

Evaluating the Approaches of Accessible Design in the Concept of Ideal City: A Case Study of Ankara

Yusef CHEBİB¹, Ufuk Fatih KUCUKALİ²

Abstract

This study aims to understand whether disabled individuals who reside in Cankaya, Ankara face any accessibility issues using scientific methods and techniques. Qualitative research method was used in this study, and data was collected through interviews. The study group consisted of 18 disabled individuals, including 6 orthopedic, 6 hearing, and 6 visually impaired individuals. The raw data obtained from the participants were evaluated and analyzed under seven different categories, which aimed to understand the accessibility in physical environment, public buildings, social aid, decision-making centers, employment, education, and health. The research findings indicate that some improvements have been made in the categories of "physical environment" accessibility, "public buildings" accessibility, accessibility to "social aids," "decision-making centers" accessibility, "health," "employment," and "education" sectors since the implementation of Law No. 5378 in 2005, but some problems still persist. Disabled individuals living in Cankaya, Ankara, face barriers due to erroneous and deficient physical environment designs, experience problems in the exterior and interior areas of public buildings, are unable to access decision-making centers, have inadequate consultation with their opinions and knowledge, are excluded from employment due to prejudices, and face accessibility issues in education and health. In other words, accessibility issues have become a barrier to disabled individuals, leading to a decrease in their living standards. As a result, it is understood that disabled individuals cannot participate in social life, achieve satisfaction in many areas such as education, health, and employment, and benefit from basic services sufficiently without solving the accessibility problem. Unless it is possible to access the services in question without any obstacles, the reforms and regulations made will remain only on paper. Therefore, the primary issue awaiting a solution for disabled individuals today is accessibility and the limitations it brings.

Keywords: *Ideal City, Disabled Individuals, Accessible Design, Ankara, Cankaya.*

Introduction

Every person has the fundamental human right to life, and being healthy is a prerequisite for this. However, some individuals may have disabilities due to various reasons, either from birth or later in life. In some societies, disabled individuals have as much equal rights and opportunities as other members of society in terms of social life, education, health, and work life, while in some societies, disabled individuals have been able to benefit from these rights less. Today, more conscious plans and policies are being produced to eliminate the negative consequences experienced by disabled individuals.

According to the definition of the United Nations, "a person who cannot perform tasks that they should be able to do on their own in their personal and social life due to any deficiency in their physical or mental abilities, whether inherited or acquired" is called disabled [1]. The World Health Organization (WHO) defines disability as "a limitation or inadequacy in the ability to perform an activity due to a deficiency in body functions" and states that approximately 15% of the world's population is living with one or more disabilities on a global scale. Therefore, there are over 1 billion people worldwide living with any kind of disability. As can be understood from these definitions, disabled individuals are evaluated and understood as individuals with limited mobility.

¹ Department of Architecture, Master of Architecture, Istanbul Aydın University, yusuf.ch@chebibtekstil.com

² Department of Architecture, Istanbul Aydın University 34295 Istanbul, Turkey; (Corresponding Author), ORCID ID: 0000-0002-2715-7046, Email: ufkucukail@aydin.edu.tr

According to the records of the "National Disability Data System", there are 2,529,701 people with disabilities in Turkey, with 1,422,159 being male and 1,107,542 being female. The number of people with severe disabilities is 778,528. Disabled individuals are classified into five groups, namely, mentally disabled, hearing and speech impaired, visually impaired, orthopedically impaired, and those with chronic illness, based on their type of disability. There is no doubt that disabled individuals have existed since the beginning of human social life, and have faced difficulties. In his book "A History of Disability," Stiker [2] emphasizes the prevalence of disabled individuals and the difficulties they faced in all cultures from ancient Greece to the Renaissance, with the emergence of humans on the stage of history.

However, it is possible to trace the origins of some of the problems faced by disabled individuals back to before the industrial revolution. With the Industrial Revolution, industrialization and urbanization became prominent in public life and led to transformative results. As a result, people migrated from rural areas to cities. This intense and rapid migration to cities has brought with it many problems such as unemployment, poverty, and air pollution, which are the first problems that come to mind when slums are mentioned. In addition, disabled individuals and the quality of life are clearly defined as problem areas. As a result of urbanization, the life of a disabled individual living in a rapidly growing city becomes increasingly difficult due to the lack of consideration given to the presence of disabled individuals in city plans. In addition to unemployment, poverty, and low wages, accessibility problems are also a significant problem faced by the disabled population. Unfortunately, there is a negative standard of living where "Disabled Cities" cannot be created in urban planning. This results in disabled individuals living with social, cultural, and economic restrictions, leading to the disability of disabled individuals. A study conducted throughout Turkey has shown that "the most important problem faced by disabled individuals in the workplace is not having suitable physical conditions or a working environment to reach the workplace" [3].

Concept of an Ideal City

In the concept of an ideal space, the city is a fundamental area that brings utopia to real life. The most significant area of utopia revolves around the idea of an ideal city or an ideal society. An ideal designed city and urban space are realized in a desired utopian societal dimension. The ideal urban design may be a visionary desire, but it does not disregard specific designs and applications. The ideal organization of urban space has a significant impact on the design of an actual city [4]. Therefore, the essential characteristic of utopia is the inheritance of ideas and plans from an ideal urban environment.

The pursuit of a good life and an ideal governance has been constructed in the city from the past to the present. As Mumford said, "the cities and places that people dream of are ultimately the places where they live." In other words, cities are collectively created places where people imagine and shape materiality in their self-improvement process. Therefore, Mumford argued that the city itself is the first utopia. According to him, the idea of an ideal social space for the Greeks was truly reflected in the example of the "first ancient city". Later, the city of Rome took the aesthetic spatial model from the Hellenistic city on a practical basis. Before that, the "real city" was idealized, and then the ideal city was attempted to be realized. Therefore, the city itself has been subject to design and restructuring as an artwork as a utopia. From Hippodamus to Haussmann, those who organized urban space sought not only the "urgent practical goals of city planning" but also the "ideal of broader dimensions" [5]. While urban space is seen as an artistic space, it is also considered as a formal way of establishing an ideal order visible to everyone.

Mumford believed that the city emerged as a spatial expression of both divine and earthly power, serving as a representation of the cosmos and an embodiment of a possible symbol of earthly paradise. In other words, the city is considered a small representation of the universe, a natural formation in which people can lead a happy life. As an artificial space, the city is a product of the human mind. The instinct to shape the social space with confidence in one's own ideas has led to the creation of cities. According to some philosophers, the city should be designed according to its own rules, belonging to the divine order. A rational approach has been used in its design, as healthy planning, organization, and governance are fundamental components of an ideal city. In this context, philosophical thought is of great importance in creating and sustaining an ideal city.

