

# Problems and Solutions for Disabled Persons in Nature

**Emre Kuzugudenli**

Suleyman Demirel University  
Yenisarbademli Vocational School,  
Forestry Department,  
Isparta, Turkey  
emrekuzugudenli@sdu.edu.tr

**Canpolat Kaya**

Suleyman Demirel University  
Yenisarbademli Vocational School,  
Forestry Department,  
Isparta, Turkey

**Abstract—** In daily life, people with disabilities are faced with many problems. These problems are varied social problems to transport problems and etc. One of the most important is the educational problems. The education system in all countries is implemented for the first part of the non-disabled population. Thus it is a concept that excludes people with disabilities from the outset the education system and then is trying to develop various programs to integrate people with disabilities with the education system. Nature is a versatile rehabilitation instrument. It has been used for therapeutic purposes in many areas from past to present. In recent years, the nature of education for the disabled persons is one of the popular topics and some studies on it are made. However, some problems may be encountered due to the sensitivity of them. Performed in this study, the problems that encountered in 5 projects accepted by TUBITAK (The Scientific and Technological Research Council of Turkey) which was prepared for the disabled students and solutions for these problems were discussed.

**Keywords—** Nature education, disabled persons, disabilities

## I. INTRODUCTION

According to 1st article of "Declaration on the Rights of Persons with Disability" which is annex no 3447 of "Universal Declaration of Human Rights" that adopted on 9 December 1975 in United Nations General Assembly, a "disabled person" defined as any person unable to ensure by himself or herself, wholly or partly, the necessities of a normal individual and/or social life, as a result of deficiency, either congenital or not, in his or her physical or mental capabilities [1].

Unplanned city that grew rapidly with the movement of industrialization complicates the public lives of people. Incorrect urban design leads to significant yield loss even on people without any disability physically, so this situation draws more attention to the problems of people with temporary and permanent disabilities. In our country, as well as in the world one of the main problems is the status of people with disabilities and their families. Disabled people who are an integral part of the community, as they are seen as consumers and people in need of care; they often face obstacles in social life. This situation is much more tiring than deficiencies arising from physical disabilities for them.

When you consider the fundamental principle of equality between individuals, a modern state must offer opportunities to live in dignity to all citizens without any discrimination. Therefore, by considering problems of disabled people who are an integral part of social life in a realistic way, they must be integrated into society again [2]. There are many obstacles in front of disabled people's integration into the social life. Some of those biggest obstacles are poverty, transportation and the physical environment's being not designed considering handicapped people. Along with changes to the social life, new definitions were needed on disability. The concept of disability is classified as impairment, handicap and accessibility according to the degree of disease restructured by World Health Organization (WHO), The United Nations (UN) and International Labour Organization (ILO) [3].

Prolongation of the average human life has brought the "quality of life" concept to the agenda. In cases such as old age, sickness and disability, approaches and treatment methods that increase the quality of life has found its place in almost all fields related to human as in the health sector. Due to their healing impact, the use of plants and natural elements is one of the oldest known treatments for the solution of Congenital or acquired problems affecting the quality of human life (such as emotional distress, disability that occurs as a result of accidents or illness, etc.). In Europe, especially after the world wars and 1960s demand for rehabilitation centers increased for the treatment soldiers returned home wounded mentally and physically; and natural elements (plants, water, etc.) began to be used extensively in programs as treatment in rehabilitation centers [4]. Therapeutic value of garden, plants and nature have been identified in rehabilitation programs. The most important feature of the Healing Garden is influencing patients, visitors, staff and interested parties positively, and reducing the stress in a consistent manner [5]. In the UK, in 1960s "the healing garden design" accessible to people with disabilities was defined and hospital gardens have been used especially for training and treatment. In addition to being therapeutically to patients these fields were regarded as socialization areas. In the Mary Marlborough Lodge healing garden (England), the garden which is used for children aged between 5 and 12 and who use wheelchairs gained functions as a fun and educational field for relaxation, taking on hobby and to use the new prosthesis for children [4].

## II. MATERIALS AND METHODS

The target audience of this study consists of 144 secondary school students with hearing impairments and a total of 60 high school students with orthopedic disabilities, in 5 projects accepted by TUBITAK In the past year called "Special Students meets Nature Realm of Roses 1-2" and Silent Nature 1-2-3. Students in this project are intended to be brought together with fun and educational activities such as drama, games, contests, and basic nature training in natural areas such as recreation areas, national parks and nature parks of Isparta [6,7,8,9,10].

In the educational process here a system has been implemented that participants were much more effective than instructors; that based on fully explore curiosity and using nature as the classroom. In order to improve the participants' ability to investigate and understand the nature, the training program was carried out in the style of learning by feeling, by contact and by hearing as they were taken to different ecosystems, making observations in outdoors - natural environments. This article that contains the problems these disabled students encounter during this nature training and solutions to these problems, is thought to be guiding and help people to do nature training about disabilities.

## III. DISCUSSION AND CONCLUSION

The disadvantages that make individuals with disabilities and constitute significant deficiencies in the lives of individuals vary according to the type of each obstacle.

Therefore, the problems faced by each type of obstacles may be different from each other, as well. One of the biggest problems faced by orthopedic impairment, namely the people who use wheelchairs, crutches, prostheses and so on, is the transportation problem. Auxiliary equipment used by these people (wheelchairs, crutches, prostheses, etc.) raise their living standards, but the equipment never can take the place of a human limb. That's why an orthopedically handicapped person's mobility is more restricted according to a non-disabled person (Figure 1).



