ARCHITECTURAL IMPLICATIONS OF
COMMUNITY BASED/INCLUSIVE REHABILITATION CENTERS
IN THE LIGHT OF UNIVERSAL DESIGN

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ABSTRACT

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With the development of the concept of disability and consequently rehabilitation concept, today's achievements of rehabilitation centers are perceived different from the traditional ones. Conventional approach of rehabilitation was aiming at improving functional deficiencies of people with disabilities with the help of medical treatment. Within the last two decades depending upon the increasing in the awareness of idea of inclusivity in society there has been developed a shift from traditional medical based approach to more social based ones where rehabilitation has been perceived as a process to enhance the 'quality of life' rather than a process of a medical curation of people with diverse disabilities. The new social-based rehabilitation approach refers community-based rehabilitation strategy that aims to integrate various sectors of social life for the achievement of an effective rehabilitation while promoting inclusion of people with less or severe disabilities in social life.

It is stated in this thesis that the architectural program of a community-based rehabilitation centers can be elaborated with the parameters of Universal Design (UD) which not only responds to the shift in community-based rehabilitation approach while

promoting inclusion in the society, but also has a potential to advance spacial formative characteristics of related centers in a more descriptive way. The ideas of equity and participation are the significant parameters of UD that are referred in the thesis in order to elaborate the supportive social services of an architectural program and to investigate spatial characteristics of community-based rehabilitation centers.

ÖZ

TOPLUM ODAKLI/KAPSAYICI REHABİLİTASYON MERKEZLERİNİN EVRENSEL TASARIM IŞIĞI ALTINDA MİMARİ YORUMLANMASI

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Gelişen engellilik ve buna bağlı olarak gelişen rehabilitasyon kavramıyla birlikte, bugünün rehabilitasyon merkezlerinin başarısı geleneksel rehabilitasyon merkezlerinden farklı olarak düşünülmektedir. Geleneksel rehabilitasyon yaklaşımı, engellilerin fiziksel yetersizliklerini medikal tedavi yardımıyla iyileştirmeyi amaçlamaktadır. Son yirmi yıl içinde toplumda, kapsayıcı bir toplumun yaratılması için artan farkındalık ve bilinçlenmenin etkisiyle geleneksel medikal odaklı yaklaşımdan, rehabilitasyonu engellilerin medikal tedavi sürecinden çok onların yaşam kalitesini yükseltmeyi amaçlayan bir süreç olarak gören sosyal odaklı yaklaşıma doğru bir değişim olduğu görülmektedir. Bu yeni sosyal odaklı rehabilitasyon yaklaşımı, başarılı rehabilitasyon için tüm engellilerin katılımını desteklerken sosyal yaşamın çeşitli sektörlerini kapsamayı amaçlayan toplum odaklı rehabilitasyon modelini ifade etmektedir.

Bu tezde, toplum odaklı rehabilitasyon merkezlerinin mimari programının, toplumsal katılımı savunan toplum odaklı rehabilitasyon merkezine doğru olan değişime cevap vermenin yanında merkezlerin mekansal özelliklerini daha tanımlayıcı bir yolla geliştirme potansiyeline sahip olan Evrensel Tasarım'ın (ET) parametreleri ile hazırlanabileceği

ifade edilmektedir. Bu çalışmada, mimari program kapsamında destekleyici sosyal servisleri ve toplum odaklı rehabilitasyon merkezlerinin mekansal özelliklerini açıklamak için ET'nin önemli parametreleri olan eşitlik ve katılım yaklaşımları kullanılmıştır.

Anahtar Kelimeler: toplum-odaklı/kapsayıcı yaklaşım, yaşam kalitesi, Evrensel Tasarım, rehabilitasyon merkezi mimarisi, mimari program.

To My Family

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CHAPTER 1

INTRODUCTION

1.1. Definition of the Problem: Changing Approaches of Rehabilitation Centers & A Shift from Conventional Rehabilitation Centers to Community-Based/Inclusive Rehabilitation Centers

This study considers an exploration of the architectural characteristics of rehabilitation centers in a social context that focus on *community-based / inclusive*[1] perspective. It is emphasized in this thesis that community based or inclusive rehabilitation centers are seen as a crucial contributor to *full participation* of people with and without disabilities into community as trying to eliminate of variety of disabling circumstances as much as possible. Not only people with disabilities but also community in general may need, from time to time, rehabilitation centers that provides medical, physical, social, mental, psychological services during the lifetime period. Properly established rehabilitation centers help people to become more active, productive and self-sufficient in all fields of community life such as education, employment, and other facilities open to public. Additionally, in the context of contemporary world, as the conceptual understandings on disability have been shifted towards more integrated approach, the role of rehabilitation centers has been emphasized in their contribution to the creation of more *inclusive society*.

On account of all these reasons mentioned above, rehabilitation centers have progressively let society know about their values as stated by Sürmen.[2] There are many

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1 In this study, the terms *community-based* and *inclusive* are used as synonyms, in other words, they all refer to the same concept.

2 Ş. Sürmen. "Hastaneler, Rehabilitasyon Merkezleri, Sağlık İstasyonları [Hospitals, Rehabilitation Centers, Health Stations]". Translated by the Author. Istanbul: Istanbul Technical University Application and Research Centre for Environment and Urban, 1991, pg. 134.

international organizations which considerably mention the importance of rehabilitation consequently rehabilitation centers. Standard Rules on the Equalization of Opportunities for Persons with Disabilities adopted by The United Nations (UN) in 1993 primarily concern "medical care" and "rehabilitation" among other issues as necessary preconditions for equal participation of people with disabilities into their societies, which has also been supported by World Health Organization (WHO).[3]

The design of rehabilitation centers has also crucial importance because they correspond to the equal participation and social integration/reintegration of people to the society. To provide the best rehabilitation services for people with or without disabilities relates to the nature of the physical environment of the center. Thus, rehabilitation center design deserves careful attention. Persons with disabilities may have more opportunities with the contribution of best rehabilitation services to achieve independence, self-care, and work potential in their all part of private and public lives.

Although the main problem area of this study is based on the field of architecture, successful rehabilitation center design profoundly depends on the nature of conceptual understandings regarding rehabilitation and planning, organization, and application of rehabilitation services. Thus, it is essential that the perception figure of rehabilitation concept in community and organizational applications be brought into a discussion before explaining the problems related to the architectural interpretations on the building. General approach to rehabilitation concept and related problems at the present day are summarized in following explanations.

1.1.1. Problems related to conceptual understandings of rehabilitation as well as the perception of the issue of disability

Historically, understandings on disability have been characterized by three disability models which are morality model, medical model and social model of disability explained in the second chapter of the study in detail. Selman points out that Morality Model, the oldest model of disability, is based on "culturally and religiously-determined knowledge, views, and practices". In this attitude, communities tend to put people with disabilities in

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3 WHO. "Medical Care and Rehabilitation". WHO web site. Retrieved on January 19, 2008 from
   http://www.who.int/disabilities/care/en/

a position ranging from human to nonhuman by the implications of cosmology, social organization and other factors. Medical Model, which is also called Individual Model, is established upon scientific views and practice. In this model, the nature of the "problem" is due to the body of a person with a disability.[4] Hence, disability is perceived as an individual problem rather than a societal problem. For Social Model, in contrast to Medical Model, the problem comes from the social environment, instead of people with disabilities themselves. In social model, disability is perceived as variety in functional abilities or the consequences of the discriminative attitudes in policies, practices, research, training, and education.[5]

The rehabilitation profession has traditionally emerged in the influence of the medical model.[6] It has had a power over the rehabilitation professions in a way that its perspective is the "right" way of understandings about disability.[7] Oliver, however, thinks that it is "the personal tragedy theory of disability" as medical treatment is one important element of it.[8] Thus, in this view, the goal of rehabilitation is to either remedy or correct the impairment by the help of medication and surgery and suggest adaptive equipments for physical adjustment of an individual to the society.[9] As understood from these explanations, rehabilitation concept in medical-based approach is only based on the individual deficiencies in a narrow sense, in which social factors are ignored, rather than shortcomings in the community in respect of the social participation and integration of everyone to society.

The perception of disability in medical-based approach is also reflected in the policy documents. For instance, the United Nations' International Year of Disabled Persons (1981) proclaimed its main goal as being to "*help disabled people in their physical and psychological adjustment to society*" as mentioned by Hammel in citing Barnes and Mercer (2003). This implies that the responsibility within this approach is to make people

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4 K. Selman. "Trends in Rehabilitation and Disability: Transition from a Medical Model to an Integrative Model". 2004. Retrieved on August 10, 2008 from http://www.disabilityworld.org/01-03_04/access/rehabtrends1.shtml
5 Ibid.
6 K. W. Hammell. "Perspectives on disability & rehabilitation : contesting assumptions, challenging practice". Edinburgh ; New York : Churchill Livingstone/Elsevier, 2006, pg. 58.
7 Ibid., pg. 59.
8 M. Oliver. "Understanding Disability: From Theory to Practice". St. Martin's Press, 1996, pg. 31.
9 "Glossary of Terms". In Inclusive Design: design for the whole population. Edited by P. John Clarkson, Roger Coleman, Simean Keates, Cherie Lebbon. Germany: Springer, 2003, pg. 598.

with disabilities adapted to a society created according to the needs of the dominant population. It misses the concerns related to societal problems. [10]

These conventional approaches for rehabilitation on the basis of *institutionalization* and medical treatment of people with disabilities certainly omitted equal rights and social participation of them so the need for a new approach based on the social context has begin to be discussed commonly. For this purpose, Social Model, the third model of disability, has emerged. In Social Model, the understandings of the problems of disability mainly based on the problems of built environment not the impairments of people with disabilities, as comparing with Medical Model. However, it reduces the causes of disability either exclusively or mainly to social and environmental policies and practices.[11] Hence, although it addresses behaviors, attitudes and social construct which result in oppression, exclusion or discrimination, the goal of rehabilitation based on the improvement of impairments with the help of medical treatment is not totally changed (Oliver, 1990 and Ravaud, 2001).[12]

Consequently, with the increasing social consciousness and sensitivity towards the rights of people with disabilities, the purpose of rehabilitation has been gradually changed from the independence in the activities of daily living to the improvement of the quality of life.[13] Nevertheless, understandings among society and application of the unified system still needs to be developed in common as looking at the current system and applications. The deficiencies and the description of problems based on the system and organization of rehabilitation services are claimed below.

1.1.2. Problems related to the system and organization of rehabilitation services

Rehabilitation services have been tended to provide in a particular section of a hospital as mentioned by Allan. However, the cooperation within the limited services in hospitals

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10 K. W. Hammell. "Perspectives on disability & rehabilitation: contesting assumptions, challenging practice". 2006, pg. 58.

11 K. Selman. "Trends in Rehabilitation and Disability: Transition from a Medical Model to an Integrative Model". 2004.

12 A. Leplege, F. Gzil, M. Cammelli, C. Lefeve, B. Pachoud, and I. Ville. "Person-centredness: Conceptual and historical perspectives". *Disability and Rehabilitation*, October – November 2007; 29(20 – 21), pg. 1563.

13 L. Worrall, L. M. Hickson. "Communication disability in aging: from prevention to intervention". Thomson Delmar Learning, 2003, pg. 52.

can not create an effective rehabilitation program.[14] Integration of all required services in a well coordinated way is important for the achievement of the organization and utilization of rehabilitation services.[15] Serving rehabilitation services in a hospital also reflects an institutionalized setting by keeping people with disabilities in a hospital too long and isolated from the wider community. Hammel mentions by citing Twing (2000) that in the total institutional settings, people with disabilities who is confined to a hospital lives and are cared for under the control and observation of staff.[16] The staff might involve health professionals for the treatment and hospital attendants for the care of individuals. This hospital-based model is also valid in the case of rehabilitation services in Turkey. To illustrate, in "special care centers", people with disabilities take *long-term* care and rehabilitation services to carry on daily living activities as well as public ones.[17]

Within this institutionalized approach, rehabilitation professionals and hospital attendants have central role in taking decisions on rehabilitation of people with disabilities as inferred from the explanations of Hunt (1994) Hammell quotes from.[18] People with disabilities are not perceived as an active participant within the planning and organization of rehabilitation services.[19] In this non-holistic way, the real needs and expectations of community about rehabilitation facilities would not be totally understood and then would not be fulfilled by rehabilitation centers.

Policy documents adopted both in national and international arena contributes to the development of approaches on disability and consequently rehabilitation. However, conventional attitudes are still common both in the organization and programs of rehabilitation services as looking at the applications explained below.

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14 W. Scott Allan. "Rehabilitation: a community challenge". New York: Wiley, 1958, pg. 42.
15 Ibid., pg. 121.
16 K. W. Hammell. "Perspectives on disability & rehabilitation : contesting assumptions, challenging practice". 2006, pg. 116.
17 "III. Özürlüler Şurası Bakım Hizmetleri Şura Kararları [The Third Consultative Committee for Disabled People Nursing Services Council's Decisions]". İstanbul: Republic of Turkey Prime Minister Administration for Disabled People, November 2007., pg. 11.
18 K. W. Hammell. "Perspectives on disability & rehabilitation : contesting assumptions, challenging practice". 2006, pg. 117.
19 Rose Sachs. "Disability Support Services Faculty/Staff Guide: Integrating Disability Studies into Existing Curriculum". LCSW-C. Retrieved on August 1, 2008 from www.mc.cc.md.us/departments/dispsvc/diversity.htm.

1.1.3. Problems related to the applications of laws, regulations, and rules

Some policy documents including rules, recommendations, resolutions, standards, and community action programmes have contributed to the development of the concept of disability and consequently rehabilitation concept on both international and national stage. Also, some of them which are *World Programme of Action concerning Disabled People (UN, 1982), Standard Rules on the Equalization of Opportunities for Persons with Disabilities (UN, 1993), Recommendation No. 92 on a Coherent Policy for the Rehabilitation of People with Disabilities (EC, 1992), Recommendation 1592 towards full Social Inclusion of People with Disabilities (EC, 2003), HELIOS II (Third) Community Action Programme to Assist Disabled People (EU, 1993-1996), Resolution of the European Parliament on the Commission's Communication on Equality of Opportunity for People with Disabilities (EU, 1996)* specifically concern the improvement of rehabilitation services in a more integrated approach. However, "rehabilitation professionals still have a largely clinical or individualistic ideology and focus very little on improving the circumstances of disabled people through changes in laws or social policies" as mentioned by Hammell in citing Jongbloed and Crichton (1990).[20] It can be seen that there are limited attitudes and applications so as to support social participation and integration of individuals to the society both physically and socially.

In Turkey, there have recently been many examples of attempts to increase the social consciousness and improve the legislations related to disability and rehabilitation. It can be said that the most important development on disability and rehabilitation in Turkey is "Disability Law" adopted in 2005. The Article 6 of The Law points out the equal rights of people with disabilities in rehabilitation services as follows:

> *Rehabilitation facilities are served to correspond to personnel and communal needs of persons with disabilities on the basis of participation in community life and equality. Taking a rehabilitation decision, rehabilitation planning, conducting, terminating, and every stage of rehabilitation process are based on active and effective participation of person having disabilities and his/her family.*[21]

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20 K. W. Hammell. "Perspectives on disability & rehabilitation : contesting assumptions, challenging practice". 2006, pg. 68.

21 "5378 sayılı Özürlüler ve Bazi Kanun ve Kanun Hükmünde Kararnamelerde Değişiklik Yapilmasi Hakkinda Kanun [Disability Law no 5378]". 2005. Translated by the Author. Retrieved on November 26, 2007 from http://www.ozida.gov.tr/mevzuat/kanun.htm

It is claimed in the Article 13 of the Disability Law that Municipalities are responsible for social and vocational rehabilitation of people with disabilities.[22] For the purpose, service departments for people with disabilities are established within Municipalities with the Regulation of Service Departments for People with Disabilities in 2006.

After the Disability Law, many implementing regulations about care and rehabilitation of people with disabilities have been passed. These are, however, only for persons with severe disabilities who need help for doing basic activities. Besides Disability Law, there are other national and international laws and regulations which stress on "equal participation" and "equal opportunity" in rehabilitation services.[23] The Standard Rules call upon Turkey like other member nations to develop national rehabilitation programs for all groups of people with disabilities, based on the principles of full participation and equality. It is also stated in The Constitution of the Republic of Turkey (1982) that "the state shall take measures to protect the disabled and secure their integration into community life" and "to achieve these aims the state shall establish the necessary organizations or facilities, or arrange for their establishment by other bodies."[24] However, persons with disabilities could not sufficiently benefit from their constitutional rights based on rehabilitation services and applications of the legislation in the field of rehabilitation are insufficient. [25] Moreover, rehabilitation centers fail to address the real needs of persons with disabilities as there is a problem with the general quality and quantity of the centers.[26] It is the fact that, in all developing countries for example in Turkey, the need for more studies on the improvement of rehabilitation centers both in national and local level is obvious. This study generally intends to respond to this requirement.

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22 Ibid.
23 "I. Özürlüler Şûrası: Çağdaş toplum, yaşam ve özürlüler Komisyon Raporları Genel Kurul Görüşmeleri [First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports General Assembly Conferences]". Turkish Republic Prime Minister Administration for Disabled People, Ankara: Takav Matbaacılık, 1999, pg. 89.
24 "The Constitution of the Republic of Turkey". 1982. Translated by the Author. Retrieved on March 19, 2007 from http://www.anayasa.gov.tr/images/loaded/pdf_dosyalari/THE_CONSTITUTION_OF_THE_R EPUBLIC_OF_TURKEY.pdf
25 I. Özürlüler Şûrası: Çağdaş toplum, yaşam ve özürlüler Komisyon Raporları Genel Kurul Görüşmeleri [First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports General Assembly Conferences]. 1999, pg. 22.
26 Ibid. pg. 20.

1.1.4. Problems related to architectural programming and physical interpretations

In parallel with conventional approaches on rehabilitation mentioned above, rehabilitation centers are seen as hospital-based institutions which provide a mix of services based on the medical needs of people with disabilities to reduce their disabling situations. Additionally, within the lack of holistic perspective and the impact of the medical-based approach, rehabilitation services are created as individualized hospital departments. Allan states that rehabilitation programs applied in hospital mainly involves medical and physical therapy activities for individuals.[27] Since they are limited to improving and maintaining such functions of people with disabilities, they disregard certain needs of them and community at large based on the social interaction with the built environment. Providing limited services rather than all-round one in a rehabilitation center considerably affect the architectural program of the center and so the achievement of the design. In this case, the organization of rehabilitation services is oriented towards the organization of spaces in a plan schema of a hospital. Architectural programming and spatial interpretations of the design also reflect hospital-based environment.

By the implication of Medical Model, people with disabilities are placed in special institutions being placed far from community life as mentioned by Brisenden.[28] The accessibility of these services, thus, is reduced to majority of the population. It is an increasingly accepted idea that if essential supportive services are placed in community, even people with severe disabilities can live independently as much as possible.[29] Integration of rehabilitation facilities in general public services is crucial for "full participation and equality" of individuals.[30]

The changing approaches in rehabilitation field entail the investigation of the new concept of rehabilitation center. Traditional rehabilitation approach which aims to provide therapies and services based on medical treatment for people with disabilities in an

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27 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 48.
28 Simon Brisenden. "Independent Living and the Medical Model of Disability". 1986. Retrieved on November 4, 2007 from http://www.leeds.ac.uk/disability-studies/archiveuk/brisenden/brisenden.pdf.
29 United Nations. "United Nations Decade of Disabled Persons, 1983-1992 World Programme of Action Concerning Disabled Persons". United Nations: New York, 1983. Retrieved on February 2, 2008 from www.leeds.ac.uk/disability-studies/archiveuk/united%20nations/world%20programme.pdf
30 Ibid.

institutional model has gradually been changed to comprehensive programmes, which contain communities and families besides medical and social services. Rehabilitation center concept in the 21st century has been discussed in a way that it should be based on "equal participatory" and "inclusive" approach so that every person who needs supportive services to live independently would have an equal opportunity as much as possible to take part in his/her community. The requirements and expectations of community rather than only defining the needs based on person's disability are the principal points within the planning of rehabilitation centers. From the point of views, architectural program of rehabilitation centers should reflect an inclusive approach for the achievement of today's rehabilitation centers.