Architects' efforts to construct urban spaces and structures flawlessly have been argued to come with some issues. The notion that utopia inevitably offers perfection to architects and includes the belief that this is achievable seems problematic. This situation reveals political and spatial extremes. Anthony Vidler found the idea that urban space can be designed and planned in a utopian manner to be a crisis in architecture. For example, Le Corbusier's grand city plans demonstrated the failure of modernist

utopian planning over time. However, the demolition of the housing project in Lois was an example of the failure of utopian modernist architecture [6]. Indeed, the failure and shortcomings in fulfilling the happy promises of urban utopia have often spurred architects to strive for more power and fantasy in their efforts. However, for Robert Fishman, ideal cities can collapse all at once and never be built. But they can be attempted as a working model at least to consider. This working model could be a symbol of social change highlighting the superiority of architectural principles [7].

When the transformation of urban space is considered historically in different societies and processes, it is evident that the idea of an ideal space has been pursued. The primary aim of describing the concept of an ideal city in utopias is to provide a certain image to the ideal structure of society and give it a spatial urban form. Therefore, in utopias, the ideal project of society is approached as a whole with an ideal space.

Concept of Disability

Disability is a term used to describe a condition that is caused by permanent or potentially non-permanent impairments, including physical, cognitive, neurological, sensory, or psychiatric disabilities, either individually or in combination. These disabilities may exhibit a chronic or intermittent nature and significantly impact an individual's social interaction, communication, motor skills, or learning abilities. Consequently, individuals with disabilities often require ongoing support services.

People with disabilities are those who have lost their physical, mental, emotional, sensory, and social abilities to varying degrees due to any illness or accident, either from birth or acquired later in life. They are unable to meet the requirements of normal life.

Disability can arise from various causes, and it can result in a restricted way of life due to inadequate abilities. It can occur during the prenatal, birth, and postnatal periods, and it can be temporary or long-term. Disability can sometimes be treated and even completely eliminated. Every individual in society, as well as every living being in the world, is a potential candidate for disability.

The concept of disability can be expressed not only by similar words but also by other concepts. Currently, there is no single and universally accepted definition of disability that has been clarified and used by everyone. The World Health Organization has developed the International Classification of Functioning (ICF) in order to standardize the definition of disability and to promote the use of a standardized language among all disciplines involved in this concept. The purpose of establishing this system is to facilitate accurate and easy communication between healthcare professionals and disabled individuals, as well as to create a systematic coding format for information access platforms used in healthcare services. [8].

The "National Database" in Turkey is created based on the Disability Health Board Reports by the Ministry of Family, Labor, and Social Services (formerly known as). The population of living disabled males registered in the National Database is 1,414,643, and the population of living disabled females is 1,097,307, making a total population of 2,511,950. The population of severely disabled individuals is determined to be 775,012 [9].

On the subject of disability groups, there are numerous types of disabilities, and a person can have one or more disabilities. Services provided to disabled individuals should be approached in a holistic manner, considering the disabled individuals and their families as a whole. Educating society about disability, raising awareness, providing information about disability rights, and informing individuals that disabled individuals have different privileges compared to others in society are important elements for disabled individuals and their families to not isolate themselves from society and to feel equal to everyone else [10].

Some of the rights that disabled individuals living in Turkey have achieved on a legal level in terms of positive discrimination include the ability to benefit from discounted or free transportation services provided by municipalities, Turkish Airlines, and State Railways. They can also attend private and state theaters free of charge. In provinces and districts, auxiliary tools and equipment assistance for disabled individuals are provided by social assistance foundations. In recent years, the content and types of social assistance in Turkey have started to change significantly and the amount of assistance has increased compared to previous years [11].

Various Models Regarding the Perception of Disability

In society, many social problems have existed throughout human history, and they have evolved and encountered different solutions and developments over time. Disability is just one of these social

issues. The way it is perceived by society, the perspective of the state, and the various processes that occurred when individuals with disabilities started entering the workforce and later participating in social life after World War II have all contributed to the formation of the current understanding of disability. In this section, we will explore the different perspectives on disability throughout history.

Ethical Model

In Neolithic human communities, it was believed that disability emerged as a result of spiritual possession, which corrupted the soul and led to negative outcomes. In ancient Jewish societies, disability was considered equivalent to sinfulness. Individuals with intellectual disabilities were believed to be possessed by demons, while those with visual or hearing impairments were thought to be punished either for their own sins or the sins of their parents (Erkan, 2004: 31-32).

Medical Model

The moral model has given way to the medical model in line with current developments. According to Arkan, the medical model introduces the understanding of viewing disability as a pathological condition. Although this perspective provides some convenience to individuals' lives, it also leads to an understanding focused on pathology, labeling them as "disabled-helpless." [12].

The medical model, based on an approach that sees disabled individuals as needy and diseased "pathological cases," gave way to the social model after the 1970s. The concept of disability evolved into a rights-based and social citizenship understanding, reflected in legal regulations, and societal perceptions began to shift towards a social approach [11].

The medical model, which provides a perspective on the concept of disability, attempts to explain the human body using normal or abnormal concepts since it sees humans as mechanisms. According to the medical model, the problems individuals face in social life stem from the loss of capabilities within their own bodies [13].

Social Model

The Social Model emerged as a result of the shortcomings in the Medical Model. In this model, disabled individuals take on the role of experts, while professionals act as advisors. According to the Social Model, individuals can discover their own realities. The perception of the counselor is not considered superior to the perception of the disabled individual in this model, and the main focus is on the environment. It argues that the barriers to social participation are environmental adjustments and social factors, not the physical or mental disabilities individuals possess. One limitation of this model is that it overlooks the presence of pain and discomfort.

Disability is viewed through various overlapping perspectives. As the genetic perspective does not sufficiently represent the concept of disability, new approaches have been developed. One of these is the Social Model [14].

The Social Model does not attribute disability to the individual or express it as an inherent condition, but rather emphasizes the failure of society to fulfill its responsibilities and consider the fundamental principles necessary for the full participation of disabled individuals in life [15].

Rights of Disabled People Within the Scope of Human Rights

Every individual in society strives to fulfill the requirements of their existence and tries to cope with the challenges and conveniences, to the best of their abilities, that are part of their lives. People, from the moment they are born, continue their lives by being sensitive to what is happening around them and to every stimulus in their environment. The concept of disability has always existed since the existence of mankind and it has always been a position that requires special attention. It is observed that the struggle for life of disabled individuals has always been more challenging compared to other people in every era.

Between 1911 and 1930 in the USA, many laws concerning disabled rights were designed in accordance with eugenic principles, which violated human rights and disabled rights. For example, under these principles, regulations were put in place that resulted in violations of many human rights, such as the sterilization of disabled, sick, and criminal individuals referred to as "marginal populations" in society, and the prohibition of marriages between individuals of different races. Similarly, in Nazi Germany, disabled individuals, along with Jews, had many of their rights, including the right to life, taken away, and the state allowed them to be used as subjects for experimentation by doctors in concentration camps [16].

The beginning of the disability rights movement and the efforts of disabled individuals to advocate for their rights have marked more than seventy years since the establishment of legal frameworks such as the UN Universal Declaration of Human Rights in 1948, the ILO Recommendation No. 99 on Vocational Rehabilitation of Disabled Persons in 1955, the UN Declaration on the Rights of Disabled Persons in 1975, and the UN Convention on the Rights of Persons with Disabilities, which came into effect in 2008 [11].