**Fig.1: Orthopedically handicapped person's mobility problems**

Some of the problems encountered in education with people in wheelchairs are riding / getting out of the cars and travelling with them. Vehicles such as cars, buses and minibuses to be designed not considering the disabled, and lack of proper embarkation - disembarkation on vehicles form the basis of the transportation problem. The solution of this problem can be achieved by the elimination of these shortcomings. The problems experienced in transportation will be reduced to a minimum by selecting the proper vehicle designed for this work and the acquisition of appropriate equipment to other vehicles for wheelchairs.

Another problem for orthopedic disabilities is the access problems in indoor (home, hotel, school, etc.). In particular, the width of doors, lack of the appropriate standards for the disabled bathroom and toilets, lack of wheel chair ramps, the high thresholds of doors, lack of elevators are some biggest problems experienced. Kaplan (2010) reported that indoors physical barriers restrict travel opportunities for many people with disabilities; and such places should be accessible and open to all people including persons with disabilities, and the disabled people should be considered when arranging the physical environment of these areas from planning and design stages [11].

These problems we encounter occasionally in enclosed spaces during the training can be solved by making the appropriate standard of toilet and bathroom, and with the construction of elevators and ramps. Otherwise, the choice of accommodation facilities and indoor venues for training destined to be preferred places with poor quality but in accordance with the standards, over places quality but not accordance with the standards.

Most of the training was carried out in natural areas, namely outdoors. These places are very important in terms of students' learning the nature by seeing and feeling. In addition to learning, nature provides rehabilitation for human being by taking the stress. However, such areas do not have a proper road network and infrastructure like city centers. In particular, the lack of wheelchair roads or impaired roads is a major problem for people with disabilities. Yıldız (2003) has expressed that most of the cities are built for all people are not designed for the disabled [12]. In their research, Bekçi and his friends (2008)

found that the use of parks lead to serious problems in terms of physical disabilities evaluating criteria such as accessibility, adequacy (usability), transportation, safety, equipment of open green spaces for the use of physical handicap [13]. Kars and Altınok (2010) have stressed in their study that freedom of movement of individuals with physical disabilities is very limited in outdoors and the green spaces [14].

The walking paths of Ayazmana excursion spot, Yazılı Kanyon National Park, Kovada Lake National Park and Gölcük Lake Nature Park which even normal people have difficulty in walking most of the time must be improved and should become able to use for people using wheelchairs. Similar to the problems in closed areas, there should be toilets according to the standards in these places.

Hearing impaired disability occurs as a result of loss of function of tongue, ear or both. Unlike the orthopedic disability groups their limbs move is complete. Therefore, problems these types of disabled faced may be different than other types of disabilities. One of the biggest problems they face is the difficulty in communicating.

The most important factor that influences the development of social skills is whether being a disabled or not. Due to hearing loss and lack of verbal communication skills, it is accepted that the hearing impaired children are a disadvantaged group in terms of the development of social skills [15].

Congenital or acquired loss of speech or hearing ability is a being big problem for them when communicate with people. Deaf people, who can communicate only with sign language and face to face, can tell their thought or feeling quite simple and no detail. While you can describe everything with the words, this is not possible with sign language. Because you cannot fully explain time concepts, conjunctions and many grammatical elements by sign language. Sign language which offers quite a simple communication is undoubtedly a blessing; but deaf people cannot understand events, facts and concepts like non-disabled people. For example, "There is a needle-shaped protrusion in the heart of the black pine cone" sentence can be told and understood as simple as "Pinecone is needle shaped". Because deaf people cannot hear any sound from the moment of birth and cannot develop their language. However the same might not be true for the people who lost hearing subsequently. Because the people who lost hearing subsequently may learn the grammar more or less and develop the language until experiencing hearing loss. These people can be supported to written materials and yet these people can comprehend the material which is written for persons without disabilities. However, these written materials to be used by congenital hearing impaired people, must be special materials written in plain and in such a way that they understand. Although it sounds unpleasant to make distinction between disabled in this way as congenital or subsequently and to use different materials for each, until applications to improve grammatical level of congenital disabilities widespread It seems that the best solution right now.

For the solution of the communication problem, firstly we need to learn sign language that is the only tool of communication we can be contacted with them. Also, special training materials that enriched with visual elements and described in plain language must be used. Furthermore, performing theatrical activities such as drama will help students to be more social individuals and increase their communication skills. When the studies examined, social activities such as drama are being used as a method in the development of communication skills of people with disabilities [16,17,18,19,20].

Also preferring groups instead of individual activities in the events with hearing disabilities can improve both communication skills and social interaction skills. Because in group events people also learn critical thinking and social interaction skills; and it may allow the development of skills within the group by provides social change and social development [21,22,23].

Another problem faced by the hearing impaired that they cannot get instant audible warning of the dangers. The car horn, voice of dangerous animals and the warning of people are examples of these problems that especially encountered in outdoors. These problems can lead to accidents and accidents can cause injury; even death. One of the major problems encountered during trainings that hearing-impaired students cannot hear the warnings of trainers or officials.

For example, when they approach to a river or lake edge with a dangerous distance, when they start to move away from the group, when they extend their hands to an object should not be touched, etc. The use of light or vibrating alert devices can be offered as a solution to this problem.

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