Literature related to the design of rehabilitation centers

The attitudes and responses to the rehabilitation center buildings including the needs of people and the organization of spaces are addressed in some books. W. Scott Allan in his book, "Rehabilitation: a community challenge" (1958) states certain general concerns in the planning and establishment of services and activities in a rehabilitation center within the critical evaluation of medical-based approach, which would provide background information for architects during the design process of a rehabilitation center. "Rehabilitation Center Planning; an Architectural Guide" (1959) by Salmon, F. Cuthbert and Christine F. Salmon is one of the important sources which give valuable information concerning the overall design of rehabilitation centers. They generally explain major scopes of activities within a rehabilitation center following the description of rehabilitation program, planning principles, and environmental considerations. More importantly, their goal is to "present to the architect the scope of the rehabilitation problem and some possible solutions, and to point out to those in other professions the kind of contribution that the architect can make to the planning of such a center".[31] An Architectural Record Book of 1960 titled "Hospitals, Clinics, and Health Centers" involves various models of rehabilitation center planning ranging from specialized rehabilitation centers in certain fields of rehabilitation to more comprehensive ones in its third chapter. Henry Redkey in his book "Today's Rehabilitation Centers" (1962) defines rehabilitation and rehabilitation centers and which services are included in rehabilitation

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31 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 5.

centers; however, it does not involve considerations regarding the physical design of rehabilitation centers.

There are also some dissertations addressing the new concept of rehabilitation center in architecture. Herman Leungh in his master thesis, "A Rehabilitation Centre for the Disabled" (1995) examines "a design methodology that is capable to sustain the special needs of the disabled within the framework of the community life of the able-bodies people, so that it would facilitate and achieve the aims of self-development, integrated rehabilitation and social participation".[32] Edward Miu Wah Pui in his master thesis, "Rehabilitation and Community Complex in Cha Kwo Ling" (1996) have concentrated on the new rehabilitation center approach in a more integrated and community-based perspective and investigates a design program for the proposed complex for rehabilitation.

In Turkey, the report of the First Consultative Committee for People with Disabilities held in 1999, rehabilitation is brought into discussion within its meaning, major parts of rehabilitation services and their organization. However, the understandings are not far from medical-based concept. Besides, the issue of the third Consultative Committee for People with Disabilities is the care services for people with disabilities. Since it is not the only case for full integration of people with disabilities to the society, many efforts should be done for the development of all supportive facilities in a broader and integrated sense in Turkey.

Although there is a wide range of literature on a variety of issues concerning the new rehabilitation center approach, there is limited attention given to how rehabilitation center architecture responds to this new social-based concept. Especially in Turkey, there is not much research, study, application, standard or regulation on rehabilitation services and further rehabilitation center architecture in the social context. This study is expected to fulfill the requirements with the purpose of the creation of equally usable rehabilitation center for all community members.

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32 Herman Leung. "A Rehabilitation Centre for the Disabled". Unpublished Master Thesis, Hong Kong: Hong Kong University, 1995, pg. 1.

1.2. Universal Design

A conceptual framework for a new rehabilitation center approach is a necessary component in its shift, conceptual comprehension to be developed and appropriate design parameters to be applied. In this study, Universal Design is used for the purpose of establishing a comprehensive enclosure in today's more integrated rehabilitation center design.

Universal Design is a *human-centered design* that is applied to everything in the physical environment, considering everyone as equal.[33] It does not mean a design; nonetheless, it orients any design process to achieving its goals starting with the goal of *user's experience*.[34] It is also an *inclusive process* which aims to enable everyone to employ the full potential of the products and environments no matter what their ages, sizes or abilities are.[35] This approach prevents individuals from discriminative situations related to the utilization of the design so it brings about the *social integration* of the broadest variety of them.[36] Within this perspective, universally designed environments that address the needs of all people are based on the *inclusion* and *provision of equal participatory opportunities for all*. These components reinforce equal integration of people to the society socially, cognitively, emotionally, and physically. Briefly, c*ommunity-based* approach which appreciates the needs of everyone and *inclusive* approach which highlights equal participatory opportunities in any component of the built environment are key issues of Universal Design.

Evolutionary changes in the rehabilitation center concept forces to shift the nature of rehabilitation centers planning. I believe that Universal Design has a great potential to respond to this shift within the architectural context. Whereas traditional rehabilitation

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33 Adaptive Environments. "What is Universal Design?". Adaptive Environments web site. Retrieved on April 15, 2008 from http://www.adaptenv.org/index.php?option=Content&Itemid=3
34 Ibid.
35 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 1. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf
36 Molly Follette Story. "Principles of Universal Design". In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York: McGraw-Hill, 2001, pg. 10.15.

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centers specifically addressed the needs of people with certain kinds of disabilities, the expectations of not only people with disabilities but also community in general are important points for rehabilitation centers based on the new social context. Sandhu states that Universal Design approach mainly appreciates and congratulates the variety among individuals. It addresses the main paradigm shift from medical approach which views individuals as dependant and passively receiving care and treatment services to a model which supports the rights to equal treatment opportunities for every citizen and considers disability as a *social construct*.[37] Within this framework, the new mission of rehabilitation center would be closely associated with community-based approach of Universal Design. Besides, as communal needs are the basis in the planning of rehabilitation centers contrary to the traditional ones, equal participation of all members of society in all activities of their rehabilitation process is also valued by Universal Design. Because of all these reasons mentioned above, in this study, *community-based/ inclusive* approach of Universal Design are considered as crucial elements while investigating the new conceptual framework on the design of rehabilitation centers.

1.3. The Purpose and Boundary of the Study

The purpose of the study is to focus on the concept of rehabilitation center as it is approached within a community-based or inclusive social context, the main theme of Universal Design. The primarily aim is to explore planning principles of community-based/inclusive rehabilitation centers within the light of Universal Design perspective following the disclosure of the parameters of the center. Universal design approach and its principles including its theoretical frameworks and historical backgrounds will help to establish a general conceptual perspective to focus on the design principles of the center. The changing approaches towards rehabilitation center are tried to be critically evaluated so that the investigation of disregarding points of conventional approaches can help to clearly define rehabilitation center for all. Many examples of rehabilitation center from Turkey and other countries are chosen as the sample studies in order to perceive the practical side of the issue.

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37 Jim S. Sandhu. "An Integrated Approach to Universal Design: Toward the Inclusive of All Ages, Cultures, and Diversity." In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York: McGraw-Hill, 2001, pg. 3.4.

The scope of this study focuses specifically on architectural characteristics of rehabilitation center within the light of community-based/ inclusive component of Universal Design. Since the mission, rehabilitation program and organization of rehabilitation services orient the design process, they are also explained within the same purpose. This study looks at the general design parameters of rehabilitation centers; it does not include physical design features in detail. The evaluation of equal accessibility, integration, and usability of rehabilitation centers are brought into discussion, including the role and contribution of architects and place-users. At the end of the study, it is expected that the investigation of design principles of the community-based/inclusive rehabilitation centers would provide essential information for preliminary research for the preparation of the architectural program of them. Thus, it is believed that it will guide architects and students of architecture in the design process of universally designed rehabilitation center. Also, it is expected that this study will contribute to not only the development of rehabilitation centers but also the creation of more inclusive society broadly.

1.4. Methodology of the Study

This study begins with a literature review encompassing the concept of conventional rehabilitation center approaches and a review of existing national and international policy documents pertaining to the concept of rehabilitation and rehabilitation services. These conventional rehabilitation center approaches are investigated within the shift from the medical-based attitudes to social-based ones. How these approaches have had influence on the planning and organization of rehabilitation services in community is also considered.

The third chapter of this study contains an analytical research on Universal Design concept. A discussion on the concept of Universal Design is followed by an overview of existing guidelines and principles that affect the scope of this study's design intervention. Particular emphasis is placed on why Universal Design needs to be incorporated into a rehabilitation center design to build a conceptual framework for community-based/inclusive rehabilitation center.

In the fourth chapter, the definitions of major principles of Universal Design, community-based and inclusive, are explained in detail. Following these definitions, community-based/inclusive rehabilitation center is defined within the overview of the deficiencies of conventional rehabilitation centers. The characteristics of rehabilitation centers are discussed in relation to the key concepts of Universal Design. These characteristics are categorized along three broad dimensions: the mission; the rehabilitation program in a relation to architectural program; and the physical environment of rehabilitation centers. Some analytical diagrams are created so as to bring clarity to the importance of Universal Design's components in the creation of universally designed rehabilitation center.

In the concluding chapter, the fact that such a study is important for increasing social awareness, consciousness of community, and improvement of rehabilitation center concept in terms of both conceptual and architectural frameworks is reemphasized. The correspondence between rehabilitation centers and Universal Design is stressed. Finally, the need for more studies on the design of rehabilitation center is stated.

CHAPTER 2

EVALUATION OF EXISTING SITUATION: ANALYSIS OF CONVENTIONAL REHABILITATION CENTERS

In this chapter, the definitions of conventional rehabilitation centers are explained by means of explaining the changing views/understandings towards people with disabilities in a historical context. In the light of the evaluation of the changing approaches on disability, it is intended to bring into discussion the impact of these approaches on rehabilitation concept, and so rehabilitation centers. The examples of rehabilitation centers from inside and outside Turkey are investigated in order to have a deeper understanding on the effect of these different approaches. Then the national and international legislations related to rehabilitation and rehabilitation services are expressed in a way that indicates the increasing awareness towards human rights and so the development of rehabilitation concept in a more integrated approach.

2.1. Definitions of Conventional Rehabilitation Centers within the Historical Background

The dictionary definition of rehabilitation is "to restore or bring to a condition of health or useful and constructive activity". [38] The origin of "rehabilitation" extended to the medieval period and its meaning was "recovering status, privileges, assets and honor once lost". [39] It was thought in the19th century when medical approach was adopted that the best opportunity for the rehabilitation of persons with disabilities was to live in an institution. [40] This is a vision that results in their segregation from the rest of the society.

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38 "Rehabilitation". Merriam-Webster Online Dictionary. 2008. Retrieved on June 01, 2007 from http://mw1.merriam-webster.com/dictionary/rehabilitation

39 Japan International Cooperation Agency. "JICA Thematic Guidelines on Disability". October, 2003, pg. 5. Retrieved on April 12, 2007 from http://libportal.jica.go.jp/Library/Data/ThematicGuidelines/SocialSecurity/Disability0509e.pdf

40 Tomas Lagerwall. "The Right to Habilitation and Rehabilitation – Promoting Integration and

The concept of rehabilitation was being used for the first time during the First World War.[41] During those times, rehabilitation profession appeared due to the need for reintegration of veterans into society.[42] After the First and Second World War, in the United States, the number and quality of rehabilitation centers increased because of the need for comprehensive services for battle casualties, which greatly contributed to the development of the centers.[43] Medical rehabilitation focusing on physical improvement and occupational rehabilitation were provided for many soldiers wounded during the wars for the purpose of their reintegration into society.[44] At that point, the development of rehabilitation centers may attribute to the labor shortage during and immediately after the wars.[45] After these wars, the aim of rehabilitation was extended from persons having disabilities because of old age and disease to those having visual, hearing, and mental impairments.[46] Further, the rehabilitation of battle casualties have been gradually converted into community health services.[47] The developments in the field of rehabilitation during the wars were primarily because of the medical and occupational rehabilitation of veterans; therefore, rehabilitation center was not exactly addressed the rights of people with disabilities in social aspect.

As a result of these negative impacts, international disability movements challenging the conventional approaches to disability and the human rights have emerged. They certainly have made universal progress in a short period of time.[48] Lagerwall states that persons with disabilities revealed by the Civil Rights and Women's Right Movements started to ask for their rights in the late 60s and 70s.[49] "Disability Rights Movements", "Normalization Activity" and "Independent Living Movement (ILM)" at those times

Inclusion of People with Disabilities". Kobe Gakuin University, June 11, 2005. Retrieved on April 12, 2007 from http://www.rehab-international.org/events/Nagasaki%20June%2014%20-%2005%20(2).doc

41 Henry Redkey "Bugünün Rehabilitasyon Merkezleri". Translated by Türkyılmaz Özel. Ankara: Ege Matbaası, 1962, pg. 14.

42 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005. Retrieved on April 12, 2007 from http://www.rehab-international.org/events/RI%20Europe_LandmarkStudy_12Nov05.doc

43 Henry Redkey "Bugünün Rehabilitasyon Merkezleri". 1962, pg. 14.

44 Japan International Cooperation Agency. "JICA Thematic Guidelines on Disability". October, 2003. pg. 5.

45 Ibid., pg. 5, dipnote 3.

46 Ibid., pg. 5.

47 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 45.

48 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". 2005.

49 Tomas Lagerwall. "The Right to Habilitation and Rehabilitation – Promoting Integration and Inclusion of People with Disabilities". June 11, 2005.

were important activities for the development of rehabilitation centers by the implication of the increase of social efforts for persons with disabilities in the western countries. The international movement of people with disabilities in the late 1960s gradually caused the transformation of medical-based identifications for the diverse economic and social withdrawals of people with disabilities to a more socio/political one which referred "Social Model" of disability. [50] Barnes and Mercer point out, by citing Cole, that *more generally, the ILM advocated distinctive approaches to traditional rehabilitation services in terms of their aims, methods of delivery, and programme management (Cole 1979).*"[51] Further, disability has started to be seen as not a "personal" problem, but as a "social" problem and social reform efforts related to persons with disabilities increased by the reason of above facts.[52] The discussions that have been developed about the issue of "Quality of Life" approach in the 1980s are other important factors in concerns about rehabilitation. Quality of life having implication of "quality of human life" is constituted by all areas of community life such as the activities of daily living, labor and job, social participation, cultural activities, travel and leisure.[53]

Social consciousness and sensitivity towards the rights of people with disabilities have been increased in society on account of many movements and activities mentioned above and they have caused the coming out of different understandings related to concept of disability. By the help of the development of them, the purpose of rehabilitation has been gradually changed. Hence, it is essential to widely explain different understandings related to concept of disability in order to have a wider understanding of the changing meaning of rehabilitation and rehabilitation center.

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50 Colin Barnes. "A Working Social Model? Disability and Work in the 21st Century". December, 1999. Paper presented at the Disability Studies Conference and Seminar, Apex International Hotel, Edinburgh, 9 December 1999, pg. 2. Retrieved on 15 May, 2008 from http://www.leeds.ac.uk/disability-studies/archiveuk/Barnes/Edinbrg2.pdf
51 Colin Barnes and Geof Mercer. "Disability". UK: Polity, 2003, pg. 117.
52 Japan International Cooperation Agency. "JICA Thematic Guidelines on Disability". 2003, pg. 6.
53 Ibid., pg. 6, dipnote 5.

2.2.1. Different Models/Understandings Related to the Concept of Disability and Rehabilitation

Different disability approaches called "disability models" appeared through the improvements of human rights in order to overcome the problems of people with disabilities. Each model evaluates disability concept in a different manner, which also reflects its rehabilitation concept. McAnaney emphasizes the crucial potential of disability models in the scope of rehabilitation that "*in order to create a framework within which rehabilitation can be comprehensively mapped, it is necessary to adopt an appropriate model of disability.*" [54]

Sachs asserts that Morality Model is historically the first and oldest model of disability in which disability is subject to moral weakness and shame of the individuals and their family. It interprets disability as "the outward manifestation of inner evil or depravity". Although it is less prevalent today, this approach has been applied in the twenty-first century within many cultures around the world. Sachs states that the second model of disability, Medical Model, appeared with increasing research in medical and rehabilitation scope in the middle 1800s. In contrast to Morality Model, it was based on pathology and within this view, its aim is to *correct* and *cure* disability. [55] The third model is Social Model of disability whose main concern generally centered on the social integration, and the third and last model is the ICF (International Classification of Functioning), which seems to have surpassed the previous two models. The ICF provides a comprehensive vision of health from a *biological*, *individual* and *social* perspective. [56]

2.2.1.1. Medical Model and Its Rehabilitation Concept

In the Medical Model of disability, persons with disabilities were seen as "patients" trying to get well by the help of doctors, nurses, rehabilitation professionals, and disability institutions and they were also accepted as "abnormal" and "passive".

54 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005.

55 Rose Sachs. "Disability Support Services Faculty/Staff Guide: Integrating Disability Studies into Existing Curriculum". Retrieved on August 1, 2008 from www.mc.cc.md.us/departments/dispsvc/diversity.htm

56 Gerold Stucki, Thomas Ewert and Alarcos Cieza. "Value and application of the ICF in rehabilitation medicine". Disability and Rehabilitation, 25.11–12, 2003, pg. 628.

Brisenden explains "abnormal" through the definition of the term "disabled" reflecting medical approach. He describes that disabled is a *blanket term* which covers many individuals who are called "abnormal" different from "normal" people because of their functional deficiencies and who have nothing with each other in general.[57] He, having a disability himself, also clearly explains this inappropriate situation as follows:

> "we are seen as 'abnormal' because we are different; we are problem people, lacking the equipment for social integration. But the truth is, like everybody else, we have a range of things we *can* and *cannot* do, a range of abilities both mental and physical that are unique to us as individuals".[58]

Brisenden also asserts that in the perspective of medical model of disability, people with disabilities are viewed as weak, deplorable and who require kindness when they are labeled as "cripples". However, what should be done is to become aware of the real person in the picture of disability. Although appropriate medication of individuals is necessary to provide independence for people with disabilities, in fact, these people require much more than this. This discriminative idea results from only focusing on their inabilities without understanding abilities, which leads to their exclusion from all fields of community life.[59]

Sachs points out that many medical and technological developments have made a significant contribution to the welfare and the participation of individuals with disabilities in the society. However, because the decisions on rehabilitation and accommodation for the well-being of them are taken regardless of these people's own decisions, a negative picture of disability and persons with disabilities has appeared, which in turn, led to discriminative attitudes.[60]

For Brisenden, one of the negative aspects of Medical Model was to place people with disabilities outside society, in special institutions and ghettos. For him, discriminative attitudes as a consequence of medical-based approach have considerably changed; however, people with disabilities still experience the negative influences of it such as

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57 Simon Brisenden. "Independent Living and the Medical Model of Disability". 1986.
58 Ibid.
59 Ibid.
60 Rose Sachs. "Disability Support Services Faculty/Staff Guide: Integrating Disability Studies into Existing Curriculum".

always being in and out of hospital.[61] Citing from Driedger, Ertürk mentions that because of taking no notice of social services, rehabilitation centers are also located in separate places, which lead to segregation of persons with disabilities from the rest of the society.[62] Rehabilitation centers that adopt medical approach might only correspond to the medical requirements of a person with impairments. It disregards social factors and individuals' self-determinations which also play a significant role in full social integration and equalization of opportunities. Following sample can be given as an example of rehabilitation centers in the view of the above definitions.

Sample: Rehabilitation Institute of Metropolitan Detroit, Michigan, USA

Detroit Rehabilitation Institute can be given as an example of comprehensive medical rehabilitation center so its rehabilitation program and organization of space mostly support the medical needs of people with disabilities (Figure 2.1, 2.2, 2.3). Allan says that it is a *metropolitan hospital* or *institute type* of rehabilitation center enabling both in-patient and out-patient care. [63] Hence, it may seem that medical treatment and accommodation of the "patients" rather than social, psychological, and vocational services are the central parts of the Institute.