Right to Maintenance

Maintenance is one of the most fundamental rights of a person. The right to care, which we can consider as one of the positive status rights, is a mandatory right that the state must provide to its citizens. The existence of the right is only felt when it is used, so the role of the welfare state in this regard is to ensure that individuals in need of care can exercise this right. [17].

Maintenance is the process of assisting individuals in meeting their essential needs and fulfilling physical, psychological, and social functions. It involves providing support to individuals who require assistance in order to sustain their basic needs and maintain their quality of life and daily routines. This support can be provided by family members, relatives, or professional caregivers.

Home care services in Turkey are provided through the Ministry of Health, the Ministry of Family and Social Services, Local Governments, and Private Organizations. While the Ministry of Health is responsible for providing healthcare services both at home and in institutions, the Ministry of Family and Social Services delivers preventive, therapeutic, rehabilitative, and developmental services specifically targeting disadvantaged groups such as children, adolescents, women, persons with disabilities, and the elderly. In 2005, the "Regulation on the Presentation of Home Care Services" was published in Official Gazette No. 2571, defining the duties and responsibilities of the Ministry of Health. The "Regulation on the Determination of Care-Dependent Disabled Individuals and the Principles of Care Services," published in 2006, along with the "Regulation on Official Institutions and Organizations Care Centers for Individuals in Need of Care" and the "Directive on the Implementation Principles and Procedures of Home Healthcare Services Provided by the Ministry of Health," published in 2010, establish the legal framework for home care services for individuals with disabilities and the elderly. These regulations have defined the authorities and limitations of both ministries towards a common objective. However, it cannot be said that the two institutions are providing services in a fully coordinated manner. Particularly, the fact that home care services are solely considered a healthcare service by the Ministry of Health neglects the social care aspect and prevents the full achievement of service goals [17].

Right to Rehabilitation

Basic care needs and psychosocial support services are provided for individuals with disabilities in care centers. In addition to primary care services, rehabilitation services that facilitate their integration into society and activities that support their social skills are also provided. These activities may vary depending on each center and the specific disability of the individual. To support these activities, trips, celebrations, entertainments, and many other social events are organized for individuals with disabilities [18].

Right to Education

The organized developments regarding the education of disabled individuals in Turkey began in 1889. In 1889, the School for the Deaf was established in Istanbul, followed by the Special School for the Deaf and Blind in Izmir in 1921. In 1944, a School for the Deaf was opened in Istanbul by an association, and in 1951, a School for the Blind was established in Ankara. These institutional initiatives allowed disabled individuals to participate in educational life [11].

In 1983, the "Law on Children in Need of Special Education" was enacted, and subsequently, the "Department of Special Education and Guidance" was established within the Ministry of Education. The "Law on Social Services and Child Protection" enacted in 1983 assigned the responsibility of protection, care, assistance, and skill development for individuals with all types of disabilities to the Social Services and Child Protection Institution, including the establishment of "Care and Rehabilitation Centers" for these individuals. In 2021, the powers of all these institutions were transferred and consolidated under the Ministry of Family and Social Services with its new name.

In Turkey, special education is currently being conducted in accordance with the national education curriculum. Disabled individuals are often placed within the same standardized teaching method, neglecting their individual knowledge, skills, and talents. Institutions providing special education generally reflect this characteristic, resulting in insufficient outcomes. Education is dynamic while teaching is static, therefore students in special education need to be introduced to teaching methods first and then engage in educational practices. Only through this approach can the desired benefits be achieved [19].

Many of the problems encountered by disabled individuals in their education stem not from legal regulations, but rather from shortcomings in implementation. There are several factors contributing to the inability to transfer the duties and responsibilities expressed in legal regulations to the field of practice, such as lack of awareness, economic constraints, an uninformed and uneducated societal understanding, and a shortage of expert personnel.

The complexity and number of options that normally developing students encounter in their education are even more chaotic for disabled students. Especially for disabled students who will receive education in high school and beyond, both the laws and the system need to support them, and if necessary, provide additional educational areas.

Right to Employment

In Turkey, a two-pronged policy is being implemented to promote the employment of disabled individuals. One aspect involves incentives, while the other involves punitive measures. The underlying principle of the punitive methods is to make employing disabled individuals mandatory and to punish those who fail to employ the required number of individuals as determined by the government. The reward system, on the other hand, is designed to incentivize workplaces that employ disabled individuals.

The entirety of policies relating to disabled individuals in the workforce is referred to as the 'obligation to employ disabled individuals' policy. Within the framework of these policies, disabled individuals included in the employee roster under Article 30 of Law No. 4857 and disabled individuals in civil servant status under Article 53 of Law No. 657 are required to participate in the workforce. In addition to the legal regulations, it is crucial to have a structure where employers are aware of the importance and voluntarily support the actual employment and full integration of disabled individuals into the workforce in order to see real employment and full participation in the working life of disabled individuals [20].

Employers of workplaces with at least eight individuals possessing the qualifications stated in the first paragraph of Article 14 of the Protected Workplace Regulation apply to the Provincial Directorate of Family and Social Policies to acquire the status of a protected workplace. The ratio of disabled individuals working in protected workplaces to the total number of employees cannot be less than seventy-five percent. In determining the number of employees to be employed within this scope, employees with indefinite-term contracts and employees with fixed-term contracts are taken into account. Those working with part-time contracts are converted to full-time employment considering their working hours. One of the methods used by the government to encourage the participation of disabled individuals in the workforce in Turkey is the "Subsidized Employment Practices." Under this practice, various facilities and discounts such as tax incentives, social security contributions, and credit support are provided to employers by the government. One of these benefits and incentives is the payment of fifty percent or all of the social security contributions of the employees working in private sector units that employ disabled individuals, which is covered by the treasury [21].

Some legal regulations have been made in Turkey regarding the employment and work of disabled citizens. Article 46 of the Constitution states that no one can be employed in jobs that are not appropriate for their age, sex, or ability, and individuals with physical and mental disabilities should be specially protected. According to the current legislation, the areas in which disabled individuals cannot work are only determined as underground and underwater works [21].

Right to Accessibility

Accessibility is a prerequisite for every individual in society to maintain their presence in every field without any hindrance caused by any characteristic they possess. "Universal Design" refers to environmental products and designs that can be used equally by all individuals, whether disabled or not. It is about creating livable and barrier-free arrangements for everyone, considering their personal differences [22].

The person who first coined and developed the concept of Universal Design is American architect Ronald L. Mace. The Universal Design Principles determine the general requirements for accessibility standards. According to these principles, environmental arrangements should include provisions for equitable use, features of flexible use, simplicity and intuitive use, perceptibility, resistance to errors, and dimensions and spaces suitable for approach and use with low physical demand [23].

With the increasing use of the term "inclusive design" worldwide, efforts towards accessibility and legislation regarding accessibility have been developing in urban designs. In this process, some notable developments related to disability can be seen, such as the Americans with Disabilities Act (ADA) enacted in the United States in 1990 and the Disability Discrimination Act (DDA) implemented in the United Kingdom in 1995. In Turkey, some amendments related to disability were made to the Urban Planning Law in 1997, and then the Law on Disabled Persons, numbered 5378, issued in 2005, stated that all activity areas should be arranged in accordance with accessibility standards for official buildings within a period of 7 years to meet the needs of disabled individuals [18].

