlantılı olduğu için sınıf içi ders yapmaya dayalı öğrenmeden önemli ölçüde ayrılır (Sobel, 2004).

Bu çalışmanın amacı, yöre odaklı eğitimde doğa yazını stratejilerini kullanarak doğa günlüğü tutmanın faydaları üzerine bir tartışma başlatmaktır. Doğa günlüğü tutmada kullanılacak beceri ve stratejiler, öğrencilerin doğa gözlemlerini destekleyip zenginleştirilebilir ve böylelikle yaşadıkları yöreyle anlamlı bağlar kurmalarını sağlar. Nitekim, eğitim alanında çeşitli araştırmalar öğrenme sürecinde reflektif yazımın faydaları üzerine çalışma gerçekleştirmiş ve desteklemiştir (Balgopal, Wallace, & Dahlberg, 2012; Hammond, 2002).

Bu çalışma dünya ülkelerinin kendi doğa korumacı yazarlarının eserlerini yöre odaklı doğa günlüğü için kullanabileceklerine dair de bir değerlendirmedir. Doğa yazını eserler insanın geleceğinin doğanın geleceğiyle sıkı ilişkisini en etkili biçimde ortaya koyması açısından önemli olup Amerika Birleşik Devletleri'nden ünlü doğa korumacı, ekolog, yazar, eğitimci Aldo Leopold'un (1887-1948) yazıları doğaya sevgi, saygı aşılama ve ekolojik bilinç kazandırmada yaygın olarak kullanılmaktadır (Bkz. www.aldoleopold.org/Programs/lep.shtml). Wisconsin Üniversitesi, Madison profesörlerinden Leopold'un "toprak etiği" düşüncesi günümüzde, yaşadığı döneme kıyasla çok daha önem kazanmış olup insanın çevreden kopuk değil çevrenin bir parçası olduğu gerçeğini en etkin biçimde vurgular. Leopold'a göre eğitim işte tam da bu gerçeğin altını çizmelidir. Nitekim, bazı araştırmalar, çocukların ve gençlerin çevre okur yazarlığını incelemiştir; araştırmalarda çevreye dair bir ilginin olduğu ortaya konmakla beraber, çevre adına yapılanların kısıtlı olduğu tespit edilmiştir (Kasapoğlu & Turan, 2008; Tuncer, et al., 2004; Erdogan, Marcinkowski & Ok, 2009).

Bu makalede, yaşanan yörelere bağlanma amaçlı doğa günlüğü tutmanın en etkili uygulamalarını tespit etmek için iki ayrı ülkenin yakın geçmişinden ünlü doğa korumacıların yazım stratejileri kıyaslanmıştır. Bu analiz ile, ABD'nin yakın tarihinden Leopold ve Türkiye'nin yakın tarihinden botanik profesörü Hikmet Birand'ın eserleri incelenmiş, söz konusu bilim insanlarının öznitelik ve yazım amaçlarını ortaya koyan beş yazım temalı bir çerçeve ortaya çıkarılmıştır. Bu yapının ortaya çıkarılmasındaki amaç doğa korumacı Leopold'un öznitelik ve yazım amaçlarını Birand'ın da taşıyıp taşımadığına dair bir sonuca ulaşmak olmuştur.

Bu çalışma için Leopold'un A Sand County Almanac (Bir Kum Yöresi Almanağı) ve Birand'ın Anadolu Manzaraları adlı doğa yazını eserleri için içerik ve doküman analizi gerçekleştirilmiştir. Araştırmacılar Leopold'un doğa korumanın temel kitabı olarak bilinen Bir Kum Yöresi Almanağı adlı eserinde yazım temalarından ulaşılan yapı ile Anadolu Manzaraları'nda yer alan yedi yazıyı incelemiştir. Leopold'un ve Birand'ın yazılarını analiz etmek için kullanılan betimsel araştırma metodları her iki bilim insanında ortak payda olarak beş öznitelik ortaya koymuştur. Bu öznitelikler söz konusu bilim insanlarının yazılarında yöreye bağlanma mesajı için bilinçli yazım amaçları olduğunu göstermektedir. Bu öznitelikler doğaya tarihsel bir perspektiften bakabilmeyi (geçmiş), şu anki kuvvetli çevre algısını (günümüz) ve doğadaki sürekliliğin anlaşılmasını (gelecek) içermektedir. Doğanın değerini idrak etme ve sistemsel düşünme öznitelikleri, geçmişten günümüze ve günümüzden geleceğe doğanın sade bir üyesi olduğumuz ve ekolojik süreçlere dair farkındalığımızı yansıtır. Leopold'un yazılarında kullandığı temaları inceleyip bu temaları Birand'ın eserlerinde tespit ederek bu çalışma, yöre odaklı doğa günlüğü tutmaya bir model oluşturmuştur. Doğa yazını eserlerin okunmasıyla birlikte gerçekleştirilecek doğa günlüğü tutma etkinliği, öğrencilerin yaşadıkları yöreyle bağlarını kuvvetlendirecektir.

Leopold ve Birand günümüzün ve geleceğin gençlerine yörelerindeki doğal alanları dikkatle gözlemleyip doğa günlüğü tutarak doğayı tanıyacakları, takdir edecekleri ve doğa korumaya adım atacakları güçlü eserler bırakmıştır. Her iki doğa korumacı yazarın eserleri, doğanın tüm unsurlarına farkındalık yaratmada, gençlerin yaşadıkları çevreyle bağlarını güçlendirmede etkili olacaktır. Bir Kum Yöresi Almanağı ve Anadolu Manzaraları'ndaki yazıları okuma deneyimi, yazarların özniteliklerini ve yazım amaçlarını öğrenmeyi içermektedir. Öğrenciler, sözü edilen beş yazım stratejili çerçeveyi

içselleştirdiklerinde açık alanlarda etkili doğa günlüğü tutabileceklerdir. Bu çalışma, Türk milli müfredatında yöre odaklı doğa günlüğü kullanımını teşvik edecek bu çerçevenin kullanılmasına yönelik tavsiyelerle sona ermektedir.

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