As emphasized in the formal website of the Rehabilitation Institute of Michigan (RIM), Rehabilitation Institute of Metropolitan Detroit was established at Herman Kiefer Hospital in Detroit in 1951. The current building for the Rehabilitation Institute was built in 1958.[64]

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61 Simon Brisenden. "Independent Living and the Medical Model of Disability". 1986.
62 Enver Ertürk. "Disability in Turkey". Unpublished master thesis. İstanbul: Boğazici University, 2003, pp. 37- 38.
63 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 49.
64 DMC Rehabilitation Institute of Michigan. "History". Retrieved on May 5 2008 from http://www.rimrehab.org/?id=10&sid=1
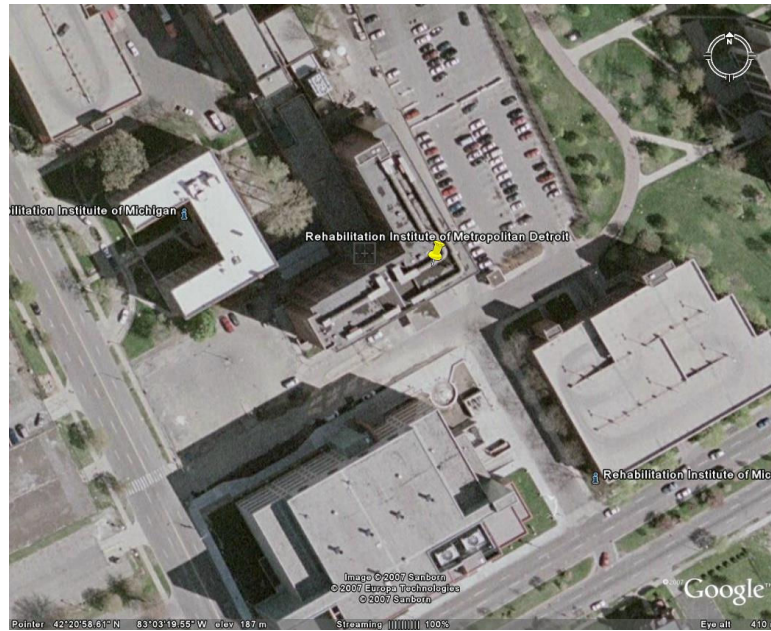
Figure 2.1. Detroit Rehabilitation Institute of Metropolitan Detroit. Google Earth Image, Basarsoft and Digitalglobe, 2007. Retrieved on October 10, 2007.
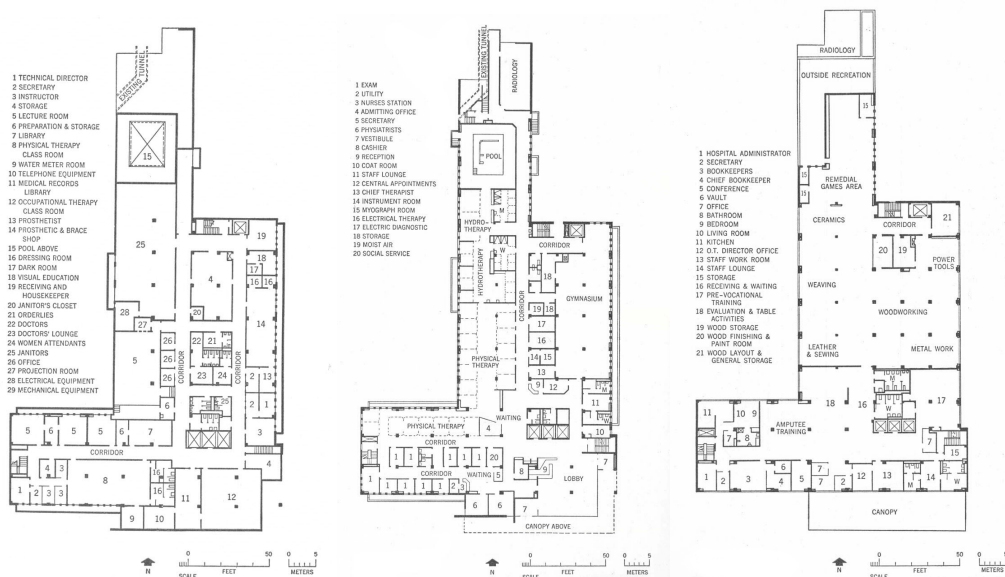
Figure 2.2. Detroit Rehabilitation Institute of Metropolitan Detroit, Ground, 1st, and 2nd Floor Plans. On the basement floor, there are teaching, training, and research areas, and brace and prosthetic shops; on the first floor, physical therapy area, out-patient clinic area, reception and admitting area; on the second floor, occupational therapy area, activities of daily living area, pre-vocational training area, business offices. W. Scott Allan. "Rehabilitation: a community challenge". New York: Wiley, 1958, pp. 51, 52, 53.

Figure 2.3. Detroit Rehabilitation Institute of Metropolitan Detroit: 3rd, 4th, and 5th Floor Plans. On the third floor, there is an adult in-patient unit; on the forth floor, pediatric in-patient unit, cerebral palsy unit; on the last floor, speech and hearing area, administrative and staff offices. W. Scott Allan. "Rehabilitation: a community challenge". New York: Wiley, 1958, pp. 54, 55.
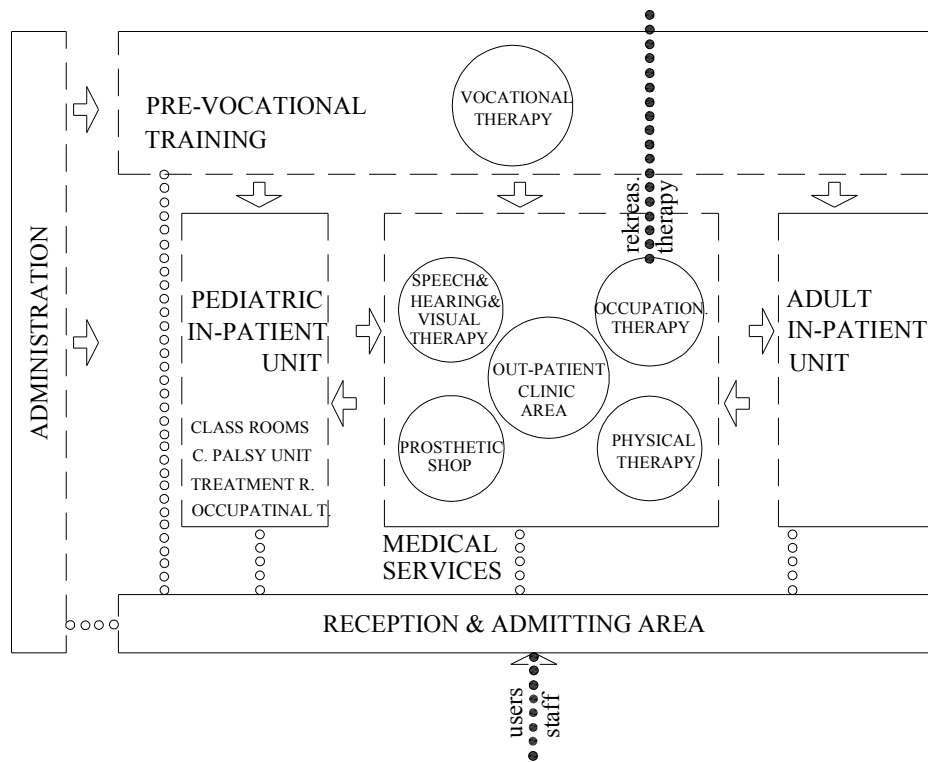
Figure 2.4. The diagram showing the relationships among rehabilitation services of Detroit Rehabilitation Institute of Metropolitan Detroit. Dinç Uyaroğlu, 2007.

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After analyzing the architectural plans of the Institute, it can be seen which rehabilitation services it involves and how they are organized (Figure 2.4.). Its main departments are pediatric and adult in-patient units and medical rehabilitation services. These rehabilitation services involve speech, hearing, visual, occupational, and physical therapy, an out-patient clinic area, and a prosthetic service. Speech& hearing& visual therapy department includes spaces which are for the practices of diagnosis of disease, treatment, and training of people with these disabilities in either an individual or group therapy. Occupational therapy department provide diverse activities to improve one's ability to perform daily activities. A room for pre-vocational training was designed in a close relationship with occupational therapy department. Physical therapy department of the Institution assist diagnosis of disease and treatment of patients to increase functional capacities. The prosthetic service is provided on the same floor where physical therapy services are placed.

As stated in the official website of the Rehabilitation Institute of Michigan (RIM), today, the Rehabilitation Institute of Metropolitan Detroit is called as the Rehabilitation Institute of Michigan located in the central region campus of the Detroit Medical Center. It is also mentioned that "*Although the focus of disability has changed over the years, RIM's mission has remained the same: providing quality patient care, academic excellence and cutting-edge research in physical medicine and rehabilitation*". The current RIM is regarded as a head of the State within the scope of physical medicine and rehabilitation. It is one of the State's largest self-supporting "rehabilitation hospitals" enabling 94-bed inpatient hospital and several outpatient areas located throughout southeastern Michigan to achieve its treatment goals. [65]

2.2.1.2. Social Model and Its Rehabilitation Concept

Social Model was emerged due to the lack of social aspects of Medical Model for full integration of people with disabilities. Although there are missing points, its general purpose seemed to correct inappropriate attitudes and fill in the social-based gaps of medical approach. Lagerwall expresses that Social Model of disability concerns about the handicaps of the built environment as major causes of understanding of disability not the

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[65] DMC Rehabilitation Institute of Michigan. "History".

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impairments of person himself or herself. [66] For Albrecht, Scrimshaw, and Fitzpatrick, its aim is not to eliminate the impairments of individuals, but to remove of the barriers of social and physical environments so that they can achieve their goals in community. In fact, they state by citing Priestly that social model causes a shift from emphasis on an individual's disease, illness, and impairments to focus on social, cultural, political, economic factors that produce exclusion of individuals in all aspect of life (Priestly, 1998). [67] Social action is needed to tackle with the problem and to provide necessary alterations in order for full participation of people with disabilities into all spheres of community life, which is substantially the common duty of the community. [68] As the result of these perspectives of Social Model, it can be said that disability issue is the human rights issue in terms of political view and the ideal and ideological theme which implies social change. [69]

For Worrall and Hickson, the success of social model depends on open communication between individuals and service providers. They take decisions together in rehabilitation process and individuals' involvement is more important in the sharing decision-making process. In this model, the main goal of any rehabilitation practices is to increase the life quality of individuals in contrast to the development of their functional capacities in everyday life. The quality of life is improved by both implementing medical practices based on the impairments and activities of individuals and working towards the elimination of barriers preventing participation to society. [70] However, Social Model ignores considerations of impairment and the importance of "medical" treatments while considering social and environmental policies and practices. [71]

As understanding above ideas, it can be concluded that people with disabilities become more active and capable rather than remaining passive individuals in rehabilitation

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66 Tomas Lagerwall. "The Right to Habilitation and Rehabilitation – Promoting Integration and Inclusion of People with Disabilities". June 11, 2005.

67 Gary L. Albrecht, Suzan C. M. Scrimshaw, and Ray Fitzpatrick. "The Handbook of Social Studies in Health and Medicine". Sage Publications, 2000, pg. 301.

68 "İşlevsellik, Yetiyitimi ve Sağlığın Uluslararası Sınıflandırması: ICF [International Classification of Functioning, Disability and Health: ICF]". Translated by Elif Kabakçı and Ahmet Göğüş, 2004, pg. 21.

69 Ibid., pg. 21.

70 L. Worrall and L. M. Hickson. "Communication disability in aging: from prevention to intervention". 2003. pg. 52.

71 Colin Barnes. "A Working Social Model? Disability and Work in the 21st Century". December, 1999, pg. 5.

centers. While the decisions on their life were made by the centers in previous approaches, they now begin to acknowledge and build upon their strengths and take control of their lives. However, it did not fulfill the purpose of medical treatment which is an important stage for rehabilitation of individuals as it mainly limits the reasons of disability to social and environmental policies and practices. Following sample is presented to explain the characteristics of a rehabilitation center in need of medical rehabilitation facilities.

Sample: Saray Rehabilitation Center, Ankara, Turkey

Saray Rehabilitation Center locates on Esenboğa Airport road in Ankara, Turkey. Its current existence came into being by two architectural project competitions (Figure 2.5.). Sarayköy Care and Training Center for Children was designed by Sevinç Elmas and Rezzan Önen in 1973 as the first step (Figure 2.6.). Then, in 1975, Ankara Care and Training Center for Mental Retarded was designed by Tanju Kaptanoğlu and built in the same campus (Figure 2.7., 2.8.). Sarayköy Care and Training Center for Children was aiming at providing long term care, treatment, education to integrate children ages between 0 and 18 years to the society. Ankara Care and Training Center for Cretins (Mental Retarded), which was built as a adding to Sarayköy Care and Training Center for Children, was designed to provide services related to the diagnosis and treatment of impairments, long term care and development of social adaptation for children with mental disabilities. It can be seen from the name of the building that labeling of children with disabilities as "cretins" is very obvious in the mid-70s; however, the current name Saray Rehabilitation Center in 21st century shows more integrated approach. This approach is also seen in the current definition of the center. In the formal website of the SHÇEK, it is stated that Saray Rehabilitation Center is a social service institution which enables services for children, young, and adults with mental, psychological, and physical impairments.[72]

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[72] SHECK. "Saray Rehabilitasyon Merkezi". Saray Rehabilitasyon Merkezi web site. Retrieved on May 18, 2008 from http://www.sarayreh-shcek.gov.tr/genelbilgi.html
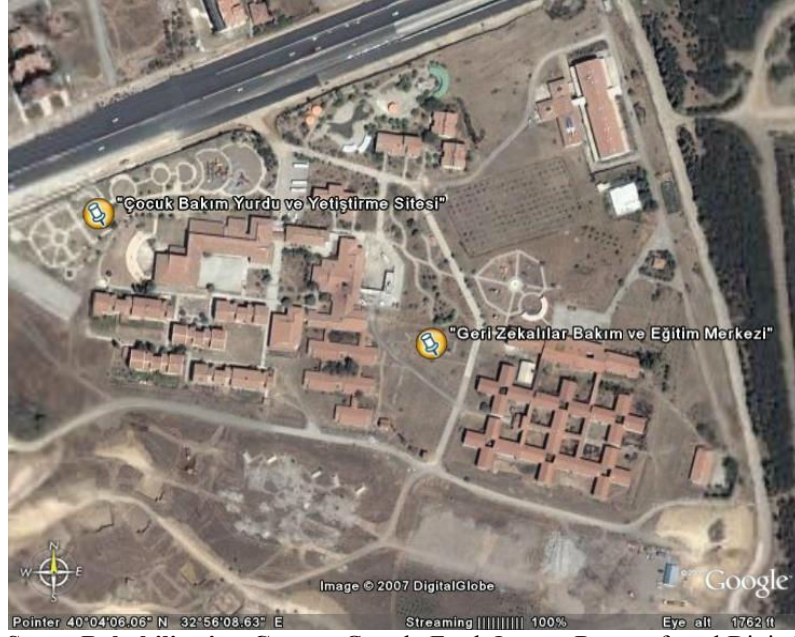
Figure 2.5. Saray Rehabilitation Center. Google Earth Image, Basarsoft and Digitalglobe, 2007. Retrieved on October 10, 2007.

A – kabul ve muşahede
B – idare
C – okul
D – revir
E – kafeterya
F – 0/1 – 2/6 yaş kreşi
G – 7/18 yaş kız çocuk konutları
H/1 – 7/12 yaş erkek çocuk konutları
H/2 – 12/18 yaş erkek çocuk konutları
I – müdür ve memur lojmanları
J – işçi lojmanları
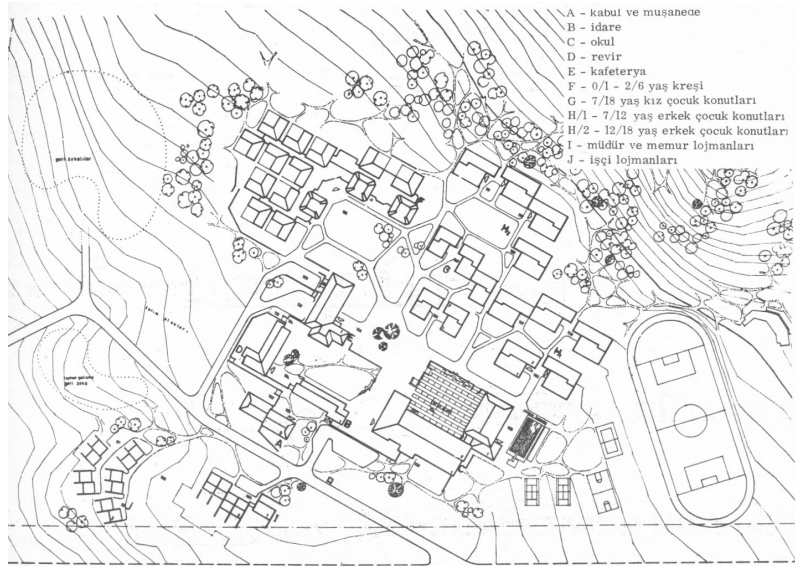
Figure 2.6. Architectural Project Competition for Sarayköy Care and Training Center for Children, 1st award: Sevinç Elmas/Rezzan Önen: the site plan. *Mimarlık,* June 1973, *116* (10), pg. 23.

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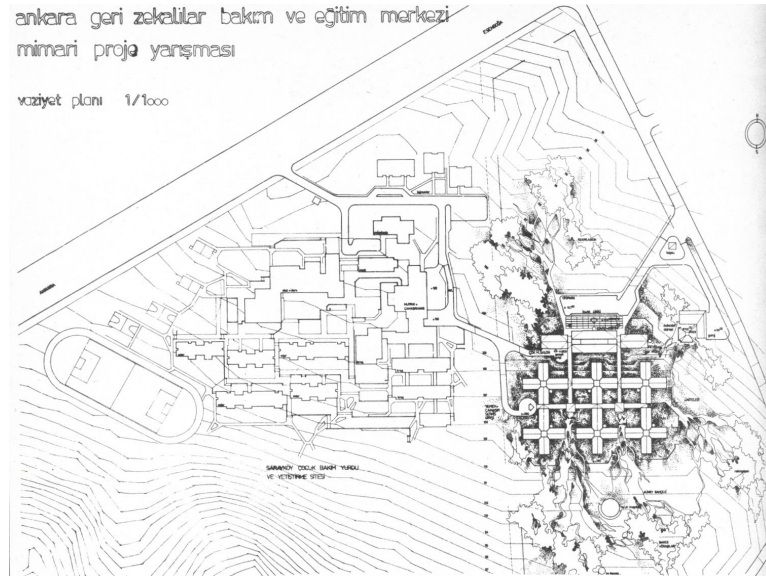
Figure 2.7. Architectural Project Competition for Ankara Care and Training Center for Mental Retarded, 1st award: Tanju Kaptanoğlu: the site plan. *Mimarlık,* May 1975*, 139* (13), pg. 42.
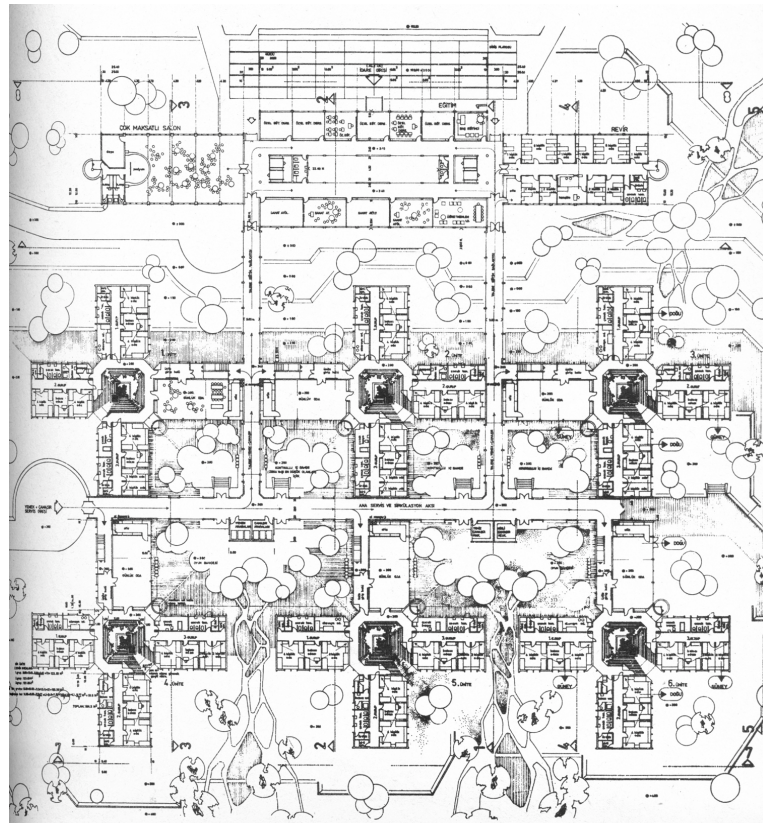
Figure 2.8. Architectural Project Competition for Ankara Care and Training Center for Mental Retarded, 1st award: Tanju Kaptanoğlu: the ground floor plan. *Mimarlık,* 139.13, May 1975, pg. 43.
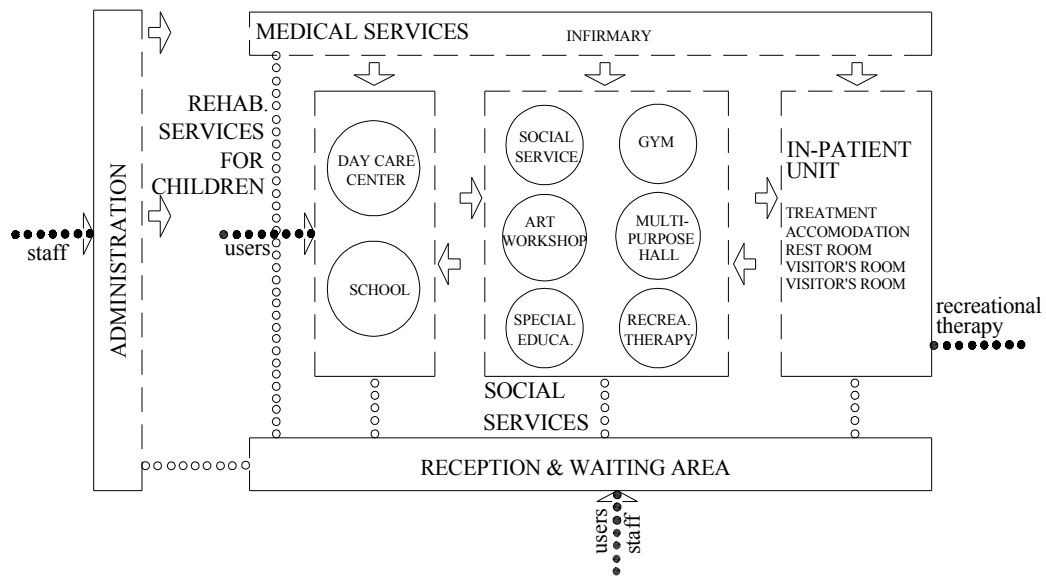
Figure 2.9. The diagram showing the relationships among rehabilitation services of Saray Rehabilitation Center. Dinç Uyaroğlu, 2007.