In order to ensure the equal participation of disabled individuals in social life, specific regulations need to be implemented in the environment. These regulations are carried out by municipalities, which have closer administrative units to individuals, depending on the location. Local governments play a significant role in the execution of basic services such as urban planning and infrastructure services. Moreover, both the constitution and legislation assign numerous social responsibilities to local governments, including responsibilities related to disabled individuals [24].

Universal Designs and Inclusive Design

Universal Design and History

The person who first introduced the concept of universal design, Mace, defines it as "the design of products, buildings, and environments to be usable by all individuals to the greatest extent possible" (Mace et al., 1991). Mace emphasizes that universal design is an interdisciplinary approach and argues that the approach of simply removing barriers, which is based on simplistic thinking, would be insufficient for designers to fulfill their responsibility of providing environments and designs that could be suitable for all individuals. He highlights that it is not possible to achieve easy access to the environment, space, or product for everyone solely through architectural solutions added specifically for people with disabilities [25].

Dostoğlu, Şahin, and Taneli (2009) [26] summarize the universal design approach as a holistic approach that enables the use of products, spaces, and environments by everyone, regardless of age, ability, and situation. According to Cavington and Hannah (1997), universal design is also defined in a similar way as "the idea of accessibility for everyone, at all times, to every object and place" [27]. Arat and Güner expand the definition by stating that universal design emerges as a design that aims to produce equally accessible and usable products and built environments, regardless of age differences, while considering anthropometric compliance, easy perception of the environment, reduction of energy costs, and other objectives [28]. They also draw attention to the interdisciplinary nature of universal design and describe it as a "design strategy that aims for everyone's access". To achieve this, it is necessary to experience spatial relationships, and this can only be possible by considering not only the spatial dimension but also the psychological dimension in the environment.

Universal design began to be discussed in the 1950s, but at that time it emerged not as "universal design" but as "design for people with disabilities." After World War II, in Europe, the United States, and Japan, designs that posed "barriers" to people with disabilities were reconsidered in the context of the environment and spaces, leading to the development of an understanding called "accessible design" to make them barrier-free [26]. In this design approach known as "barrier-free design" in English, ideas were developed to provide accessibility to transportation specifically for this focus group of individuals with disabilities and those who face significant physical challenges.

The approach of inclusive design, which initially began considering the rights of disabled individuals in Europe and the United States, but was criticized in the 1970s for simply making additions to existing designs that unintentionally segregate disabled individuals from others. Disabled individuals, advocating for their rights with the philosophy that 'separation is not equality,' demanded new regulations to be implemented in inclusive design, emphasizing the importance of equal rights for all individuals without discrimination [29, 30]. As a result of these new regulations, inclusive design started to be perceived as a more general concept and began to be referred to as 'accessible design' [26].

The Principles of Universal Design

Universal Design Principles were developed in 1997 by The Center for Universal Design, with the aim of providing a guide for universal design. The foundation of the center was laid by Ronald L. Mace in 1989, when he introduced the concept of universal design. In 1996, the center began its work at North Carolina State University. These universally accepted principles, which are still recognized today [31], are as follows:

- Equitable Use
- Flexibility in Use
- Simple and Intuitive Use
- Perceptible Information
- Tolerance for Error
- Low Physical Effort
- Size and Space for Approach and Use

Equitable Use

The principle of equivalence in use is the first principle of universal design, aiming for the design to provide equal conditions for everyone. Even though individuals have different abilities, the goal is for products and spaces to be used in the same or similar way. From a spatial perspective, according to this principle, every individual has equal access to public buildings, city centers, green areas, schools, hospitals, streets, sidewalks, and transportation facilities that require use by everyone. The main objective here is to avoid the exclusion or marginalization of individuals with any limitations. Therefore, the principle of equivalence in use adopts a safe and user-friendly design approach (Fig. 1).

Guideline 1: "The design should provide equal service to users with different abilities. It should aim for as much equality as possible, and in cases where it is not feasible, it should provide equivalent usage opportunities."



Fig. 1. Horizontal and Vertical Circulation Elements [32]

Flexibility in Use

The principle of flexibility in use allows individuals to make choices based on their own preferences and capabilities by offering options in design. Designs based on this principle ensure that individuals have equal speed and ability in areas where they have no choice (such as using their left hand). In

designs developed in this way, both right-handed and left-handed individuals can use the same product or spatial element without any difficulty or difference. For example, a mouse design produced by a brand that is suitable for both right-handed and left-handed use can appeal to all users with its ergonomic features (Fig 2).

From an architectural perspective, offering both ramp and staircase options in a park allows all children to play in the park at the same time.

Guideline 1: "Designs should include different choices for all users in terms of usage methods."



Fig. 2 Elevated Bathtub Design [33]

Simple and Intuitive Use

The principle of simple and understandable use aims for the design to be easily comprehensible and usable based on intuitive skills. It emphasizes the need for developing designs that can be understood and used comfortably by individuals of all ages, conditions, skills, or understandings. For example, using the color green to indicate the ground floor and exit while using red for the emergency button on elevator control panels provides ease of perception. The presence of Braille alphabet on buttons underscores the importance of universally understandable design. In short, the principle of simple and understandable use is based on eliminating unnecessary complexity and providing expectations in the simplest form.

Perceptible Information

The principle of perceivable information emphasizes the design to be simple and readable, and the easy understanding and explainability of the necessary information [28]. It focuses on enabling individuals, including users with sensory limitations, to use the designed structures, products, and elements without difficulty or feeling inadequate. This principle aims to achieve perceivability at the best possible level through uncomplicated, simplified designs and different forms of expression. Information transfer requires the use of visual, written, auditory, or tactile narratives. For example, guides created for furniture assembly using diagrams or directional signs used in shopping malls are examples of this principle, as they can be easily perceived by everyone.

Tolerance for Error

Since universal design is aimed at different users, it is important to protect all users from hazards and accidents. This principle, which is the fifth principle of universal design, argues that design should protect all users from hazards. It aims to focus on designs that can minimize the negative consequences of any accident or similar situation. To protect individuals, there should be warnings against potential hazards in the environment. The use of soft materials in playgrounds specially designed for children can be shown as a solution to prevent falls and injuries. This is an example of the principle of tolerance for errors.

Low Physical Effort

The principle of low physical effort is based on the design requiring minimal power, allowing for easy and efficient use without strain, and accommodating comfortable body positions. The principle aims to target product and spatial designs that can be used by everyone with equal power, without the

need for prolonged repetitive movements. "In addition to all of this, in the current pandemic situation, spatial elements and objects that can be used without physical contact or effort have become more important for individuals who cannot receive assistance in both residential and public areas" [34]. As an example, automatic doors, without requiring physical exertion, enable equal and contactless use for everyone. In summary, the principle of low physical effort emphasizes designs that are accessible to all individuals and reduce fatigue. Guideline

1: "Design should be in harmony with the physical structure of all user groups. Throughout its use, design should provide users with the opportunity to interact naturally with their body structures."