As can be seen from the two architectural projects successively designed in 1973 and 1975, Saray Rehabilitation Center involves services for care, education, medical, social, and accommodation facilities. It is mainly based on enabling social services for social integration of people with disabilities so it gives weight to social and psychological services (Figure 2.9.). These social-based services involve training, sports, occupational, recreational, and pre-vocational facilities by art workshops in its own campus. However, the purpose of social and psychological improvement of individuals would not be totally achieved in the center because it gives priority to the long-term accommodation of users by isolating from the mainstream of society. It is important that a rehabilitation center provide close interaction between people and their community to realize the goal of full social integration rather than long term care for their rehabilitation. Besides these services, it offers medical services but they seem inadequate as they are only provided by infirmary rooms. However, community members may also need medical services as well as social and psychological services for their full participation in the society.

2.2.1.3. The ICF (Bio-psycho-social Model) and Its Rehabilitation Concept

The ICF (The International Classification of Functioning, Disability and Health) launched by World Health Organization (WHO) in 2001 is an alternative model of understanding

the disability. There has been a lack of an internationally-accepted framework for describing functioning, disability, and health so the universally accepted ICF has taken numerous foreign currencies' places.[73] It is a multipurpose international system whose objective is to create interdisciplinary standard language and framework for the definitions of health and its related situations.[74] This recent model of disability provides a consistent concept of disability within a biological, individual and social aspect.[75] Within this view, it is also called as the *bio-psycho-social model*.[76] This model has proposed more unified system while combining the first and second disability model (Figure 2.10.).
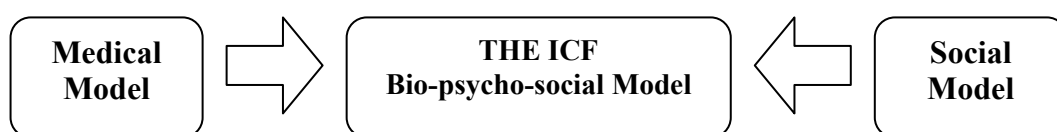
Figure 2.10. The diagram showing the unified system of the ICF. Dinç Uyaroğlu, 2008.

The ICF introduces the concepts of "health" and "disability" in a new vision as mentioned by WHO. It also claims that the ICF explains that every individual can suffer from some reduction in health and so experience some level of disability, which display that all community members can experience some kind of disability. Hence, the ICF regards disability as a universal human experience through "mainstreaming" the experimentation of disability.[77] According to McAnaney, one of the most important

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73 Gerold Stucki, Thomas Ewert and Alarcos Cieza. "Value and application of the ICF in rehabilitation medicine". *Disability and Rehabilitation*, 25.11–12, 2003, pg. 632.
74 "İşlevsellik, Yetiyitimi ve Sağlığın Uluslararası Sınıflandırması: ICF [International Classification of Functioning, Disability and Health: ICF]". Translated by Elif Kabakçı and Ahmet Göğüş, 2004, pg.
75 Gerold Stucki, Thomas Ewert and Alarcos Cieza. "Value and application of the ICF in rehabilitation medicine". 2003, pg. 628.
76 "White Book on Physical and Rehabilitation Medicine in Europe". Edited by Christoph Gutenbrunner, Anthony B. Ward, and M. Anne Chamberlain. Produced by the Section of Physical and Rehabilitation Medicine, Union Européenne des Médecins Spécialistes (UEMS) in conjunction with Académie Européenne de Médecine de Réadaptation and European Society for Physical and Rehabilitation Medicine, May 2006, pg. 16. Retrieved on April 12, 2007 from http://www.societas.fi/White%20Book%20Version%204%205.pdf
77 WHO. "International Classification of Functioning, Disability and Health (ICF)". WHO web site. 2001. Retrieved on April 1, 2008 from http://www.who.int/classifications/icf/en/

features of the ICF is to see disability in a position that continues through the life and to classify all people from none to severe disability.[78]
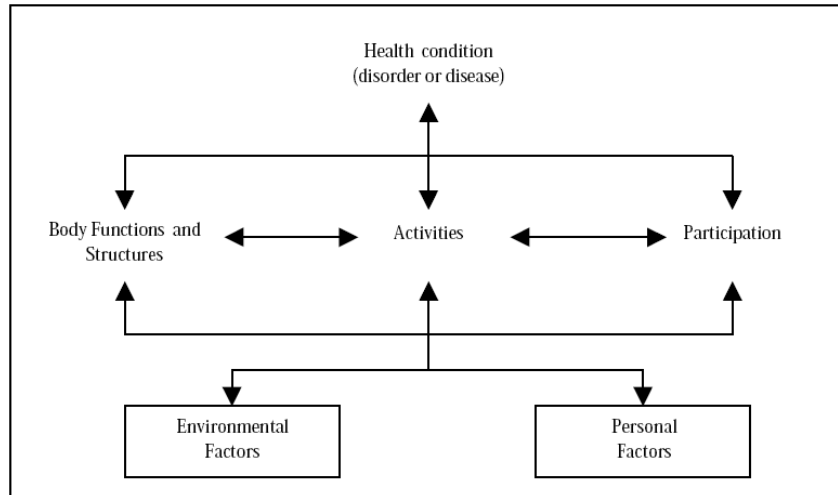
Figure 2.11. Interactions between the components of the ICF. WHO. "International Classification of Functioning, Disability and Health (ICF)". 2001, pg. 18. Retrieved on April 1, 2008 from http://www.who.int/classifications/icf/en/

It is stated in the ICF booklet, the ICF categorizes health and its related domains in two parts with regards to body, society, and individual context (Figure 2.11). These parts are "body functions and structures" and "activities and participation". It systematically assembles a wide variety of domains for a person in any sanitary conditions. For example, it looks for what a person having a disorder or disease does do or can do. Furthermore, while doing this, it addresses environmental factors that can limit activities or restrict participation and personal factors. These factors are named as Contextual Factors in the ICF. [79] In the ICF booklet, it is also mentioned that individuals are not used as the modules of the classification of the ICF. The relationship between health conditions and contextual factors is the main concern as experiencing disability. [80] These parameters seem to help describe disability in a more unified and non-discriminative way.

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78 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005.
79 WHO. "International Classification of Functioning, Disability and Health (ICF)". 2001.
80 "İşlevsellik, Yetiyitimi ve Sağlığın Uluslararası Sınıflandırması: ICF [International Classification of Functioning, Disability and Health: ICF]". Translated by Elif Kabakçı and Ahmet Göğüş, 2004, pg.

The ICF offers a universal application opportunity in many fields about disability studies as evaluating functions and inabilities of persons in both private and public life.[81] Stucki et al. claim that it has been a generally approved model to define functions and health of a person in the rehabilitation field. The ratification of the ICF is a milestone advance that will prompt many developments in the areas of rehabilitation. They also assert, focusing on the importance of rehabilitation that "*ICF success will depend on its compatibility with measures used in rehabilitation and on the improvement of its practicability*". [82] For example, it was applied in planning rehabilitation, the evolutions of the outcomes of rehabilitation, the benefits of assistive devices, improvements of the speech and occupational rehabilitation programs; as a result, researchers acknowledged the positive impacts of the ICF on these scopes (Haglund ve ark. 2003; Sinnot, 2004; Stephens 2001; Wessel ve ark. 2004).[83]

Stucki and his colleagues are associated body function and activity/participation domains of the ICF with the "problem-solving" practices. With the help of them, the ICF allows to measure the "performance" and the "capacity"- with or without assistance- of people with disabilities in their daily life, as such in rehabilitation practices. Contextual factors of the ICF interrelated with body function and activity/participation domains will possibly be one of the bases for rehabilitation professionals while evaluating these factors and their relations. [84]

Stucki and his colleagues express that the universal language of the ICF has been a conspicuous landmark advance for rehabilitation. It may have a meaningful effect on universal and comprehensive communicating occurred through rehabilitation process as rehabilitation is a lifelong process extended from acute to community care. More specifically, it guides to use the language within the medical area, transforming multi-professional communication and improvement of communication among individuals and

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81 "Özürlülüğün Sınıflandırılmasında Yeni Bir Yaklaşım: ICF [A New Approach on Classification of Disability: ICF]". Republic of Turkey Prime Minister Administration for Disabled People. Retrieved on February 7, 2007 from http://www.ozida.gov.tr/
82 Gerold Stucki, Thomas Ewert and Alarcos Cieza. "Value and application of the ICF in rehabilitation medicine". 2003, pg. 630.
83 Benan Berrin Ertürk. "İşlevsellik, Yetiyitimi ve Sağlığın Uluslararası Sınıflandırılması [International Classification of Functioning, Disability and Health]". *Özveri*, 2004. Retrieved on February 7, 2007 from http://www.ozida.gov.tr/
84 Gerold Stucki, Thomas Ewert and Alarcos Cieza. "Value and application of the ICF in rehabilitation medicine". 2003, pp. 631, 633.

rehabilitation professionals. The new language leads to an un-stigmatized view. The new unbiased terms "body functions and structures" and "activity and participation" also reflects more positive approach comparing to previous terms "impairment", "disability", and "handicap". [85]

As a conclusion, as comparing two previous disability models, the ICF provides more holistic approach in rehabilitation. Both Medical and Social Model contributed to the specific field of rehabilitation. While Medical Model incorporated medical services at the level of individual, Social Model certainly emphasized society by de-emphasis on *person-centered* approach as mentioned by MacAnaney. [86] For the ICF, the ability to participate in society is related to not only individuals' functioning but also environmental and personal factors. [87] At this point, it adopts more comprehensive and unified framework for re-assessment of rehabilitation services that delineate functioning both at individual and community levels.

2.2. Legislations Related to Disability and Rehabilitation

In this part of the chapter, both international and national disability policy are declared. Firstly, disability policies of international organizations, United Nations, Council of Europe, and European Union, are successively examined. Then, national disability policy is clarified by addressing the regulations about social, working life and physical environment. In both parts, the considerations are focused on the growing international concept of human rights and equal participation of persons with disabilities in all parts of life. The rules related to rehabilitation are particularly emphasized and the changing rehabilitation approaches in these norms are described. They offer very important information for the design of rehabilitation center in a community such as what rehabilitation and rehabilitation services mean and intend and which services should be enabled in community for full integration of individuals to the society. It should be noted here that disability policies have also a significant impact on the changing approaches to disability and further rehabilitation because they provide an obligatory statutory to implement the rights of people with disabilities in all fields of life. It is expected that

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85 Ibid., pp. 628, 633.
86 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005.
87 "White Book on Physical and Rehabilitation Medicine in Europe". May 2006, pg, 6.

these documents help to make a framework for the architecture of rehabilitation centers in a new integrated approach.

2.2.1. International Policies and Documents

2.2.1.1. Policy and Documents of United Nations

The documents based on equal rights of people with disabilities

The United Nations (U.N.) is one of the most important international organizations which greatly contribute to the evolution of human rights. In the 1940s and 1950s the U. N. had actively supported people with disabilities in terms of their rights and well being by adopting many social-based approaches.[88] Within this duration, the General Assembly of the U. N. adopted and announced the "Universal Declaration of Human Rights" on December, 1948. In Turkey, it was adopted and proclaimed in Official Gazette on May, 1949.[89] The Universal Declaration of Human Rights has aimed to support the rights of all people with regards to marriage, property, ownership, equal access to public services, social security and the realization of economic, social and cultural rights without distinction of any kind.[90] This Declaration has also covered the rights about "medical care" and "social services".[91]

In the 1970s, the United Nations had an incentive effect on the growing international concept of human rights and equal participation of persons with disabilities including rehabilitation.[92] "Declaration on the Rights of Mentally Retarded Persons" adopted in

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88 United Nations. "United Nations Commitment to Advancement of the Status of Persons with Disabilities". 2003-2004. Retrieved on February 2, 2008 from http://www.un.org/esa/socdev/enable/disun.htm

89 F. Gökçe, T. Kartal, S. Rıdvanoğlu, H. G. Erezkan, and Ö. S. Alıçcı. "Özürlülerle İlgili Mevzuat [Legislations related to Disability]". Ankara: T.C. Başbakanlık Özürlüler İdaresi Başkanlığı Yayınları/19, 2002, pg. 2.

90 United Nations. "United Nations Commitment to Advancement of the Status of Persons with Disabilities". 2003-2004.

91 Article 25: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control." UN Universal Declaration of Human Rights (1948).

92 United Nations. "United Nations Commitment to Advancement of the Status of Persons with Disabilities". 2003-2004.

1971 by the General Assembly stipulates that countries must respect the rights and the special needs of people with mental disabilities such as medical care, physical therapy, education, training, rehabilitation and guidance promoting their integration to society as far as possible.[93]

Following these developments, "Declaration on the Rights of Disabled Persons" was adopted in 1975 by the General Assembly. This Declaration is comprised of 13 Articles which should be implemented by Member States as a basis for protecting the rights of people with disabilities in both national and international settings. [94] In this Covenant, it is emphasized that every person having disabilities should take advantage of all these rights without any discrimination facts on the basis of "race, colour, sex, language, religion, political or other opinions, national or social origin, state of wealth, birth or any other situation". [95] One of the important points of the Covenant is that Member States should secure equal treatment and access to rehabilitation services which help to improve the capabilities of people with disabilities and accelerate their social and physical integration.

In 1976, United Nations accepted the year 1981 as the International Year of Disabled Persons (IYDP). The creation of the "World Programme of Action Concerning Disabled Persons (WPA)", which was adopted by the General Assembly in December 1982, was the most significant result of it.[96] In the Standard Rules, it was stated that the Year and the WPA having strong impetus for the developments of the field both focused on the equal rights for people with disabilities as other people and an equal share in the improvements of the life quality which are supported by economic and social development. After the implementation of the applied the WPA, for the first time, "handicap" was seen as something that is formed by the relationship between persons with disabilities and their environment. [97] It should be noted here that Social Model of understanding of disability is reflected upon this vision.

93 United Nations. "Declaration on the Rights of Mentally Retarded Persons." Proclaimed by General Assembly on 20 December, 1971. Retrieved on February 25, 2008 from http://www.unhchr.ch/html/menu3/b/m_mental.htm
94 Ibid.
95 Ibid.
96 United Nations. "United Nations Commitment to Advancement of the Status of Persons with Disabilities". 2003-2004.
97 United Nations. "Standard Rules on the Equalization of Opportunities for Persons with Disabilities". Adopted by the United Nations General Assembly on 20 December, 1993. Retrieved on November 22, 2007 from http://www.un.org/esa/socdev/enable/dissre00.htm

The United Nations claims that "The UN Decade of Disabled Persons (1983-1992)" was adopted by the General Assembly in order to offer a time period for the implementation of the norms in the World Programme of Action by governments and organizations. At the end of the Decade of Disabled Persons, 3 December was declared as the "International Day of Disabled Persons" so as to celebrate the Anniversary of the General Assembly's approval of this worldwide Action. [98] One of the foremost effects of the Decade of Disabled Persons was the adoption of the "Standard Rules on the Equalization of Opportunities for Persons with Disabilities" in 1993. [99] The goal of the Standard Rules is as below:

> "The purpose of the Rules is to ensure that girls, boys, women and men with disabilities, as members of their societies, may exercise the same rights and obligations as others." [100]

In Turkey, the Standard Rules was adopted by the Council of Ministers in 1996. These rules offer universal specifications; however, in Turkey, they have not a binding force in national disability policy because of a lack of a contractual agreement. [101]

The documents based on rehabilitation

The purpose of the World Programme of Action (WPA) is stated as follows:

> "The purpose of the World Programme of Action is to promote effective measures for prevention of disability, rehabilitation and the realization of the goals of 'full participation' of disabled persons in social life and development, and of 'equality'". [102]

"Prevention", "rehabilitation", and "equalization of opportunities" mentioned in the aim of the WPA are important contexts for the integrating of people with disabilities. Degener and Quinn points out that prevention and rehabilitation reflected a more traditional

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98 United Nations. "United Nations Commitment to Advancement of the Status of Persons with Disabilities". 2003-2004.
99 United Nations. "Standard Rules on the Equalization of Opportunities for Persons with Disabilities". 1993.
100 Ibid.
101 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports General Assembly Conferences]". 1999, pg. 82.
102 United Nations. "United Nations Decade of Disabled Persons, 1983-1992 World Programme of Action Concerning Disabled Persons". 1983.

approach to disability legislations and policies; however, the third purpose of the WPA, equalization of opportunities, "set the scene for change at the international level".[103]

Salcido points out that during the last two decades of 20th century, rehabilitation service delivery models were deeply examined by the implication of the International Year of Disabled Persons and there has been appeared a crucial change about public norms, values, and expectations. [104] WPA clearly addresses the change in the field of rehabilitation as well as these scopes. It is stated in this worldwide Action that "*Rehabilitation services are often provided by specialized institutions. However, there exists a growing trend towards placing greater emphasis on the integration of services in general public facilities*". It is an increasingly accepted idea that if essential supportive services are enabled in community, even people with severe disabilities can live independently as much as possible. [105]

WPA also sets many major characteristics of rehabilitation services. One of them is that the abilities of the individuals should become the main concern in all rehabilitation efforts in a way that their honesty and self-esteem must be valued. The other is that all kinds of rehabilitation services should be provided, whenever possible, in the community. They should work with community-based services and specialized institutions. Essential specialized institutions should be established instead of large institutions to enable an early and long-run integration of people with disabilities into community. It is also mentioned that rehabilitation is not an only mechanism to achieve the purpose of "full participation and equality". On the other hand, the physical environment is the most effective factor which limits persons' full participation in society.[106]

Apart from WPA, the UN Standard Rules serve as an instrument for policy-making about rehabilitation. Four Parts of the Standard Rules with their subsections are as follows:

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103 Theresia Degener and Gerard Quinn. "A Survey of International, Comparative and Regional Disability Law Reform". Disability Rights and Education Defense Fund (DREDF), 2002. Retrieved on September 3, 2007 from http://www.dredf.org/international/degener_quinn.html

104 Richard (Sal) Salcido. "Redefining Care: Building Bridges from the Medical Model to the Social Model: A Taxonomy of Discourse: Rethinking the "Care" Rehabilitation Model". Global Conference on Rethinking Care: "Rethinking Care" from Different Perspectives", Oslo, Norway, April 22-25, 2001, pg. 58.

105 United Nations. "United Nations Decade of Disabled Persons, 1983-1992 World Programme of Action Concerning Disabled Persons". 1983.

106 Ibid.

I.   *Preconditions for Equal Participation: Awareness-raising, Medical care, Rehabilitation, Support services.*
II. *Target Areas for Equal Participation: Accessibility, Education, Employment, Income maintenance and social security, Family life and personal integrity, Culture, Recreation and sports, Religion.*
III. *Implementation Measures: Information and research, Policy-making and planning, Legislation, Economic policies, Coordination of work, Organizations of persons with disabilities, Personnel training, National monitoring and evaluation of disability programmes in the implementation of the Rules, Technical and economic cooperation, International cooperation*
IV. *Monitoring Mechanism* [107]

The first part involves medical care, rehabilitation, and supportive services as priority tasks for equal participation of people with disabilities and sets some rules related to these fields. It is explained in the Standard Rules that in Rule 2- Medical care, the importance of the early detection, assessment and treatment of impairment in multidisciplinary medical practices is emphasized because they have important roles on the prevention and decreasing of disabling facts. For Rule 3- Rehabilitation, Member States should guarantee the provision of rehabilitation services. They should develop rehabilitation programs on the basis of the needs, full participation and equality of their own community. These programmes should involve a wide range of activities for all people having a variety of disabilities. Individuals' and their families' participation should be involved in the process of the design and organization of rehabilitation services. All rehabilitation services should be placed in the local community where individuals live. As a latter, Rule 4- Support Services initiates that "States should ensure the development and supply of support services, including assistive devices for persons with disabilities, to assist them to increase their level of independence in their daily life and to exercise their rights". [108]

Above codes and rules of the United Nations provide significant information about the concept of rehabilitation, rehabilitation services and directly rehabilitation centers as well as the general human rights issue. There are several statements in these documents that deal with the shift of traditional rehabilitation approach. The need for more inclusive rehabilitation services are stated for "full participation" and "equality" of all people. The definition and features of rehabilitation services are mentioned within the new more integrated and human-based approach. These features can be categorized as placing rehabilitation services within the local community, planning rehabilitation programs

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107 United Nations. "Standard Rules on the Equalization of Opportunities for Persons with Disabilities". 1993.
108 Ibid.

based on the needs, full participation, and equality of their own community, providing a wide range of activities in the programs to accommodate all needs of the community, enabling community-participation in the process of the design and organization of rehabilitation services. It seems that these policy documents have had a mandatory role for the changing of traditional rehabilitation practices and the application of the new rehabilitation approach in an international arena. Also, these documents have an important contribution by means of explaining the new rehabilitation center approach in this study.

2.2.1.2. Policy and Documents of Council of Europe

The documents based on equal rights of people with disabilities

The European Council, founded in 1949, has been prepared many legitimate documents which aim to achieve the integration of people with disabilities into society. Most of these documents give reference to rehabilitation issue either directly or indirectly. One of the significant regulations adopted by The Council is "The European Social Charter" which was adopted in 1961 and revised in 1996. Turkey signed this Covenant in 1961 and approved in 1989. The European Social Charter generally assures social and economic human rights. It covers the rights for all individuals in a variety of fields which are housing, health, education, employment, legal and social protection, movement of persons, non-discrimination. According to the Charter, it is expected from all Member States that they should develop a national programme within the content of that for the integration of people with disabilities into community. [109]

The International Year for People with Disabilities was proclaimed in 1981 by the Council of Europe Parliamentary Assembly. Foschi points out that the Council of Europe Parliamentary Assembly made a contribution to the International Year through its Recommendation 925 (1981). [110] "Recommendation 925 (1981) on the Council of Europe's Contribution to the International Year for Disabled Persons" text adopted by the

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109 Council of Europe. "The European Social Charter at a glance". June 2007. Retrieved on February 22, 2008 from http://www.coe.int/t/e/human_rights/esc/1_general_presentation/CharterGlance_en.asp#TopOf Page
110 Ibid.

Assembly on October, 1981 recommends that the Committee of Ministers instruct a professional committee of experts to fulfill the following purposes:

> *- to update past proposals concerning education, employment, housing, rehabilitation and transport for the disabled ;*
> *- to renew the drive to establish a genuine European rehabilitation programme, based on appraisal of past activities and experience in member countries.* [111]

Besides the International Year, the Decade for People with Disabilities, ended in the year 1993, was expected to provide an opportunity to take into consideration all measures what had to be done until 1993 and create full integrated European social environment.[112] Within this period, Council of Europe had made some rehabilitation-related developments which are explained below.

The documents based on rehabilitation

In Recommendation 1168 "On the Future of the Social Charter of the Council of Europe" which was adopted by the Assembly on 1991, some amendments related to rehabilitation of individuals was proposed to the text of the Social Charter. [113] These suggestions are expressed in the report of "On Independent Living: Rehabilitation Policies for the Disabled" as an amendments to Article 15 (Part I) related to the equal rights to rehabilitation and a new paragraph 4 in Article 11 (Part II) regarding the founding and improvement of rehabilitation programmes for individuals with disabilities. [114] Degener and Quinn points out that Article 15 has been completely modernized and reworded to

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111 Council of Europe. "Recommendation 925 (1981) on the Council of Europe's Contribution to the International Year for Disabled Persons". Text adopted by the Assembly on 3 October 1981. Retrieved on April 19, 2007 from http://assembly.coe.int/main.asp?Link=/documents/adoptedtext/ta81/erec925.htm

112 Council of Europe. "Recommendation 1185 on Rehabilitation Policies for the Disabled". Text adopted by the Assembly on 7 May, 1992. Retrieved on April 19, 2007 from http://assembly.coe.int//Main.asp?link=http://assembly.coe.int/Documents/AdoptedText/ta92/erec1185.htm

113 Council of Europe. "Recommendation 1168 on the Future of the Social Charter of the Council of Europe". Text adopted by the Assembly on 24 September 1991. Retrieved on April 19, 2007 from http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta91/EREC1168.htm

114 Council of Europe. "On Independent Living: Rehabilitation Policies for the Disabled". February 26, 1992. Retrieved on April 14, 2007 from http://assembly.coe.int/main.asp?Link=/documents/workingdocs/doc92/edoc6581.htm

embrace the equal opportunities philosophy. [115] Below are articles of the revised European Social Charter concerning rehabilitation of individuals:

> *Part I- Article 15: "Disabled persons have the right to vocational training, rehabilitation and resettlement, whatever the origin and nature of their disability."*
>
> *Part II- Article 1– The right to work*
> *4- to provide or promote appropriate vocational guidance, training and rehabilitation".*
>
> *Part II- Article 15– The right of persons with disabilities to independence, social integration and participation in the life of the community.*
>
> *With a view to ensuring to persons with disabilities, irrespective of age and the nature and origin of their disabilities, the effective exercise of the right to independence, social integration and participation in the life of the community, the Parties undertake, in particular:*
> *...*
> *3-to promote their full social integration and participation in the life of the community in particular through measures, including technical aids, aiming to overcome barriers to communication and mobility and enabling access to transport, housing, cultural activities and leisure.* [116]

The European Convention and the Social Charter protects equality among all people resulted from the increasing consciousness about human rights as mentioned in "On Independent Living: Rehabilitation Policies for the Disabled". This has brought about a new rehabilitation approach which has rapidly changed from its initial concept based on medical treatment and reducing impairments of people with disabilities. [117] For this document of Council of Europe, the idea of the new rehabilitation approach is stated as follows:

> *"The notion of rehabilitation is now seen as a continuous, overall process beginning with prevention, progressing to medical treatment and finally social integration. According to this new approach rehabilitation is a learning process including all measures which might prevent or reduce to a bare minimum the physical, psychological, sensory, social and economic consequences of illnesses leading to congenital or acquired disabilities or those brought on by accident."* [118]

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115 Theresia Degener and Gerard Quinn. "A Survey of International, Comparative and Regional Disability Law Reform". 2002.

116 Council of Europe. "European Social Charter (Revised)". Strasbourg, 1996. Retrieved on March 5, 2008 from http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=163&CM=10&DF=3/8/2008&CL=ENG

117 Council of Europe. "On Independent Living: Rehabilitation Policies for the Disabled". February 26, 1992.

118 Ibid.

Following the 1st European Conference of Ministers Responsible for Integration Policies for People with Disabilities in 1991, the Assembly adopted its Recommendation 1185 (1992) on rehabilitation policies for the disabled, and the Committee of Ministers adopted its Recommendation R (92) 6 "On a Coherent Policy for People with Disabilities".[119] Recommendation R (92) 6 superseded its 1984 innovator, Resolution AP (84)3 "On a Coherent Policy for the Rehabilitation of Disabled People", which was particularly based on welfare approach.[120] Following statements were emphasized in the appendix to the Recommendation R (92) 6:

All people who are disabled or are in danger of becoming so, regardless of their age and race, and of the nature, origin, degree or severity of their disablement, should have a right to the individual assistance required in order to lead a life as far as possible commensurate with their ability and potential. Through a co-ordinated set of measures they should be enabled to:

- be as free as possible from avoidable impairments and disabilities;
- be as free as possible from needing permanent medical treatment and care, while having - access to such care whenever necessary;
- retain as much personal responsibility as possible in the planning and implementation of - rehabilitation and integration processes;
- exercise their rights to full citizenship and have access to all institutions and services of - the community including education;
- be as free as possible from institutional settings and constraints, or where these are unavoidable, to have as much personal choice as possible within the said institution;
- have as much economic independence as possible, particularly by having an occupation as highly qualified as possible and a commensurate personal income;
- have a minimum livelihood, if appropriate by means of social benefits;
- have as much mobility as possible, and access to buildings and means of transport;
- be provided with the necessary personal care, in a location of their choice;
- have as much personal self-determination and independence as possible, including independence from their own families, if they so desire;
- to play a full role in society and take part in economic, social, leisure, recreational and cultural activities. [121]

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119 Council of Europe. "Recommendation 1592 towards full Social Inclusion of People with Disabilities". Text adopted by the Assembly on 29 January, 2003. Retrieved on April 19, 2007 from http://assembly.coe.int//Main.asp?link=/Documents/AdoptedText/ta03/EREC1592.htm

120 Theresia Degener and Gerard Quinn. "A Survey of International, Comparative and Regional Disability Law Reform". 2002.

121 Council of Europe. "Recommendation No. R (92) 6 of the Committee of Ministers to Member States on a Coherent Policy for People with Disabilities". Adopted by the Committee of Ministers on 9 April, 1992, pp. 2-3. Retrieved on April 19, 2007 from https://wcd.coe.int/com.instranet.InstraServlet?command=com.instranet.CmdBlobGet&InstranetImage=574141&SecMode=1&DocId=602414&Usage=2

In Recommendation 1592 "Towards full social inclusion of people with disabilities", adopted by the Assembly in 2003, it is claimed that essential rights for obtaining supportive and assistive services are not completely available yet but there is a need for increasing the life quality of people with disabilities. On the other hand, the Parliamentary Assembly expresses its pleasure that the disability policies in certain member states have gradually been developed from an *institutional approach*, which views people with disabilities as "patient", to a more *holistic approach,* for which they are "citizens" having a right for receiving individual support and a right of self-determination. [122]

To summarize, as understood by policy documents of the Council of Europe mentioned above, the ever increasing developments of human rights have contributed to the improvements of policies in the case of social integration of people with disabilities without discrimination. This has also affected the improvements of rehabilitation approach. Necessary measures should be enabled to support people with disabilities from the beginning of the prevention process to the full social integration. In other words, it should have a "holistic approach" that means rehabilitation services should supply all these wants of community. Moreover, every person has an equal right to receive and access to these services.

2.2.1.3. Policy and Documents of European Union

European Community's main disability activities composed mainly of vocational rehabilitation and training programmes took place between the 1960s and 1970s. [123] In 1974, European Community adopted the first Community Action Programme in the field of disability. Gubbels points out that, in this Programme, unequal labour market

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122 Council of Europe. "Recommendation 1592 towards full Social Inclusion of People with Disabilities". 29 January, 2003.

123 In the 1960s, the European Community made some developments based on the context of disability and employment. Gubbels explains that these developments emerged due to the needs for the improvements of the skills of labour force, not the achievements of the equal opportunities of people with disabilities and in reference to the idea with which disability was seen as a deficiency that should be improved by the help of rehabilitation or other supporting services. Andre Gubbels. "The Evolution of EU Policy: from Charity towards Rights Summary Outline of the Presentation". The text represented in Disability Discrimination Summer School, Disability Law & Policy Research Unit, Faculty of Law, National University of Ireland, Galway, 2005, pg. 1. Retrieved on March 4, 2008 from http://www.nuigalway.ie/law/Disability_summer_school/Docs/2006/Andre%20Gubbels%201 %20-%20Teaching%20summary.pdf

opportunities and unemployment context were concerned and people with disabilities were identified as a group highly experiencing unemployment. [124] The Council also adopted a Resolution and a Recommendation related to disability in 1980s. "The Resolution on the Social Integration of Handicapped People" adopted in 1981 proclaimed that Member States should ensure that "handicapped people did not shoulder an unfair burden of the effects of economic adjustment". [125] "The Recommendation on the Employment of Disabled People in the Community" which was adopted in 1986 mainly covered measures in the field of the employment and vocational rehabilitation of people with disabilities. [126]

Mabbett focuses on that, in the late 1980s, it was suggested to make the new developments on the basis of social aspect by the Single European Act in parallel with the progress of economic integration invigorated. "The Community Charter" (1989) was the initial process of this suggestion; however, it only set the standards about the rights of workers and the main subject of the Charter was employment. [127]

Gubbels mentions that European Union Commission made important contributions to the European disability policy and the integration of and equal opportunities for people with disabilities through three consecutive action programmes from the early 1980s until the mid-1990s. [128] Both the first programme, "Community Social Action Programme on the Social Integration of Handicapped People (1983-88)", and the second programme, "HELIOS I (Second) Community Social Action Programme for Disabled People (1988-92)" was aiming at exchanging information related to disability policy sectors such as rehabilitation and education by the help of promoting a sharing network system. [129] On the other hand, the third programme, "Helios II (Third) Community Action Programme to

124 Ibid., pg. 1.
125 Ibid., pg. 1.
126 European Union. "Council Recommendation on the Employment of Disabled People in the Community". July 24, 1986. Retrieved on March 6, 2008 from http://wallis.kezenfogva.iif.hu/eu_konyvtar/projektek/vocational_rehabilitiation/instr/eu_28.htm
127 Mabbett, Deborah. "The Development of Rights-based Social Policy in the European Union: The Example of Disability Rights". *Journal of Common Market Studies*, 43.1, 2005, pp. 101, 103.
128 Andre Gubbels. "The Evolution of EU Policy: from Charity towards Rights Summary Outline of the Presentation". 2005, pg. 1.
129 Deborah Mabbett. "The Development of Rights-based Social Policy in the European Union: The Example of Disability Rights". 2005, pg. 107.

Assist Disabled People (1993-96)", mainly focused on the rights to equal opportunities and social integration and made a significant evolution in the European Commission's understandings.[130] EU Helios II programme involves the standards about the mission of rehabilitation services in the light of equality and user-based approaches. Recommendations for good rehabilitation services in Helios II were as follows:

> *-the person with disabilities should be at the centre of a multi-professional approach and should be able to make informed choices of treatment. He or she should participate fully in the process and have the right to receive services regardless of type of disability, age, gender, religion, ethnic origin, domicile and financial resources;*
> *- family involvement should be included where appropriate;*
> *-continuous and coordinated measures should enable a return to usual environment and chosen social and professional life;*
> *- rehabilitation strategies should be subject to user-based evaluation.*[131]

The disability rights movements also had an impact on EU disability policy like other national and international legislations. Gubbels explains that all these movements resulted in raising a new model of disability policy in the world. He also mentions that people with disabilities asked for the adoption and implementation of the UN Standard Rules on Equalization of Opportunities for People with Disabilities from European Commission, the Community Institutions and Member States in order to be re-arranged its plans on the basis of a general anti-discrimination approach.[132] After experiencing these circumstances, the Commission adopted "Communication on Equality of Opportunity for People with Disabilities: a New European Community Strategy (1996)" which was one of the most important and far reaching strategic document on disability. This Document showed the renewed approaches of the Commission from medical to social-based idea in the field of disability and particularly rehabilitation.[133]

Mabbett states that this crucial document addressed "mainstreaming" context which is an idea about "how social programmes should be organized". It also covers the recommendations on rehabilitation, education, and employment of people with disabilities as stating that "*in ordinary schools should be preferred to separate special education, that institutionalization should be avoided whenever possible, and that*

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130 Ibid., pg. 107.
131 "White Book on Physical and Rehabilitation Medicine in Europe". May 2006, pg, 22.
132 Andre Gubbels. "The Evolution of EU Policy: from Charity towards Rights Summary Outline of the Presentation". 2005, pg. 2.
133 Ibid., pg. 2.

facilitating employment in the open labour market is preferable to employment in sheltered workshops".[134]

The 1997 EU Treaty of Amsterdam is another critical document caused to increasing awareness to combat discriminative approach on disability as well as other fields. Vardakastanis focuses on that the most important contribution of European disability movement to European Union disability policy is to add Article 13 to the Treaty.[135] For Gubbels, for the first time, disability issue was discussed and implemented in the European Treaty and all members of community recognized the requirements of non-discriminative approach.[136]

It is also mentioned the initiatives related to vocational integration or re-integration of individuals into the labor market in the Article 150 of the Treaty. In this Article, it is stated that community action shall aim to "*improve initial and continuing vocational training in order to facilitate vocational integration and reintegration into the labour market*". On the basis of this new Treaty article, the Council adopted in 2000 "Establishing a General Framework for Equal Treatment in Employment and Occupation".[137]

Gubbels states that finally, the Charter of Fundamental Rights, for which any discriminative circumstances on the field of disability should be forbidden (Article 21), was adopted in 2000 by the President of the Council, the European Parliament, and the Commission. It is considered as a fundamental right for people with disabilities *"to benefit from measures designed to ensure their independence, social and occupational integration and participation in the life of the community (Article 26)"*.[138]

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134 Deborah Mabbett. "The Development of Rights-based Social Policy in the European Union: The Example of Disability Rights". 2005, pg. 108.

135 Yannis Vardakastanis. "Equalization Strategy of People with Disabilities". Rome, April 5 2003. Retrieved on August 1, 2007 from http://www.fimitic.org/index.php?module=ContentExpress&func=print&ceid=25

136 Andre Gubbels. "The Evolution of EU Policy: from Charity towards Rights Summary Outline of the Presentation". 2005, pg. 3.

137 Deborah Mabbett. "The Development of Rights-based Social Policy in the European Union: The Example of Disability Rights". 2005, pg. 99.

138 Andre Gubbels. "The Evolution of EU Policy: from Charity towards Rights Summary Outline of the Presentation". 2005, pg. 3.