Size and Space for Approach and Use

The principle of the Peter Opsvik design, the Balance Chair, aims to ensure equal usability of the design by everyone, regardless of physical differences. It emphasizes the need to design products and spaces that can adapt to users' needs and promote equal access for all users, whether sitting or standing in a wheelchair. The concept of universal design emerged to guide design for everyone, make the concept of universal design understandable, make product and environmental design more suitable, evaluate existing designs, and inform consumers about more user-friendly environments and products. As seen, all these universal design principles are interconnected. Although they are presented as seven distinct principles, there is not a sharp distinction between them. One example can encompass several principles. Safety, equality, accessibility, and the importance of the user are emphasized in all the principles. Therefore, "the main idea of universal design is to integrate individuals both physically and socially with a single design" [34, 35] (Fig.3)



Fig. 3 Studio Irvine Kitchen Design [36]

Guide 1: "Design should accommodate and work in harmony with the diverse range of user hand sizes, grasping, holding, and gripping capabilities."

Universal Design User-Space Relationship

A space is a place where people spend their entire lives and perform all their actions. These spaces, whether open, closed, natural, or artificial, are diverse and have been developed based on the needs of living beings and organized according to the user's relationship with their environment. The elements of a space, such as colors and textures used, support the perception of the space and serve the users' needs.

The most important element in design is the user. Users expect their biological needs, safety, belongingness, or psychological needs to align with the space they are in. These needs vary depending

on the user's anthropometric measurements, sensory abilities, perceptions, cultural dimensions, physical and psychological capabilities. Additionally, when we examine the life cycle of a person, we see that their needs and competencies constantly change over time.

If we also consider individuals experiencing temporary or permanent disabilities and different situations people may be in, we understand that user needs are very diverse. In order to change spaces, the environment, and our world, and to reduce barriers between humans and their surroundings, it is important to carefully analyze these differences. Universal design, which considers human diversity in all parameters, integrates it into its functioning and examines the abilities of individuals in terms of perception, vision, hearing, speech, mobility, and functions of the body, hands, and arms.

Accessible Design and History

Human beings, as social beings, have lived in communities since ancient times and have socialized by communicating with each other within the division of labor. People reside in specific geographical locations within the countries they share their lives in. These can be divided into rural and urban areas. Urban areas are mainly concentrated with industries, production, and service sectors. These sectors should cater to every individual within them and provide services based on their needs. At this point, the concept of accessibility comes to the forefront, emphasizing reaching out to all segments and being accessible to everyone. Accessibility refers to the ease and convenience of reaching any place. In other words, it means being able to reach any place from anywhere, at any time, in a safe, comfortable, economical, and environmentally friendly manner.

Urban accessibility refers to providing an accessible living environment for everyone. In this case, urban accessibility, in simple terms, means that everyone living in society can access and use all spaces. The term "everyone" includes those who live in the city, visit it, young, old, children, pregnant women, overweight individuals, visually impaired, physically disabled, orthopedically impaired, those who do not speak the language, and many more. All facilities should be accessible to everyone. When we talk about accessibility, it should not only be limited to the concept of transportation and reaching a destination. Because the concept of accessibility can include everything that can facilitate people's lives and meet their needs. Additionally, it would be incorrect to perceive the concept of an accessible city only as a set of practices that make life easier for people with disabilities. Because an accessible city for all is defined as a city that provides services in a greener environment where everyone can participate in social life, live in safety, peace, and happiness [8].

When we consider the importance of an inclusive city, the environment in which we live and our rights are common determinants for individuals. A country or community should provide an equal and accessible rights system for each individual. This is one of the requirements and conditions of being a welfare state.

In terms of accessibility, a country can achieve these goals only through economic development power in light of contemporary civilization and current technology. It cannot be achieved solely by possessing certain features or mentioning certain sources of guarantee in laws, for example. In other words, talking about an accessible city in legal terms will not be fully realized unless the laws are complied with and this awareness is provided by society as a whole. The best examples of this can be seen in countries with a social consciousness developed through technology and implemented through applications. For an accessible city, an inclusive city plan should be designed and planned according to the views, recommendations, and needs of people with disabilities. These plans should be supported by a strong economy and budget allocation, as good design and implementation require mental power for specific spaces and places. When an inclusive or accessible city plan is implemented, it benefits not only those with disabilities but all of humanity. It would be incorrect to think of this only on a country level because an individual with a disability will face another barrier when they change their living environment for various reasons. In other words, models of accessible cities and living spaces should not be distinctive features limited to specific areas or countries. Just as drinking water is an essential element of life, living in an accessible kitchen and having access to all applications should be a similar situation. Because, irrespective of the circumstances, it is important for all individuals to continue to exist to ensure a dignified and accessible life for everyone.

Examples of Universal Design in Turkey

Adiyaman Active Living Center

In 2013, the Ministry of Family and Social Policies, General Directorate of Disabled and Elderly Services, organized a national competition. This competition aimed to promote the participation of the

elderly, disabled individuals, veterans, and those with various disabilities or support needs in society, cultural activities, and sports. The project designed by Yakup Hazan Architecture was awarded first place in the competition. Information about the winning project, Adiyaman Active Life Center, is provided below (Fig.4).



Fig. 4 Adiyaman Active Living Center [37]

Designers initially developed a network system for the project, focusing on the purpose and user diversity. This system encompasses providing independent access and social participation in mass gatherings, public spaces, and services for individuals with disabilities, veterans, and those with different physical abilities. The network system includes various architectural components such as walls, ramps, water features, voice guidance equipment, as well as colored and textured surfaces. In this context, climate, materials, and these design decisions are the most important factors that shape the design of this system.

First of all, controlled road systems and separate entrances with dedicated parking lots have been planned in order to facilitate the transportation of users to the center and ensure the mobility of vehicles in the area. This planning allows users to easily reach their desired destinations with minimal energy and effort (Fig.5).



Fig. 5 Site Layout Plan for the Project Area [38]

The project area is designed around a centralized structure. In the design, there is an open space surrounded by 5 different masses for various activities. The masses are placed near the entrance and close to each other for easy accessibility. The open space is a versatile activity area that is open to all people and can be transformed according to the purposes of each group. Some examples of various outdoor functions include an outdoor performance stage, a sports class, a festival area, an exhibition space, and many other opportunity centers. Additionally, within this diversity, the open space serves as a focal point for users.

Different textured walls are present for each space, and different scented plants are found in the gardens of each mass. These applications provide guidance and alert information for visually impaired users.

Fig. 10. Sensory and tactile analysis results in prepared stimulating tangible surfaces [38]

The Aim of the Study

The main aim of this study is to evaluate the accessibility conditions of disabled individuals within the framework of accessible design principles in the context of the ideal city concept, focusing on the district of Çankaya in Ankara. The study seeks to determine the extent to which disabled individuals can access urban spaces, public services, and social opportunities, and to identify the barriers they encounter in their daily lives.