The European Commission has celebrated the European Day (December 3) and Year (2003) of People with Disabilities. There have been encouraging developments about changing in attitudes towards people with disabilities and increasing awareness by means of a more active involvement of European organizations, national governments, various non-governmental and advocacy groups across Europe, devoting European Day of People with Disabilities. [139] Vardakastanis describes that European Year's mission is to hasten the *paradigm shift* in disability legislations. He points out that "*the European Year will be a failure if we don't achieve results that will remain as a legacy of the European Year*" [140] Moreover, in the European Year, European Council manifested its powerful target which all parts of the "built environment" should be (re)-designed and (re-)built in order to provide accessibility, safety, and usability for everyone until 2010. [141]

In conclusion, it seems that European Union legislations regarding rehabilitation have been consistently improved, like above international organizations, from medical-based to the broader social-based approach. E.U. policy documents in the 60s were confined to the rights of citizens affected by the world wars so as to provide only vocational rehabilitation. With the growing awareness, Helios II program (1993-96) was adopted so that the concept of rehabilitation services extended from this narrower sense to the equality and user-based idea. This program offers many recommendations to improve rehabilitation services within this aspect. It allows providing users' and their family's participation in all rehabilitation process, and enabling the rights to receive rehabilitation services without segregation. Rehabilitation services should never be organized in a traditional way which caused the institutionalization of people with disabilities. The right to independence, social and vocational integration, which enhances equal opportunity in labor market, and full participation into community have become the major concerns. All these legal arrangements can help to be re-evaluated a rehabilitation center and its organization in the new and more social-based approach.

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139 European Commission. "The European Union Disability Strategy". Retrieved on March 10, 2008 from http://ec.europa.eu/employment_social/soc-prot/disable/strategy_en.htm
140 Yannis Vardakastanis. "Equalization Strategy of People with Disabilities". 2003.
141 European Commission Expert Group on Accessibility. "2010: A Europe Accessible for All". European Commission for Employment and Social Affairs, Brussels, October, 2003, pg. 17. Retrieved on November 22, 2007 from http://www.accessibletourism.org/resources/final_report_ega_en.pdf

2.2.2. National Policies and Documents

In Turkey, all kinds of services for social, physical, psychological, economic, and vocational integration of individuals with disabilities are enabled by the variety of governmental institutions as stated by Okur (2001). She states that these governmental institutions are established by the departments of the Prime Ministry, Ministry, Municipalities and Non-governmental Organization (NGO). Prime Minister Administration for Disabled People, General-Directorate of Social Services and Child Protection Association, Secretariat General of Social Welfare and Solidarity Fund, State Personnel Presidency, and State Planning Organization are Prime Ministry's subsidiary institutions[142]. Ministry of Labor and Social Security, Employment Institution, General-Directorate of Social Insurance Association, Bağ-Kur, General-Directorate of Retirement Fund, Ministry of Education, General-Directorate of Special Education, Guidance, and Counseling Services, Ministry of Health are subsidiary bodies of Ministry. Services provided by these institutions are so various and different from each other. Also, there is no holistic view in the disability policy system. Services under this disorganized form of the legislative system can not be thought as well-qualified, first of all, up to standards, and advocators of equal rights.[143]

With the increasing awareness human rights issue in the influence of the international organizations, Turkey's disability policy has been developed. Especially in the early 90s, many laws were proclaimed. The Decree Law no 571 (Özürlüler İdaresi Başkanlığı Teşkilat ve Görevleri Hakkında Kanun Hükmünde Kararname) was adopted in 1997 to fill in the gap in the disability policy system. Thanks to it, Prime Minister Administration for Disabled People was established in 1997. Its goals are to improve cooperation at the national and international levels; to facilitate the creation and development of national disability policies; to investigate the problems of existing services for people with

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142 Başbakanlığa bağlı kurumlar: Özürlüler İdaresi Başkanlığı (ÖİB), Sosyal Hizmetler Çocuk Esirgeme Kurumu Genel Müdürlüğü (SHÇEK), Sosyal Yardımlaşma ve Dayanışmayı Teşvik Fonu Genel Sekreterliği, Devlet Personel Başkanlığı, Devlet Planlama Teşkilatı (DPT) Müsteşarlığı
Bakanlıklara Bağlı Kurumlar: Çalışma ve Sosyal Güvenlik Bakanlığı, Türkiye İş Kurumu Başkanlığı Sosyal Sigortalar Kurumu (SSK) Genel Müdürlüğü, Bağ-kur, Emekli Sandığı Genel Müdürlüğü, Özel Eğitim, Rehberlik ve Danışma Hizmetleri Genel Müdürlüğü ,Sağlık Bakanlığı
143 N. Okur. "Özürlülere Yönelik Örgütlenmenin İncelenmesi". Ankara: T.C. Başbakanlık Özürlüler İdaresi Başkanlığı, 2001, pp. 79, 115-116.

disabilities and look for the solutions in order that they should be performed in a planned and an effective way. [144] In the same year, the Decree Law no 572 (Bazı Kanunlarda Değişiklik Yapılmasına İlişkin Kanun Hükmünde Kararname) was adopted to make changes and additions related to people with disabilities in many existing laws. These amendments include arrangements concerning physical environment, training, employment, rehabilitation. Following on these developments, the Disability Law no 5378 (Özürlüler Ve Bazi Kanun Ve Kanun Hükmünde Kararnamelerde Değişiklik Yapilmasi Hakkinda Kanun) was adopted in 2005.

2.2.2.1. Legislations related to social life of people with disabilities

Okur mentions that the current Turkish Constitution defines the Republic of Turkey as "a social law state" one of whose main aims is to provide optimum conditions to lead a good life for every members of society whether they have disabilities or not. The Articles 5, 10, 17, and 56 and the Articles 42, 50, and 61 of the Constitution are related to the prevention against discrimination and the equalization of opportunities for all people and the equal rights of people with disabilities as others, respectively. In this sense, the necessity of being a social law state is to deal with the strategies about all scope of social life such as health, education, employment, nourishment, integration to society, transportation, social security, and etc. [145] Government Programmes have been the most important body of the state in which these strategies have been developed. [146] The 59th Government Programme (2003-2007) initiates that the State will enable people with disabilities to live independently to the greatest extend while supplying the needs of them in the sphere of education, rehabilitation, health, law, and administration. This principle will form the basis of the Government's disability policy. Every sort of measures will be taken in order to achieve these tasks.[147] In this study, policies related to education and rehabilitation of people with disabilities is particularly explained as they are important fields for full integration of people with disabilities into social life.

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144 F. Gökçe, T. Kartal, S. Rıdvanoğlu, H. G. Erezkan, and Ö. S. Alıçcı. "Özürlülerle İlgili Mevzuat [Legislations related to Disability]". 2002, pg. 25.

145 N. Okur. "Özürlülere Yönelik Örgütlenmenin İncelenmesi". 2001, pg. 5.

146 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pp. 13- 14.

147 "Hükümet Programı". T.C. Başbakanlık Basın-Yayın ve Enformasyon Genel Müdürlüğü. Translated by the Author. Retrieved on July 5, 2007 from http://www.byegm.gov.tr/hukumetler/59hukumet/hukumetprogrami.htm

2.2.2.1.1. Legislations related to education of people with disabilities

With the Article 42, 50, and 61 of the 1982 Constitution, to make arrangements related to the education of individuals who require special training was enacted. The article 42 expresses that "nobody can be deprived of the right to education". Law no 1739 Public Education Basic Law (1973) emphasizes the right to education with the following judgments: to have a right to primary education for every citizen (Article 7); to take special measures for training the children in the need of special education and preserving (Article 8); to be a basis of lifelong general and vocational training (Article 9). [148] It seems that equality for all was not precisely concerned in this law; it rather offers a way of taking special measures. Founding on this law, Vocational Training Centre Regulation (Mesleki Eğitim Merkezi Yönetmeliği) and Apprenticeship Training Regulation (Çıraklık Eğitim Yönetmeliği) was adopted in respectively 1994 and 1986. Other legislations including education of children with disabilities as follows: [149]

- Law no 625 "Special Education Institutions Law (Özel Öğretim Kurumları Kanunu)" (1965)
- Law no 2916 "Children in the Need of Special Education Law (Özel Eğitime Muhtaç Çocuklar Kanunu)" (1983)
- Law no 3308 "Apprenticeship and Vocational Training Law (Çıraklık ve Mesleki Eğitim Kanunu)" (1986)
- Decree Law no 573 "The Decree Law related to Special Education (Özel Eğitim Hakkında Kanun Hükmünde Kararname)" (1997)

In 1996, Turkey was adopted the Standard Rules for the Equalization of Opportunities for People with Disabilities (United Nations, 1996) as a member of United Nations mentioned above. Hence, Turkey should implement the 22 rules. The following rule 6: Education emphasizes the equal rights to education for individuals no matter if they have disabilities:

"*States should recognize the principle of equal primary, secondary and tertiary educational opportunities for children, youth and adults with disabilities, in integrated settings. They should ensure that the education of persons with disabilities is an integral part of the educational system.*"

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148 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları[First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pg. 96.
149 Ibid., pg. 96.

In 1997, Turkey adopted the Decree Law no 573 with which the need for the re-arrangements of required special education guidelines in order to provide the rights to full and equal education on the basis of social integration was emphasized.[150] This Law introduced a new approach based on the equal opportunity and equal participation of children with disabilities; as a result, every child should have an equal right to education.[151] Besides, the Disability Law no 5378, which was adopted in July 2005 in the frame of the 59th Government Programme, introduces the broader sense of equality in education. In Article 15 of the Disability Law, it is stated that to receive training for people with disabilities can not be obstructed by a manner of any reason. Equal education opportunity in an integrated atmosphere should be provided for children, young, and adults with disabilities as considering their abilities.[152]

According to the Law no 3797, the Law for the Organization and Tasks of Ministry of Education (Milli Eğitim Bakanliği Teşkilat ve Görevleri Hakkinda Kanun) (1983), General Directorate of Special Education, Guidance, and Consultation Services (Özel Eğitim, Rehberlik ve Danışma Hizmetleri Genel Müdürlüğü) is a responsible board for the realization of these tasks on education of people with disabilities.[153] Rehabilitation and Education Office Director in Prime Minister Administration for Disabled People is also a responsible body of society. One of its aims is to follow up the works regarding providing equal opportunities for people with disabilities in every level of education as well as in an integrated environment. This was enacted by the amendments to Article 8 of the Decree Law no 571 by the Article 44 of the Disability Law no 5378.

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150 N. Okur. "Özürlülere Yönelik Örgütlenmenin İncelenmesi". 2001, pg. 103.

151 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları[First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pg. 97.

152 MADDE 15- "Hiçbir gerekçeyle özürlülerin eğitim alması engellenemez. Özürlü çocuklara, gençlere ve yetişkinlere, özel durumları ve farklılıkları dikkate alınarak, bütünleştirilmiş ortamlarda ve özürlü olmayanlarla eşit eğitim imkânı sağlanır." (the Disability Law no 5378, 2005)

153 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pg. 96.
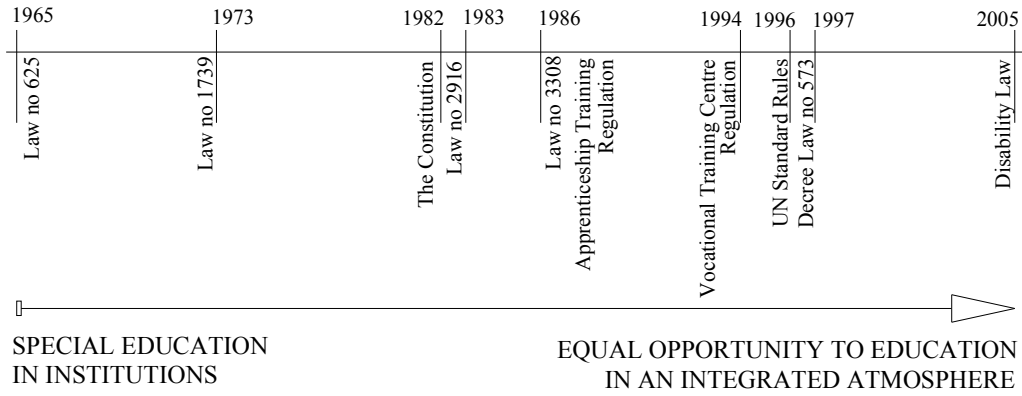
Figure 2.12. The shift of the perception of the right to education for people with disabilities. Dinç Uyaroğlu, 2008.

As can be seen from the above acts and discussions, while the initial acts held special education institutions for education of people with disabilities, recently adopted laws are aiming at integrated solutions in educational system (Figure 2.12.). In other words, a person with disabilities should receive education services in an integrated school.

2.2.2.1.2. Legislations related to rehabilitation of people with disabilities

In the Article 61 of the 1982 Constitution of Turkey, it is stated that the Government should take measures to secure people with disabilities and integrate them into community life, and establish necessary organizations and foundations with these aims.[154] However, unfortunately, because operations, applications, and sanctions are inadequate, they can not exactly benefit from these constitutional rights. [155]

It is stated in the First Disability Council report that in Turkey, Ministry of Health is liable to serve rehabilitation services on the basis of medical treatment for people with disabilities. These medical services can be provided by both rehabilitation centers and

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154 MADDE 61- "…Devlet sakatların korunmalarını ve toplum hayatına intibaklarını sağlayıcı tedbirleri alır....Bu amaçlarla gerekli teşkilat ve tesisleri kurar veya kurdurur." (the Constitution of Republic of Turkey, 1982)
155 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pg. 58.

related department of universities and public hospitals. [156] Besides, SHÇEK (Social Services and Society for the Protection of Children) serves care and rehabilitation services which enable only social services for social integration of people with all sorts of disabilities which are visual, hear-speech, mental, and physical disabilities in the care and rehabilitation services. [157] SHÇEK Law no 2828 was adopted in 1983 to set some principals about the duties of the General Directorate of SHÇEK.

In the Third Disability Council: Care Services, it is pointed out that according to SHÇEK Law, social service programmes about care and rehabilitation, using the rights, and integration to the social life on the basis of people with disabilities have been formed, developed, and applied. In Turkey, people with disabilities and their families experience many problems concerning education, rehabilitation, care, employment, and participation to the social life activities but people with disabilities need to benefit from all these parts of social life within the framework of equality. At this point, the General Directorate of SHÇEK is responsible for tackling problems of people with disabilities which occurred due to the lack of holistic approach in services and deficiencies in infrastructure. [158]

In 1997, an amendment to the Law no 2828 SHÇEK Law (1983) was made with the Decree Law no 572. It declares that SHÇEK aims to establish required social service institutions for individuals with disabilities and other social services according to the varying needs of community. [159] This new article draws attention to the diverse needs of community.

Regulations for rehabilitation of people with disabilities created in the pursuance of the SHÇEK Law no 2828 are below: [160]

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156 Ibid., pg. 90.

157 N. Okur. "Özürlülere Yönelik Örgütlenmenin İncelenmesi". 2001, pg. 86.

158 "III.Özürlüler Şurası Bakım Hizmetleri Komisyon Raporları Ve Genel Kurul Görüşmeleri [The Third Consultative Committee for Disabled People Nursing Services Council's Reports]". İstanbul: Republic of Turkey Prime Minister Administration for Disabled People, November 2007, pg.

159 MADDE 8- "24/5/1983 tarihli ve 2828 sayılı Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Kanununun 9 uncu maddesinin (j) bendi aşağıdaki şekilde değiştirilmiştir.
j) Toplumun değişen ihtiyaçlarına göre özürlüler ve diğer sosyal hizmet alanlarında, Kanunlarla verilen diğer görevleri yerine getirmek, bunun için uygun gördüğü sosyal hizmet kuruluşlarını genel esaslar çerçevesinde kurmak ve işletmek," (the Decree Law no 572, 1997)

160 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [The First Consultative Committee for Disabled People: Contemporary community, life and disabled

- A Regulation SHÇEK for the Detection, Analyzing, Care and Rehabilitation of People with Disabilities (Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Özürlülerin Tespiti, İncelenmesi, Bakım ve Rehabilitasyonuna Dair Yönetmelik)
- A Regulation for SHÇEK Private Rehabilitation Centers for People with Mental Disabilities (Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Zihinsel Özürlüler Özel Rehabilitasyon Merkezleri Yönetmeliği)
- A Regulation on Rules of the Foundation and Operation of SHÇEK Private Rehabilitation Centers for Children with Mental Disabilities (Spastics) (Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Spastik Çocuklar Özel Rehabilitasyon Merkezleri Kuruluş ve İşleyiş Esasları Hakkında Yönetmelik)
- A Regulation for SHÇEK Private Rehabilitation Centers for People with Hearing and Speech Disabilities (Sosyal Hizmetler ve Çocuk Esirgeme Kurumu İşitme ve Konuşma Özürlüler Özel Rehabilitasyon Merkezleri Yönetmeliği)

It seems that there was no comprehensive and holistic approach to disability and further rehabilitation until the Disability Law was adopted in 2005. With the adoption of the Disability Law, the concept of rehabilitation and the principles to be applied for driving of rehabilitation services are described. In the Article 4 of the Disability Law, it is stated that the government should develop social policies on the basis of human self-respect and dignity against every kind of exploitation of disability and persons with disabilities. Discrimination towards people with disabilities can never be held and the challenge for discrimination should be a major parameter in disability policies. Participation of people with disabilities, their families, and voluntary organizations should be provided within not only services but also decision-making process. It is an obligatory story that all disability policies are prepared in collaboration with Prime Minister Administration for Disabled People (ÖİB). Rehabilitation is defined in this milestone law (2005) as follows:

> *Article 3. Rehabilitation is an umbrella term used for all preventive, medical, vocational, education, recreational, and psycho-social services which aims to eliminate disabling factors as much as possible; to improve the abilities of people with disabilities in terms of their physical, mental, psychological, social, vocational, and economic conditions; to integrate people with disabilities to community, and to take all measures against discrimination.*[161]

Besides, it gives rise to the characteristics of rehabilitation services with below article:

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people Commission Reports]". 1999, pg. 19.

161 MADDE 3- "h) Rehabilitasyon: Doğuştan veya sonradan herhangi bir nedenle oluşan özrü ortadan kaldırmak veya özürlülüğün etkilerini mümkün olan en az düzeye indirmek, özürlüye yeniden fiziksel, zihinsel, psikolojik, ruhsal, sosyal, meslekî ve ekonomik yararlılık alanlarında başarabileceği en üst düzeyde yetenekler kazandırarak; evinde, işinde ve sosyal yaşamında kendine ve topluma yeterli olabilmesi ve özürlünün toplum ile bütünleşmesi, ayrımcılığa karşı tüm tedbirlerin alınması amacıyla verilen koruyucu, tıbbî, meslekî, eğitsel, rekreasyonal ve psiko-sosyal hizmetler bütününü," (Disability Law no 5378, 2005)

Article 10. Rehabilitation services are provided to meet the personal and social needs of people with disabilities based on the basis of full participation in community life and equality. The active and effective participation of people with disabilities and their families' is the major principle in the decision-making, planning, and delivering process of rehabilitation.[162]

The Article 44 of the Disability Law has amendments to the Article 8 of the Decree Law no 571 that Prime Minister Administration for Disabled People (ÖİB) Rehabilitation and Education Office Director has important roles on variety of areas in rehabilitation. Some of its objectives as below:

- to provide cooperation and coordination among related institutions and establishments in the process of rehabilitation and training of people with disabilities.
- to carry out studies in order to set every sorts of standards for rehabilitation of people with disabilities.
- to prepare proposals for the elimination of physical and architectural barriers that people with disabilities encountered in their daily lives and the determination of the standards in the related field.
- to prepare and enforce proposals and projects related to preventing, early diagnosis of disability, rehabilitation, education, and social security of people with disabilities.