In this context, the research specifically aims to:

- Examine the accessibility of the physical environment and public buildings,
- Analyze access to social services and decision-making mechanisms,
- Evaluate the conditions related to education, employment, and healthcare services for disabled individuals,
- Identify the shortcomings and deficiencies in current urban design practices,
- Provide recommendations for improving accessibility in line with universal design and ideal city principles.

Ultimately, the study aims to contribute to the development of more inclusive, sustainable, and accessible urban environments where disabled individuals can participate equally in all aspects of social life.

Method

Every scientific research has a method. The results of a scientific study without a proper method can be controversial and unreliable. The method, in its most general sense, is the path followed by the researcher in a scientific study. Scientific research is evaluated in three categories: qualitative, quantitative, and mixed methods.

While qualitative research is based on understanding and interpretation, quantitative research focuses on statistical, graphical, and numerical analysis. Mixed methods involve combining both qualitative and quantitative approaches. This study was conducted using the qualitative research method. This is because the problems faced by disabled individuals are complex and multidimensional. To identify, understand, and interpret these problems and find solutions, it is necessary to have a detailed description of the problems and the accessibility issues they face. It is important to capture their emotions and thoughts on these matters. Qualitative research allows the researcher to rely on the subjective data shared by the participants, providing valuable insights and guidance in understanding and grasping the issues at hand.

Study Area

The research was carried out in the Çankaya district of Ankara, which is one of the central and most developed urban areas in Turkey. Despite its advanced urban infrastructure, Çankaya presents a suitable case for examining accessibility issues within the concept of the ideal city.

Study Group

The research universe consists of individuals with physical disabilities (hearing, speech, orthopedic) residing in Ankara Çankaya. The research sample includes 18 participants, with 6 individuals having orthopedic disabilities (Interview Date: 12.11.2022 – Interview Duration: 6 hours 35 minutes), 6 individuals with hearing impairments (Interview Date: 15.11.2022 – Interview Duration: 9 hours 10 minutes), and 6 individuals with visual impairments (Interview Date: 18.11.2022 – Interview Duration: 7 hours 20 minutes).

Participants were reached through a sampling method called "snowball," chosen due to reasons such as the tendency of disabled individuals to be reserved and introverted, not wanting to interact with everyone. The selection of this sampling type was deemed appropriate. Criteria for the research sample participants included being a citizen of the Republic of Turkey, being 18 years or older, having at least one of the orthopedic, hearing, or visual impairments, and residing in Ankara Çankaya.

Data Collection

In the research, the interview technique, commonly used in qualitative research methods, has been employed. An interview is an interaction between the interviewer and the interviewee (participant) through predetermined questions, aiming to explore a specific subject. What distinguishes an interview from ordinary conversation is that the interviewer directs pre-determined questions to the interviewee in line with the research objectives. Conducting interviews with participants was considered to provide rich data to understand all dimensions of the accessibility issues faced by disabled individuals and to detail accessibility problems in urban areas.

The interview questions, prepared with open-ended inquiries, were directed towards participants to explore their thoughts, feelings, and observations regarding the accessibility for disabled individuals in Ankara Cankaya. The interview process concluded when responses to open-ended questions reached saturation, and participants started providing similar answers. The open-ended interview questions were initially tested in a small pilot study with a sample of 3 individuals to measure the reactions of the sample group. Questions that elicited confusing or potentially hurtful responses were identified and modified based on participant feedback before being used in the actual study.

Data were collected through semi-structured interviews. This method enabled participants to express their experiences and opinions freely while also allowing the researcher to focus on specific themes related to accessibility.

The interview questions were designed to explore accessibility under seven main categories:

- Physical environment,
- Public buildings,
- Social aids,
- Decision-making centers,
- Employment,
- Education,
- Health services.

Each interview was conducted individually, and participants were informed about the purpose of the study. Ethical considerations such as voluntary participation and confidentiality were strictly followed.

Data Analysis

The data obtained from the interviews were analyzed using qualitative content analysis. Responses were categorized under the seven predefined themes, and recurring patterns, similarities, and differences were identified.

The findings were interpreted to assess the current state of accessibility and to reveal the main barriers faced by disabled individuals. This analysis also provided a basis for discussing the relationship between accessible design principles and the concept of the ideal city.

Before commencing in-depth interviews with participants, detailed information about the scope of the research and its scientific purpose was provided to them. Individuals in the sample group were ensured to participate voluntarily in the research, and they were asked to sign a "voluntary participation form." Individuals who did not wish to participate in the interviews were excluded from the study. To uphold scientific ethics, the names of the participants were kept confidential, and instead of using their full names, codes such as "Participant 1," "Participant 16," were assigned.

Results

Findings and Comments on the Accessibility of the Physical Environment

This section includes findings on accessibility related to the categories of 'Transportation and Traffic,' 'Streets and Roads,' and 'Yellow Pathways,' based on the open-ended questions posed to the participants.

-Findings and Comments on Transportation and Traffic

With the enactment of Law No. 5378 in the Turkish Grand National Assembly in 2005, municipalities were obligated to make public transportation vehicles (buses, trams, metro) accessible to individuals with disabilities within seven years. Additionally, the law mandated that newly acquired public transportation vehicles by municipalities must be suitable for use by individuals with disabilities.

In some cases, individuals may face challenges when using public transportation within the city, even if they do not have any physical disabilities. Factors such as excessive height or short stature, being overweight, pregnant, elderly, or being a child can contribute to difficulties. However, currently, the group with the most limited accessibility to public transportation is considered to be individuals with physical disabilities.

While the term "those facing accessibility issues in urban transportation" may initially bring to mind individuals with orthopedic disabilities, it is important to note that not only they but also individuals with visual, hearing, speech, and cognitive disabilities experience varying degrees and forms of obstacles in public transportation and traffic, depending on the type and extent of their disability. Participants numbered 11 and 16 have provided the following statements on this matter:

"Individuals with orthopedic disabilities face significant challenges in public transportation. Some drivers refuse to allow them on the bus, and others do not deploy the wheelchair ramp. Additionally, there are instances where the ramp is not functional. Therefore, public transportation becomes a major problem for them. The most significant issue experienced by individuals with visual impairments like me on the bus is the non-functionality of the audible stop announcement system. Although drivers and passengers try to assist in this regard, there are times when they might mistakenly drop us off at the wrong stop" (Participant 11).

"As a visually impaired individual, I cannot see the bus numbers. In buses, if they don't see someone raising their hand at the stop, they continue without stopping. I have spoken with EGO [public transportation authority] many times about this issue and expressed my request.

My request was as follows: buses should stop at the bus stop regardless of whether there is someone raising their hand, and then proceed after that. When the bus stops, I can ask the driver about the bus number. While buses stopping at every bus stop would not inconvenience anyone, it could benefit individuals with disabilities like me a lot. Alternatively, as a second option, an accessibility button could be placed at every stop. Because when I was younger, being a shy person, I couldn't ask for help from other passengers at the stop. The reason for this was that people I asked for help would turn away from me" (Participant 16).

The data indicates and underscores that individuals with disabilities face challenges in transportation. According to the findings, the reasons for accessibility issues can stem from the individual's own disability, their introverted or shy character, and largely from inadequate modifications in the physical environment. In certain instances, individuals with disabilities are able to overcome the obstacles they encounter in transportation with assistance from the environment. However, due to their sensitive and fragile characteristics, some individuals with disabilities may find it difficult to seek help from their surroundings.

Traffic and public transportation vehicles represent another area of concern where other individuals often do not show sufficient respect for individuals with disabilities.

"In traffic and public transportation, especially, there should be more patience and tolerance towards individuals with disabilities. It should be recognized that not everyone has equal physical conditions, and more understanding behavior should be displayed."

The participant numbered 3, who expressed the statement, has declared that they have experienced difficulties in this regard. Despite the priority seating for individuals with disabilities in public transportation, there are instances where passengers do not show respect for this right, leading to the inconvenience of disabled individuals.

With advancing technology and a growing population, alternative transportation systems such as rail systems like metro, tram, and high-speed trains have been added to traditional mass transit vehicles like buses and minibuses. However, there are still challenges for individuals with disabilities in rail transportation. Participant 1 made the following statements on this matter:

"The high-speed train can accommodate only 2 disabled individuals. I spoke with friends from the ministry about this issue. I suggested that half of the wagon should be arranged for disabled individuals to board. The response I received was that trains are not built outside European standards. Considering

the number of disabled individuals in Turkey, this capacity for disabled individuals on trains is inadequate. If these trains are designed to be suitable for our country, there would be no place where disabled individuals cannot go by high-speed train. We also have the right to travel. For example, we cannot board these trains with electric wheelchairs. These trains need to be designed to be suitable for us" (Participant 1).

Increasing accessibility in traffic can enhance the travel freedom of individuals with disabilities within the city and contribute to their socialization. Indeed, in order to facilitate the active participation of individuals with disabilities in social life, a change was made in Law No. 4736 in 2013, granting individuals with disabilities the right to use public transportation for free. However, challenges persist. For example, problems may arise due to the lack of announcements of bus stop names on buses. Participant 2 stated:

"Transportation poses significant problems. Yes, we ride for free, but when they are not very familiar with the city, they often get off at the wrong stop. I encountered this on the bus. A woman was supposed to get off at Sıhhiye, and she was in a constant state of panic. In the new buses, the name of the stop is displayed on the screen, for example, it says 'Adliye' (Court). However, the woman is visually impaired. Metros have an audible announcement system, but buses still don't have this system. I asked, 'Can I help you?' and assisted her, but if I weren't there, she could have gotten off at the wrong stop. There are such problems in transportation as well" (Participant 2).

The participant numbered 5 expressed the following opinion:

"While it may seem that many opportunities or rights are granted to us in urban transportation, I believe that most of these are theoretical. To give a small example, there should be a system or application that can read the signs of buses arriving at bus stops. This way, we wouldn't have to rely on someone else's help. Because I know very well that many disabled individuals delay their arrival at their destination because they are hesitant to ask if the bus they need has arrived."

Findings and Comments on Accessibility to Public Buildings

Engaged individuals may encounter numerous obstacles both in their residences and public buildings. Rather than facing challenges solely due to their own disabilities, individuals often experience accessibility issues because of barriers in their surroundings. This can lead to adverse consequences across a broad spectrum, ranging from education to employment. Top of Form.

Participant number 18 emphasized the importance of government officials considering individuals with disabilities when taking actions. For example, they highlighted that many public buildings under construction lack accessibility for individuals with disabilities, indicating that plans are not adequately tailored to accommodate individuals with disabilities.

Participant number 3 shared their perspective, stating:

"In the 1980s and 1990s, our lives were more difficult. It has somewhat eased since then. At that time, we didn't even have wheelchairs. Now we have the opportunity to use electric wheelchairs, and we sustain our lives with them. However, our difficulties are still significant. Whether it's the entrances of public institutions, corridors, or high floors, we face challenges because urban plans do not include adequate adjustments for people with disabilities. In other words, as wheelchair users, we are forced to live on the ground floor of a building unless there is an elevator. We don't have the luxury or comfort of thinking about living on the upper floor for a spacious lifestyle."

Participant number 12 expressed their views:

"Undoubtedly, steps are being taken to improve the accessibility of individuals with disabilities in private or corporate spaces and to make their lives easier. However, is it sufficient? No. For instance, there are deficiencies in the indoor use of many institutions. As a visually impaired individual, I constantly feel the difficulty and lack of this. For example, many hospitals still lack informational signs written in Braille. In addition, navigation applications cannot be a tool for indoor access. Yandex or Google has not yet made a clear effort in this regard."

The participant has shared their negative experiences in accessing public buildings. The data clearly highlights existing problems despite certain improvements in accessibility for individuals with disabilities. Increasing accessibility in public buildings is essential for people with disabilities to benefit from social opportunities and services such as education and healthcare. Accessibility measures implemented in physical spaces are not only beneficial for those with physical disabilities but also for

all disadvantaged individuals, including the elderly, women, and children. It is the responsibility of local and national authorities to present all types of structures and buildings in a manner that can be utilized by all segments of society. This includes public buildings and private residential properties in the city.

Findings and Comments on Access to Decision-Making Centers for People with Disabilities

For the creation of effective policies and plans, active involvement of individuals with disabilities in the decision-making process is an absolute necessity. Consulting the knowledge, experience, and opinions of disabled individuals is a fundamental aspect in the design of inclusive cities. However, when the current situation is examined, it has been observed and understood that participants are generally dissatisfied with the representation of people with disabilities in the decision-making process. In this regard, participant number 13 stated:

"There are almost no disabled members of parliament, mayors, or council members. We have a saying among ourselves: every healthy person is a potential person with a disability. We don't want it to be that way, but if there is a disabled person among the leaders or in their families, they understand our situation. They take steps to regulate our rights and give us tasks. "

Participant number 2 stated:

"In Turkey, there are approximately 20 thousand council members, but only eight of them are disabled. If there is at least one disabled person in each municipal council, we can solve our own problems within the municipality. When we intervene from the outside, they don't take action. Politics get involved in the matter. There shouldn't be politics in disabled policies."

Participant number 7 stated:

"NGOs and social work professionals play an active role in disability policies. However, in activities carried out by NGOs for people with disabilities, they sometimes have to act according to the guidance of bureaucrats rather than our own. While conducting their activities, in some cases, they act according to the perception of the community. In fact, they should put us, people with disabilities, at the center. We can express our needs and demands the best."

The opinions of the participants suggest that decisions are made without sufficient consultation with people with disabilities in the decision-making process. In democratic governments, especially in local councils, collaboration with all kinds of legal organizations, whether civil or non-civil, is expected with stakeholders in the community. The centralized management of the decision-making process and the insensitivity of those who manage this process to ideas from the community can lead to policies and services benefiting only a privileged segment of society. This situation may result in decisions that please one segment of the population while upsetting another.

Local councils, serving as decision-making mechanisms for many policies related to the environment, urban planning, and the disabled population, make numerous decisions that concern the residents of the city and the city itself. It is important and necessary for people with disabilities to actively participate in this process for accurate and healthy accessibility.