The Disability Law involves the norms related to social and vocational rehabilitation of people with disabilities on the basis of equality. For it, social and vocational rehabilitation services for people with disabilities should be provided so as to increase social and economic welfare of them as well as others. These services are provided by Municipalities. Municipalities cooperate with public training and apprenticeship training centers to the success of them when there is a need (Article 13).[163]

Assistive devices which considerably support people with disabilities in both rehabilitation process and their whole of life also have taken part in the legislative documents. The Standard Rules for the Equalization of Opportunities for People with Disabilities (United Nations, 1996) has manifested assistive devices called as Support

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162 MADDE 10- "Rehabilitasyon hizmetleri toplumsal hayata katılım ve eşitlik temelinde özürlülerin bireysel ve toplumsal ihtiyaçlarını karşılamaya yönelik olarak verilir. Rehabilitasyon kararının alınması, plânlanması, yürütülmesi, sonlandırılması dâhil her aşamasında özürlü ve ailesinin aktif ve etkili katılımı esastır." (Disability Law no 5378, 2005)

163 MADDE 13- "Sosyal ve mesleki rehabilitasyon hizmetleri belediyeler tarafından da verilir. Belediyeler bu hizmetlerin sunumu sırasında gerekli gördüğü hallerde, halk eğitim ve çıraklık eğitim merkezleri ile işbirliği yapar. Özürlünün rehabilitasyon talebinin karşılanamaması halinde özürlü, hizmeti en yakın merkezden alır ve ilgili belediye her yıl bütçe talimatında belirlenen miktarı hizmetin satın alındığı merkeze öder." (Disability Law no 5378, 2005)

Services in the Rule 4. Besides that, in national codes, there have been obligations about assistive devices on the basis of the supply principles (Law no 3294, Law no 506, Law no 657, the Decree Law 572), being up to standards (Law no 657, Law no 1479, Law no 5434), and producer establishments (Law no 3359 added by the Disability Law).

2.2.2.2. Legislations on the principles for equality and the rights in working life of people with disabilities

Ministry of Labor and Social Security is an executive department that has greatly contributed to the vocational integration of individuals. One of the objectives of the Ministry is to take measures providing vocational rehabilitation of persons with disabilities, which was stated in the Article 2 of Law no 3146.[164] Additionally, it was set targets and suggestions for the coordination and generalization of medical and vocational rehabilitation in "the National Report for People with Disabilities (1995-2000)" created by the Ministry of Labor and Social Security and action plans.[165] Besides, Directorate-General of Employment (İŞKUR) in Turkey is other responsible governmental organization that have engaged with working life of persons with disabilities and setting them up in business with the Law no 1457.[166]

As stated in the Article 13 of the Disability Law, municipalities, as local authorities, have also a key role in the improvement of working life of people with disabilities by providing vocational rehabilitation services. It is expressed in the article (added to the Law no 5216 Metropolitan Municipalities Law (2004) by Article 40 of the Disability Law) that service departments for person with disabilities in metropolitan municipalities are formed for the aim of providing services in the field of informing, consciousness, orientation, counseling, social and vocational rehabilitation services. These departments have collaborations with charitable foundation, associations, and their upper establishments whose aims are based on the welfare of people with disabilities". [167] With

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164 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pp. 90- 91.
165 Ibid., pg. 89.
166 N. Okur. "Özürlülere Yönelik Örgütlenmenin İncelenmesi". 2001, pg.
167 MADDE 40- "10.7.2004 tarihli ve 5216 sayılı Büyükşehir Belediyesi Kanununa aşağıdaki ek madde eklenmiştir.
    EK MADDE 1- Büyükşehir belediyelerinde özürlülerle ilgili bilgilendirme, bilinçlendirme,

the Law no 3030 related to the administration of metropolitan municipalities (Büyükşehir Belediyelerinin Yönetimi Hakkında Kanun Hükmünde Kararnamenin Değiştirilerek Kabulü Hakkında Kanun, 1984) and Law no 1580 Municipality Law (added by the Decree Law 572), local governments were conferred responsibilities about vocational training, increasing ability of people with disabilities as stated opening courses for making careers and developing skills and vocational training centers for young and adults with disabilities with the assistance of related organizations and establishments.[168]

The Standard Rules have indicated that States should actively support the needs of persons with disabilities for the integration of them into open labor market. For the achievement of that, a diversity of measures such as vocational training should be taken. It is mandatory that persons with disabilities can not be treated as a different person from others in the labor market by Article 14 of the Disability Law. Furthermore, measures should be taken to decrease or eliminate handicaps and difficulties for persons with disabilities who work and apply for a job. Employments of people with disabilities who suffer entering to the labor market due to disabilities are firstly provided by sheltered workshops. [169]

2.2.2.3. Legislations on providing standards in the design of physical environment

Accessibility of the physical environment, as well as education and employment, is one of the target areas for equal participation as explained in the Rule 5 Accessibility of The

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yönlendirme, danışmanlık, sosyal ve mesleki rehabilitasyon hizmetleri vermek üzere özürlü hizmet birimleri oluşturulur. Bu birimler, faaliyetlerini özürlülere hizmet amacıyla kurulmuş vakıf, dernek ve bunların üst kuruluşlarıyla işbirliği hâlinde sürdürürler." (Disability Law no 5378, 2005)

168 MADDE 3- "27/6/1984 tarihli ve 3030 sayılı Büyükşehir Belediyelerinin Yönetimi Hakkında Kanun Hükmünde Kararnamenin değiştirilerek Kabulü Hakkında Kanun'un 6. maddesinin (A) fıkrasına (r) ve (s) bentleri ile aynı maddenin sonuna aşağıdaki fıkra eklenmiştir.
r) İlgili kurum ve kuruluşlarla işbirliği yaparak genç ve yetişkin özürlüler için bölgenin işgücü piyasasına uygun mesleklerde, meslek ve beceri kazandırma kursları, iş eğitim merkezleri ve yaşamevleri açmak," (the Decree Law no 572, 1997)

169 MADDE 14- "Çalışan özürlülerin aleyhinde sonuç doğuracak şekilde, özrüyle ilgili olarak diğer kişilerden farklı muamelede bulunulamaz.
Çalışan veya iş başvurusunda bulunan özürlülerin karşılaşabileceği engel ve güçlükleri azaltmaya veya ortadan kaldırmaya yönelik istihdam süreçlerindeki önlemlerin alınması ve işyerinde fiziksel düzenlemelerin bu konuda görev, yetki ve sorumluluğu bulunan kurum ve kuruluşlar ile işyerleri tarafından yapılması zorunludur. Özürlülük durumları sebebiyle işgücü piyasasına kazandırılmaları güç olan özürlülerin istihdamı, öncelikle korumalı işyerleri aracılığıyla sağlanır." (Disability Law no 5378, 2005)

Standard Rules for the Equalization of Opportunities for People with Disabilities (United Nations, 1996):

> "States should recognize the overall importance of accessibility in the process of the equalization of opportunities in all spheres of society. For persons with disabilities of any kind, States should (a) introduce programmes of action to make the physical environment accessible; and (b) undertake measures to provide access to information and communication."

There have been recently made many developments concerning accessibility of the built environment for people with disabilities in the current national legislations, which may shed some light on the Rule 5 of the Standard Rules. The most important developments have been made by the Disability Law no 5378 (2005). According to the Disability Law, in seven years beginning of the adoption of it, all parts of physical environment, public buildings, roads, pavements, pedestrian crossing, open and green areas, sports grounds, social and cultural infrastructural regions, and every public building should be ordered according to the accessibility for people with disabilities (Temporary Article 2). In this sense, some amendments to the previous laws have been manifested by the Disability Law. With the Article 44 of Disability Law, Article 8 of the Decree Law 571 has been altered together with its title. The new title is "Department of Rehabilitation and Education Board" which is one of the main service departments of ÖİB and one of the objectives of the Department is to eliminate physical and architectural barriers in the daily lives of individuals with disabilities and to prepare proposals or to have them made for the creation of the related standards.[170] With the Disability Law, a clause have also been amended to the Article 42 of the Law no 634 Condominium Ownership Law (Kat Mülkiyeti Kanunu, 1965). It is stated in 19th Article of the Disability Law that if there is a need for the utilization of the buildings for people with disabilities, alterations on the projects of the buildings should be made according to the needs of them.[171] Besides these

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[170] MADDE 44- "571 sayılı Kanun Hükmünde Kararnamenin 8 inci maddesi başlığı ile birlikte aşağıdaki şekilde değiştirilmiştir.
Rehabilitasyon ve Eğitim Dairesi Başkanlığı
Madde 8.- Rehabilitasyon ve Eğitim Dairesi Başkanlığının görevleri şunlardır:
f) Özürlülerin günlük hayatlarında karşılaştıkları fiziki ve mimari engellerin kaldırılması ve bu konudaki standartların belirlenmesi için teklifler hazırlamak ve hazırlatmak." (Disability Law no 5378)

[171] MADDE 19- "23.6.1965 tarihli ve 634 sayılı Kat Mülkiyeti Kanununun 42 nci maddesinin birinci fıkrasından sonra gelmek üzere aşağıdaki fıkra eklenmiştir.
Özürlülerin yaşamı için zorunluluk göstermesi hâlinde, proje tadili kat maliklerinin en geç üç ay içerisinde yapacağı toplantıda görüşülerek sayı ve arsa payı çoğunluğu ile karara bağlanır."

general codes on accessibility of built environment, it has particularly been focused on the utilization and accessibility of sport facilities and parking areas for people with disabilities by amendments in the 2nd Article of the Law no 3289 (Gençlik ve Spor Genel Müdürlüğünün Teşkilat ve Görevleri Hakkında Kanun) (1986)[172] and the 61st Article of the Law no 2918 "Highways Traffic Law" (1983), respectively. Pecuniary penalty has been increased twice as much when violating an agreement on parking areas for people with disabilities by Article 31 of the Disability Law.[173]

The Disability Law also covers the specifications for accessibility of working places for people with disabilities. It has been obligated by Article 14 that precautions on the employment process should be taken and arrangements on the physical conditions of working places should be made by the responsible public institutions and organizations, and businesses in order to decrease or eliminate all handicaps and difficulties for people with disabilities.[174]

In the pursuance of the Disability Law, a Circular (Circular no 2006/18) in respect of the accessibility and utilization of public buildings, open-use areas, public vehicles by people with disabilities was adopted by the Prime Ministry in 2006. This circular initiated that buildings used by public institutions and organizations, public open spaces, and public vehicles should be re-arranged according to the needs of people with disabilities in order to provide the full integration of people with disabilities into society. These applications

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(Disability Law no 5378, 2005)

172 MADDE 33- "21.5.1986 tarihli ve 3289 sayılı Gençlik ve Spor Genel Müdürlüğünün Teşkilat ve Görevleri Hakkında Kanunun 2 nci maddesine (n) bendinden sonra gelmek üzere aşağıdaki (o) bendi eklenmiş ve mevcut (o) bendi (p) bendi olarak teselsül ettirilmiştir.

o) Özürlü bireylerin spor yapabilmelerini sağlamak ve yaygınlaştırmak üzere; spor tesislerinin özürlülerin kullanımına da uygun olmasını sağlamak, spor eğitim programları ve destekleyici teknolojiler geliştirmek, gerekli malzemeyi sağlamak, konu ile ilgili bilgilendirme ve bilinçlendirme çalışmaları ile yayınlar yapmak, spor adamları yetiştirmek, özürlü bireylerin spor yapabilmesi konusunda ilgili diğer kuruluşlarla işbirliği yapmak," (Disability Law no 5378, 2005)

173 MADDE 31- "13.10.1983 tarihli ve 2918 sayılı Karayolları Trafik Kanununun 61 inci maddesinin birinci fıkrasına (n) bendinden sonra gelmek üzere aşağıdaki bent ve ikinci fıkrasına aşağıdaki cümle eklenmiştir.

o) Özürlülerin araçları için ayrılmış park yerlerinde,

(o) bendinin ihlâli hâlinde para cezası iki kat artırılır." (Disability Law no 5378, 2005)

174 MADDE 14- "Çalışan veya iş başvurusunda bulunan özürlülerin karşılaşabileceği engel ve güçlükleri azaltmaya veya ortadan kaldırmaya yönelik istihdam süreçlerindeki önlemlerin alınması ve işyerinde fiziksel düzenlemelerin bu konuda görev, yetki ve sorumluluğu bulunan kurum ve kuruluşlar ile işyerleri tarafından yapılması zorunludur." (Disability Law no 5378, 2005)

should be accomplished in seven years beginning from July 7, 2005. Moreover, it was stated in the Circular, emphasizing the most important roles of local governments and municipalities in the related field, re-arrangements made by Municipalities shall be conformed to the related specifications of Turkish Standards set by TSE. This issue was also manifested in the Disability Law (Temporary Article 3) as; metropolitan municipalities and municipalities should take necessary measurements related to the accessibility of public vehicles for people with disabilities and in seven years from the date Disability Law became valid, the accessibility of all vehicles should be provided. Ministry of Public Works and Settlement Constructive Works Office (Bayındırlık ve İskan Bakanlığı) was also prepared three circulars in order that people with disabilities could easily use public buildings such as schools, hospitals, houses, museums, nursing homes, and etc. These were "Law and Plans related to the Problems of People with Disabilities" (Sakatların Sorunları İle İlgili Yasa ve Düzenlemeler) (1981)", "Precautions related to People with Disabilities for the Buildings (Yapılarda Sakatlar İçin Alınacak Önlemler) (1983)" and "Elevators (Asansörler) (1997)" which included taking measures related to the needs of people with disabilities about parking, ramps, railings and entrance stairs, elevators, wc, and lavatories. [175]

Besides the Disability Law, the Decree Law no 572 (Bazı Kanunlarda Değişiklik Yapılmasına İlişkin Kanun Hükmünde Kararname) adopted in 1997 have contributed to the developments about accessible physical environment. By the Article 1 of the Decree Law 572, an article was added to the Law no 3194 on Building Code (1985). It initiated that Turkish Standards in the related fields should be utilized in Building Codes, urban, social, technical infrastructure areas and buildings in order to make a physical environment more accessible and livable.[176] With the amendments of The Decree Law no 572 to the laws regarding the tasks of metropolitan municipalities and municipalities, municipalities was obliged to take some measures concerning equal participation of people with disabilities to urban life. By the Article 3 of the Decree Law no 572, a clause was added to the Article 6 of the Law no 3030 to give duties to metropolitan

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[175] "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları[The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pp. 485- 486.

[176] MADDE 1- "3/5/1985 tarihli ve 3194 sayılı İmar Kanununa aşağıdaki ek madde eklenmiştir. Ek Madde 1- Fiziksel çevrenin özürlüler için ulaşılabilir ve yaşanılabilir kılınması için, imar planları ile kentsel , sosyal, teknik alt yapı alanlarında ve yapılarda, Türk Standartları Enstitüsünün ilgili standardına uyulması zorunludur." (the Decree Law 572, 1997)

municipalities in terms of public service vehicles accessibility for people having disabilities.[177] Besides that, by the 4th Article of this Decree-Law, two clauses was added to the Law no 1580 Municipality Law, which saddle municipalities with following responsibilities; providing accessibility and utilization of all parts of the built environment such as buildings and their near surroundings, roads, parks, gardens and recreational areas, social and cultural service places and vehicles for people with disabilities; and taking measures for the application of related Turkish Standards prepared by Turkish Standard Institute (TSE) in the stage of preparing and implementing of Building Codes and construction and certification of buildings.[178]

A regulation (Turizm Yatırım ve İşletmeler Nitelikleri Yönetmeliği) prepared in the influence of the Law no 2634 Tourism Encouragement Law (Turizmi Teşvik Kanunu) (1982) set norms about accessibility of holiday resorts like; physical arrangements for providing accessibility for persons with physical disabilities in four and five star hotels and holiday villages (Article 58); arrangements of pools for people with disabilities in first class holiday village and five star hotels (Article 140); arrangements of parking lot for people with disabilities (Article 146); and arrangements for people with disabilities in the establishments for the day (Article 151). [179]

Some of the above-mentioned Turkish Standards containing specifications for people with disabilities in a physical environment as follows:

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177 MADDE 3- "27/6/1984 tarihli ve 3030 sayılı Büyükşehir Belediyelerinin Yönetimi Hakkında Kanun Hükmünde Kararnamenin değiştirilerek Kabulü Hakkında Kanun'un 6. maddesinin (A) fıkrasına (s) bendi eklenmiştir.
s) Ulaşım araçlarının özürlülerin kullanımına ve ulaşabilirliğine uygun olmasını sağlamak ve özürlüler için, ulaşım ile sosyal ve kültürel amaçlı hizmetlerden ücret almamak veya indirimli tarife uygulamak, büyük şehir belediyelerine ait ve büyük şehir belediyeleri tarafından işletilen veya kiraya verilen büfeler, otoparklar gibi işyerlerinin özürlüler tarafından işletilmesi konusunda kolaylık sağlamak." (the Decree Law no 572, 1997)

178 MADDE 4- "3/4/1930 tarihli ve 1580 sayılı Belediye Kanununun 15 inci maddesine 77 nci bentten sonra gelmek üzere aşağıdaki bentler eklenmiştir.
78) Bu maddede sayılan her türlü yapılar ve çevresinin, yolların, park, bahçe ve rekreasyon alanlarının, sosyal ve kültürel hizmet alanları ile ulaşım araçlarının özürlülerin kullanımına ve ulaşabilirliğine uygun olarak yapılmasını sağlamak ve denetlemek,
79) İmar planlarının yapımı ve uygulanması ile yapıların inşaat ve iskan ruhsatı aşamasında, Türk Standartları Enstitüsünün ilgili standardına uygunluk sağlamak, uygulamaları denetlemek ve bütünlüğü sağlayıcı tedbirler almak" bu kanunla beraber belediyelerin görevleri arasında yer almaktadır." (the Decree Law no 572, 1997)

179 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları [The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pg. 107.

- TS 9111 (April 1991) Specifications for Designing Residential Buildings for the Disabled,
- TS 11937 (January 1996) Design-Urban Roads-Principles of Signal Controlled at Grade Intersections,
- TS 12186 (April 1997) Rail rapid transit system in urban areas part: 2 design criteria of ground station facilities,
- TS 12174 (March 1997) Design requirements pedestrian precincts in urban areas,
- TS 12460 (April 1998) Rail rapid transit system in urban part 5- design criteria of facilities for handicap and elderly people,
- TS 12527 (February 1999) Rail rapid transit system in urban areas part 14: Design and layout criteria of station seats,
- TS 12575 (April 1999) Rail rapid transit system in urban areas Part 11: General rules of system information and declaration- Advertisement boards,
- TS 12576 (April 1999) Structural preventive and Sign design criteria on Street Boulevard square and roads for handicaps and elderly persons in urban areas,
- TS 12637 (April 2000) Urban roads- Rail transit systems Part 22: Design rules of the travel ticket system,
- TS 12694 (January 2001) Railway vehicles- Passenger coaches- Indications for the layout of coaches suitable for conveying disabled passengers in their wheelchairs.[180]

It is stated in the report of the 1st Disability Council (1997) that Turkish Standards was prepared through the translation of foreign standards without considering anthropometric measurements of Turkish people and consultation with the professionals on related issues. In addition to that, there is no collaboration among the different standards because every norm mostly sets different measurements for a person with disabilities. Also, ministry and local governments have not accomplished their responsibilities with regards to the application and controlling of these standards. [181]

180 - TS 9111 (Nisan 1991) Özürlü İnsanların İkamet Edeceği Binaların Düzenlenmesi Kuralları,
   - TS 11937 (Ocak 1996) Şehir İçi Yollar-Işık Kontrollü (Sinyalize) Hemzemin Kavşak Tasarım Esasları,
   - TS 12186 (Nisan 1997) Şehir İçi Yollar-Raylı Taşıma Sistemleri, Bölüm 2: Yer Üstü İstasyon Tesisleri Tasarım Kuralları,
   - TS 12174 (Mart 1997) Şehiriçi Yolları-Yaya Yolu ve Yaya Bölgeleri Tasarım Kuralları,
   - TS 12460 (Nisan 1998) Şehir İçi Yollar-Raylı taşıma Sistemleri Bölüm 5: Özürlü ve Yaşlılar İçin Tesislerde Tasarım Kuralları,
   - TS 12527 (Şubat 1999) Şehir İçi Yollar- Raylı Taşıma Sistemleri Bölüm 14: İstasyon Platformu Oturma Elemanları- Tasarım ve Yerleştirme Kuralları,
   - TS 12575 (Nisan 1999) Şehir İçi Yollar- Raylı Taşıma Sistemleri Bölüm 11: Sistem Bilgi ve İlan Panoları Genel Kuralları,
   - TS 12576 (Nisan 1999) Şehir İçi Yollar- Özürlü ve Yaşlılar İçin Sokak, Cadde, Meydan ve Yollarda Yapısal Önlemler ve İşaretlemelerin Tasarım Kuralları,
   - TS 12637 (Nisan 2000) Şehir İçi Yollar- Raylı Toplu Taşıma Sistemleri- Bölüm 22: Biletlendirme Sistemi Tasarım Kuralları,
   - TS 12694 (Ocak 2001) Demiryolu Taşıtları- Yolcu Vagonları- Özürlü Yolcuların Tekerlekli Sandalyeleri İle Seyahatine Uygun Vagon Düzenlemeleri.
181 "I. Özürlüler Şûrası Çağdaş Toplum Yaşam ve Özürlüler Ön Komisyon Raporları[The First Consultative Committee for Disabled People: Contemporary community, life and disabled people Commission Reports]". 1999, pp. 488- 489.