Access to Basic Policies with Findings and Comments

"After the 2000s, the value given to us increased. Prejudices of people and politicians towards us were broken, and they started to understand us. NGOs exerted pressure on the political power, along with disabled individuals and their families, and we began to receive the rights we deserved. We were even given more than we expected. During the same period, there was an increase in the amount of social assistance and policies."

(Participant 9).

While participant 9 expresses satisfaction with the quantity of policies implemented for disabled individuals, participants 5 and 14 express opposing views.

Participant 5 states, "Although I see the policies for disabled individuals as sufficient in quantity, the incorrect implementation of policies is a critiquable situation. It is crucial for disabled individuals to have equal rights with non-disabled individuals. However, I believe that the biggest mistake is making positive discrimination towards us. Opening special schools for disabled individuals, creating special quotas for them in job recruitment, although these may seem good from an external perspective, are, in my opinion, the most significant factors influencing society's perspective towards disabled individuals."

Participant 14 mentions, "The point to be criticized in policies for disabled individuals should be more about quality than quantity. I am of the opinion that policies are made solely for the sake of gaining votes. Yes, there is a law or regulation on paper, but how much benefit does this situation actually provide us in reality"

Healthcare Access: Findings and Comments

Compared to other population groups, individuals with disabilities, who have more fragile health conditions and are more vulnerable to diseases, need to actively use the healthcare system to benefit as much as possible. According to the World Social Situation Report prepared by the United Nations in 2011, social services should be accessible to everyone regardless of age, race, or gender (Dejong et al., 2002). In this context, health services and health centers need to be accessible and inclusive.

Participant 6 states, "I don't see any aspect to criticize in terms of health. We have health personnel coming to our homes, which is very good. Otherwise, leaving a disabled individual alone can lead to the death of the disabled person in some cases."

Similarly, participant 2 expresses satisfaction with health services, stating, "Our health personnel's interest and attention in this regard are very good. I don't have a severe disability, but a friend of mine cannot leave home. I know that health personnel come regularly and take care of him. In case of a situation requiring a visit to the hospital, an ambulance comes, and he is taken home again by ambulance."

However, some participants have expressed contrasting views. For instance, participant 18 mentions, "Every time I go to the hospital, I encounter a problem. I am an advocate for at least a few of the hospital staff to know sign language. However, I have never encountered it. Urgently, sign language should be taught to our health personnel. For example, if health personnel responding to an accident encounter a hearing-impaired individual at the scene, how will they intervene with the patient? How will a hearing-impaired injured patient convey their distress?" Accordingly, the participants express satisfaction with health policies. However, they highlight issues related to the structure of hospitals and the attitudes of other patients as sources of problems in the healthcare system.

Findings and Comments on Access to Education

When educational institutions lack accessibility, the already challenging educational process becomes even more difficult for disabled individuals. Participants have expressed encountering various levels of barriers in educational institutions. Participant number 14, in this regard;

"The attitude and behavior of teachers towards disabled individuals can be very wrong and biased. In high school, my teachers openly expressed that they did not want me to continue my education, or they made me feel that way. This left deep scars on my psyche. I felt like I was a burden to people. I was an adolescent at that time, and it was the age when my personality was forming. Because of these incidents, I had problems with myself during that period."

Participant 11 states, "Regarding health, personally, I haven't encountered a serious obstacle so far. However, unfortunately, it's not the same for education. In 2006, with the aim of entering fine arts faculties, I took talent exams at three different universities. In two of the three universities, I passed the first stages of the two-stage exams with very good scores and earned the right to enter the second stages. However, as if they had agreed, the department heads of two universities told me the same thing: "We cannot admit visually impaired students because there is not enough infrastructure in our department." This is the most nauseating and frustrating incident I have encountered throughout my educational life."

In addition to basic education, directing individuals with disabilities to vocational training is valuable for the individual, the family, and society. When a person with disabilities actively participates in the workforce through vocational training, they contribute to the family and provide economic support to society. It has been observed that disabled individuals who are forced to rely on their families and social assistance due to their inability to participate in the employment process experience psychological problems.

Results and Discussion

This study aimed to understand whether individuals with disabilities residing in Ankara Çankaya experience accessibility problems using scientific methods and techniques. Research findings were evaluated and analyzed in seven different categories: "accessibility of the physical environment,"

"accessibility of public buildings," access to "social assistance," accessibility of "decision-making centers," "health," "employment," and "education."

Although the data indicated improvements in all seven categories after the enactment of the Disability Law in 2005, it also revealed that some problems persist. Individuals with disabilities reported limitations in moving independently without assistance in the physical environment, such as markets, stores, restaurants, sports facilities, cinemas, theaters, parks and green areas, vacation spots, hotels, buildings, streets, roads, sidewalks, etc. These limitations were also observed in public transportation, including minibuses, buses, and rail transportation.

Similar issues were expressed regarding the accessibility of public buildings, creating barriers for individuals with disabilities to engage in employment, social participation, and integration into society. The data indicates that individuals with disabilities face widespread challenges in accessing employment. Difficulties in finding jobs, being employed in low-wage positions, and encountering prejudices create a significant problem area for the disabled population. It is evident and understood that the inability of the disabled population to find employment or being employed in low-wage positions puts them in a vulnerable position socially, psychologically, and economically. In other words, the exclusion of disabled individuals from employment leads to a narrow life woven with socio-economic limitations, turning their disability into a barrier.

- Improving the accessibility of spaces such as markets, stores, restaurants, sports facilities, cinemas, theaters, parks, green areas, holiday destinations, hotels, buildings, streets, sidewalks, and walkways by arranging missing, faulty, or deformed elements according to universal design principles will enable individuals with disabilities to move freely and seamlessly in public spaces like any other member of society. Redesigning public transportation vehicles will also contribute to this goal.

Recommendations for Increasing Accessibility in Public Buildings:

- Enhancements can be made to facilitate the entry, exit, and movement freedom of individuals with disabilities within public buildings. This may include keeping accessible restrooms open at all times, designing corridors and door openings according to standards, and ensuring that parking spaces designated for people with disabilities are not occupied, among other recommendations.

- The contribution of individuals with disabilities to the creation of accurate policies and plans is undeniable when they actively participate in decision-making processes. Consulting their knowledge, experience, and opinions is crucial in the design of inclusive cities and the formulation of disability services and policies. Therefore, it is recommended to ensure the representation of individuals with disabilities in decision-making processes.

- According to the Labor Law, workplaces with 50 or more employees are obliged to employ individuals with disabilities. While the quota for the public sector is 4%, it is 3% for the private sector. However, this situation has become susceptible to abuse in the private sector. Employers may prevent employees with disabilities from coming to the workplace by paying their salaries. Employment for an individual with disabilities means more than just a salary; it is a significant step for socialization. Therefore, it may be beneficial for the relevant ministry to inspect and monitor these workplaces.

- The accessibility of educational centers can be increased. Educational institutions such as schools, tutoring centers, and vocational training courses that are constructed or revised according to universal design principles can provide opportunities for a greater number of individuals with disabilities to participate in education.

- There is generally a lack of awareness in society about how individuals with disabilities should be treated. This situation also applies to educators. In-service training can be provided to educators on how to interact with students with disabilities.

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