CHAPTER 3

UNIVERSAL DESIGN AS A NEW DESIGN APPROACH:
THE IMPORTANCE OF UNIVERSAL DESIGN IN REHABILITATION
CENTER ARCHITECTURE

In this chapter, the Universal Design approach is explained, especially within the field of architecture. Specifically, the implications of adopting Universal Design in the field of rehabilitation center architecture are introduced. The discussions extend from the contribution of Universal Design approach in the built environment to the implications of rehabilitation center design. Firstly, the definition of Universal Design and the variety of terms which are used for a universally designed environment are explicitly presented and the difference of Universal Design is emphasized. Then, the development process of Universal Design and its seven principles are defined within their historical backgrounds. The Universal Design Principles and their guidelines are explored within architectural perspective. In the next section, community-based/ user-based/ inclusive approach which is seen the main ideology of Universal Design is summarized in the case of the new rehabilitation center approach. The significance of Universal Design in community-based/ inclusive rehabilitation center concept is brought into discussion. It should be pointed out that this study aims to investigate the characteristics of the inclusive rehabilitation center. In this study, the utilization of Universal Design's theoretical framework is expected to fulfill this purpose.

3.1. Definition of Universal Design

Story states that there are many definitions of Universal Design in a different manner across the worldwide area of research professionals. Some of them have broader meaning; some are narrowly defined; and some lay stress on the definite features of others. [182]

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182 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.3.

Ronald Mace, who was first used the term Universal Design, defined this approach in 1988 as "*Universal Design is an approach to design that incorporates products as well as building features which, to the greatest extent possible, can be used by everyone*".[183] This definition of Universal Design has also been used currently. The Center for Universal Design at North Carolina State University defines Universal Design in an almost similar way to that of Mace's definition. For the Center, Universal Design is "*the design of all products and environments to be usable by people of all ages and abilities, to the greatest extent possible.*"[184] These two definitions of Universal Design reflect widespread and wide-ranging expressions of it. The intent of it is also defined by The Center for Universal Design as follows:

> "*The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities*".[185]

Unfortunately, an inaccessible built environment, transport, and communication systems remain major obstacles for people with disabilities wishing to enter the community life like everyone. Universal design approach aims to make communities more inclusive and make the built environment more usable by as many people as possible. Universal designers take into consideration usability for every person in all fields of his/her life by designing for a varied population as mentioned by the Mayor's Office for People with Disabilities. By this approach, it is given equal opportunity to many individuals such as children, the aged, and people having short stature disregarded in the design process in order to provide wider inclusion.[186] For Story, Mueller, and Mace, "*Universal Design provides a blueprint for maximum inclusion of all people*".[187] Sandhu asserts that Universal Design approach mainly appreciates the variety among individuals. In the light of this view, he focuses on the changing social attitudes towards people with disabilities with Universal Design perspective as follows:

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183 Elaine Ostroff. "Universal Design: The New Paradigm". In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York: McGraw-Hill, 2001, pg. 1.5.
184 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.3.
185 The Center for Universal Design. "About UD". NC State University. Retrieved on February 4, 2007 from http://www.design.ncsu.edu/cud/about_ud/about_ud.htm
186 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 1.
187 Molly Follete Story, James L. Mueller, and Ronald L. Mace. "The Universal Design File: Designing for People of All Ages and Abilities". North Carolina: North Carolina State University Press, 1998, pg. 13.

"Above all, it highlights a major paradigm shift- from treating people as part of the medical model, as dependent, passive recipients of care and services, to a model in which everyone is treated as an equal citizen and disability is seen merely as a social construct." [188]

Adaptive Environments (AE)[189] see Universal Design as a framework which makes the design of every component of physical environment and policy usable for everyone in every interaction with the built environment without making any special and separate arrangements. In general, it is a *human-centered design* that is applied to everything, considering everyone.[190] It does not mean a design; however, it orients any design process to achieving its goals starting with the duty of user's experience.[191] It is also an *inclusive process* which aims to enable everyone to employ the full potential of the products and environments no matter what their ages, sizes or abilities are.[192] In this sense of Universal Design, green design movement can be given as an example that has a parallel view with Universal Design as stated by Adaptive Environments. They both suggest a framework to overcome design problems in the case of environmental responsibility. While green design movement emphasizes environmental sustainability, Universal Design focuses on "social sustainability". [193]

One of the goals of Universal Design is to make products, communications, and the built environment more usable by everyone at little or no extra cost as mentioned above by the Center for Universal Design. Universal design has grown to be a very *marketable approach* as it considers reasonable cost in any design and production process by addressing the variety requirements of all community members. [194] The fact that consumers and producers must regard the matter of cost restraints is recognized by universal design approach. [195]

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188 Jim S. Sandhu. "An Integrated Approach to Universal Design: Toward the Inclusive of All Ages, Cultures, and Diversity". 2001, pg. 3.4.

189 Adaptive Environments is a 29 year old international non-profit organization which supports international Universal Design approach. It can be found more information about it in its formal website http://www.adaptenv.org.

190 Adaptive Environments. "What is Universal Design?".

191 Ibid.

192 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 1.

193 Adaptive Environments. "What is Universal Design?".

194 Molly Follete Story, James L. Mueller, and Ronald L. Mace, "The Universal Design File: Designing for People of All Ages and Abilities". 1998, pg. 12.

195 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 2.

Sandhu explains that universal design is a concept that offers a potential basis to enhance the needs of the all users with different kinds of functional limitations in the built environment while it goes beyond making people with disabilities force to adjust accessibility standards created for them.[196] Salmen explains accessibility and universal design within the differences between two concepts as follows:

> "There is profound difference between universal design and accessibility. *Accessibility* is a function of compliance with regulations or criteria that establish a minimum level of design necessary to accommodate people with disabilities. *Universal design*, however, is the art and practice of design to accommodate the widest variety and number of people throughout their life spans." [197]

Universal Design is different from a*ccessible design* in a way that it addresses the visual and functional inclusion of the accessibility qualities, which should be provided for both products and environments from the beginning. This approach prevents individuals from discriminative situations related to the utilization of the design so it brings about the social integration of the broadest variety of them. [198]

Apart from Universal Design, there are different terms used in worldwide in order to designate the design for the accommodation of the full scope of abilities and ages in an environment. The term *Inclusive Design* and *Design for All* are mostly used as standing for Universal Design. Ostroff states by citing from Mullick and Steinfeld (1997) that *life span design* and *transgenerational design* are some of terms recently used but universal design separates from these terms in a way that it focuses on social integration. This reflects the sample of equalization of opportunities as implementation of the thinking "separate is not equal". [199]

All definitions of Universal Design some of them mentioned above show that its goal seems to reduce restrictions on participation and tackle the limitations of activities. [200] In

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196 Jim S. Sandhu. "An Integrated Approach to Universal Design: Toward the Inclusive of All Ages, Cultures, and Diversity". 2001, pg. 3.4.

197 John P.S. Salmen. "U.S. Accessibility Codes and Standards: Challenges for Universal Design". In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York : McGraw-Hill, 2001, pg. 12.1.

198 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.15.

199 Elaine Ostroff. "Universal Design: The New Paradigm. 2001, pg. 1.5.

200 Maria Cristina Sará-Serrano. "United Nations Standards and Rules". In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York : McGraw-Hill, 2001, pg. 11.1.

that sense, as the ICF contains these contexts, it supports Universal Design Approach, which is emphasized by Adaptive Environments like:

> "*The 2001 ICF provides a platform that supports Universal Design as an international priority for reducing the experience of disability and enhancing everyone's experience and performance.*" [201]

For The Mayor's Office for People with Disabilities, universal design does not assert the accommodation of everyone in every condition by emphasizing some questions which are *Is universal design a utopian dream? Is it really possible? How can every graphic, product, place or system be usable by everyone?* Nevertheless, it consistently makes progress to the purpose of a universally designed environment. [202] Story and Mueller mention that Universal Design continuous to become an ideal rewarding for the achievement of these goals even though this definition reflects the unachievable objective of it. [203]

3.2. History of Universal Design

Story, Mueller, and Mace state in "The Universal Design File: Designing for People of All Ages and Abilities" that Universal Design gets its origin from demographic, legislative, economic, and social changes among the aged and people with disabilities during 20th century. Average life-span has increased because of the technological advances in the area of medical sciences and, additionally, a number of people with disabilities have ascended due to a number of veteran populations after two world wars and accidents and illnesses by negative implication of medical treatment. [204] These are of supreme contexts in demographic changes which have consistently affected an increasing number of people with disabilities and the aged in society. To make environment usable by everyone has emerged as a crucial need by increasing population of people having a kind of disabilities. Besides, the development of universal design approach in the last few

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201 Adaptive Environments. "What is Universal Design?".
202 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 2.
203 Molly Follette Story. James L. Mueller. "Universal Design of Products". In Universal Design Handbook. Edited by Wolfgang F.E. Preiser and Elaine Ostroff. New York: McGraw-Hill, 2001, pg. 49.1.
204 Molly Follete Story, James L. Mueller, and Ronald L. Mace, "The Universal Design File: Designing for People of All Ages and Abilities". 1998, pp. 6-7.

decades are attributed to successive circumstances; advances in the legislations by the disability rights movement, a shift from barrier-free design to universal design approach, and the development of rehabilitation engineering and assistive technology which are highlighted in detail below. [205]

Story and his colleagues express that Disability Rights Movement encouraged by The Civil Rights Movement, which began in the 1960s, significantly contributed to the development of legislations of the 1970s, 1980s, and 1990s. These developments were carried out with a view based on the needs of people with disabilities related to protecting against discrimination and providing access to education, all public places, telecommunications, and transportation. [206] In the United States, "Barrier-Free" design approach was appeared by the influence of Disability Rights Movement in order to provide education and employment opportunities rather than institutionalized health care and maintenance ones [207] and also eliminate the physical barriers in the environment. Ostroff states that in "Universal Design Handbook", the efforts done for the elimination of barriers from the built environment has begun in the late 1950s. "Barrier-free" design is the first term used around the world in those times. [208] Within this design approach, people having physical disabilities were hindered mainly because of the barriers in the built environment. [209] Barrier-Free movement led to the passing of significant federal codes some of which are Section 504 of the Rehabilitation Act (1973, United States), *prohibiting discrimination against people with disabilities*; the Fair Housing Amendments Act (1988, United States); the Americans with Disabilities Act (1990, United States), *which asserts the individual's right to use products and services on an equal access basis*; and Disability Discrimination Act (1996, UK), *which covers similar ground to the ADA*. [210]

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205 Ibid., pp. 6-7.
206 Ibid., pg. 7.
207 Simeon Keates, P. John Clarkson, Lee-Anne Harrison, and Peter Robinson. "Towards a practical inclusive design approach". ACM Conference on Universal Usability, Proceedings on the 2000 conference on Universal Usability, Arlington, Virginia, United States, 2000. pg. 45. Retrieved on November 27, 2007 from http://web.mit.edu/16.459/Keates.pdf
Molly Follete Story, James L. Mueller, and Ronald L. Mace, "The Universal Design File: Designing for People of All Ages and Abilities". 1998, pg. 7.
208 Elaine Ostroff. "Universal Design: The New Paradigm". 2001, pg. 1.5.
209 Molly Follete Story, James L. Mueller, and Ronald L. Mace, "The Universal Design File: Designing for People of All Ages and Abilities". 1998, pg. 7.
210 Simeon Keates, P. John Clarkson, Lee-Anne Harrison, and Peter Robinson. "Towards a practical inclusive design approach". 2000. pg. 45.

However, the laws have not precisely fulfilled the purpose of *the creative potential of design* that takes into consideration all persons' experience in the light of the *human diversity* and *integrated solutions* for a physical environment. [211] People with disabilities thought that laws had unplanned outcomes as they narrowed accessible design to a set of minimum needs, as a result, the design was seen as accessible but *separate* and *unequal*.[212] Existing standards shares the same limited approaches with which they ensure accessibility building codes just considering specific products and conditions, like those contained in the U.S. American with Disabilities Act Standards for Accessible Design (ADA Standards). [213] Afflerbach states that, in such codes, the accessibility problems can be overcome by adding special functions to existing buildings, such as adding ramps for people using a wheelchair. This view causes the segregation of individuals as a certain groups who are "exceptions to the rule" and segregated through the enforcement to use distinct facilities of the building, for instance, separate entrances. Moreover, most of those arrangements are made as an addition rather than as a part of a general design process.[214]

Ostroff states that, throughout past 15 years, the shift of the design approach has extended narrow codes agreement for special needs of people with disabilities to a more inclusive design process for all. [215] Sará-Serrano mentions that global standards are needed is acknowledged for many years by not only people with disabilities but also policy makers in all around the world and she gives The United Nations Standard Rules for Equalization of Opportunity for Persons with Disabilities, adopted by the United Nations General Assembly in 1993 as an example for a response to the need. [216] Additionally, the Council of Europe Resolution ResAP (2001) 1 on Universal Design[217] is the first policy action

211 Adaptive Environments. "History of Universal Design". Retrieved on April 15, 2008 from http://www.adaptenv.org/index.php?option=Content&Itemid=26
212 Ibid.
213 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.4.
214 Thorsten Afflerbach. "Universal Design Concepts in Curricula". Administrative Officer, Integration of People with Disabilities, DG III – Social Cohesion, Council of Europe, Strasbourg, France, pg. 2.
215 Elaine Ostroff. "Universal Design: The New Paradigm. 2001, pg. 1.3.
216 Maria Cristina Sará-Serrano. "United Nations Standards and Rules". 2001, pg. 11.1.
217 Council of Europe. "Resolution ResAP (2001) 1 on the introduction of the principles of universal design into the curricula of all occupations working on the built environment". Adopted by the Committee of Ministers on 15 February, 2001. Retrieved on March 12, 2008 from https://wcd.coe.int/ViewDoc.jsp?Ref=ResAP(2001)1&Language=lanEnglish&Site=CM&Back ColorInternet=9999CC&BackColorIntranet=FFBB55&BackColorLogged=FFAC75

giving place to universal design approach in the field of the equal rights for all individuals to access, utilize, and appreciate the built environment and the task of society, particularly architects, engineers and urban planners. [218]

The shift of the design approach affects the term used for the definition of the design of the built environment usable by all members of community. Ostroff asserts that the developmental change in the language refers the shift from barrier-free design approach that segregate individuals to a more inclusive one and the shift of social policies as well.[219] In the United States, the term barrier-free has negatively been evoked because it has only been referred to persons with disabilities. [220] In the 1970s, Michael Bednar, an American architect, launched the idea that the elimination of environmental barriers improved everyone's functional capacity and he offered that a new design concept apart from an accessible design was needed in a broader and more "universal" sense. [221] In that sense, as Ostroff states, the term "Universal Design" was first used in the United States by Ronald Mace in 1985. There are also other terms used for universally designed environment; "Inclusive Design" and "Design for All".[222] In recent studies, such as in European Commission documents, the term *Design for All* has been used owing to a growing discomfort with the language like *the disabled and elderly*.[223] The expressions "Inclusive Design" and "Design for All" have more positive meaning than "Barrier-Free Design". On the other hand, "Universal design" is the most popular term used around the world. [224]

Story, Mueller, and Mace point out rehabilitation engineering and assistive technology, which appeared in the middle 20th century, increased the efforts done for the development of supportive devices, prosthesis and orthesis owing to the thousands of veterans from World War II in the 1940s. Supportive devices for personal use was produced particularly to improve the physical, sensory, and cognitive abilities of people with disabilities and to assist their independence in the environment irrelevant to their

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218 Thorsten Afflerbach. "Universal Design concepts in curricula". pg. 3.
219 Elaine Ostroff. "Universal Design: The New Paradigm". 2001, pp. 1.4-1.5.
220 Ibid., pg. 1.5.
221Adaptive Environments. "History of Universal Design".
222 Elaine Ostroff. "Universal Design: The New Paradigm. 2001, pg. 1.5.
223 Simeon Keates, P. John Clarkson, Lee-Anne Harrison, and Peter Robinson. "Towards a practical inclusive design approach". 2000. pg. 45.
224 Elaine Ostroff. "Universal Design: The New Paradigm. 2001, pg. 1.5.

needs. "Assistive technology" was an umbrella term used for all supportive devices. [225] Story and her friends focus on the same missions of universal design and assistive technology as follows:

> "Though coming from quite different histories and directions, the purpose of universal design and assistive technology is the same: to reduce the physical and attitudinal barriers between people with and without disabilities. Universal design strives to integrate people with disabilities into the mainstream and assistive technology attempts to meet the specific needs of individuals, but the two fields meet in the middle. In fact, the point at which they intersect is a gray zone in which products and environments are not clearly "universal" or "assistive," but have characteristics of each type of design." [226]

Following these expressions, they mention the potential value of collaboration among two professionals is exciting; however, it is not held. [227] On the other hand, it should be noted that while assistive technology has been developed to improve the independence of people with disabilities, universal design is expected to enhance the full integration of them in community.[228]

In the 21st century, there is a significant need for a more inclusive environment because of the great population of individuals with diverse disabilities. For Afflerbach, the new integrated design approach, namely "Universal Design", aims to respond equally to the diverse needs of everyone. [229] It keeps in view that nobody can be deprived of discrimination and equal opportunities in society because of the physical environment. If all fields of physical environment is embraced this integrated approach, the universally designed environment can be created as much as possible.

3.3. The Seven Principles of Universal Design within its Historical Developments and Their Evaluations in the Field of Architecture

For Mayor's Office for People with Disabilities, although concerns about the integration of people with disabilities are required for universal design concept, they do not held in the design process for whole community. Like Mayor's Office states by citing Norwegian

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225 Molly Follete Story, James L. Mueller, and Ronald L. Mace, "The Universal Design File: Designing for People of All Ages and Abilities". 1998, pg. 10.
226 Ibid., pg. 11.
227 Ibid., pg. 11.
228 Molly Follette Story. James L. Mueller. "Universal Design of Products". 2001, pg. 49.12.
229 Thorsten Afflerbach. "Universal Design concepts in curricula". pg. 2-3.

State Council on Disability 1997), "*Accommodating the needs and wishes of everyone – e.g., children, the elderly, women and men – is also necessary for universal design*". As the increasing values for this broader inclusiveness, the Center for Universal Design in Raleigh, NC led studies to clearly define the primary rules of universal design. [230]

Story states in her article "Principles of Universal Design" in Universal Design Handbook that the Center for Universal Design carried out a research project supported by the U.S. Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR), called as "Studies to Further the Development of Universal Design" in the years between 1994 and 1997. One of the aims of the projects was to create universal design guidelines. For this reason, in 1995, 10 professionals on universal design including architects, product designers, engineers, and environmental design researchers at North Carolina State University in Raleigh, North Carolina held meetings in order to set universal design principles. [231] Story explains that the group only focused on a utility value of design for everyone in the initial studies. The first draft which was formed on May 22, 1995 set 10 principles as follows:

> *- Simple Operation*
> *- Intuitive Operation*
> *- Redundant Feedback*
> *- Gradual Level Changes*
> *- Space for Approach and Movement*
> *- Low Physical Demand*
> *- Comfortable Reach Range*
> *- Minimization of and Tolerance for Error*
> *- Alternate Methods of Use*
> *- Perceptible Information* [232]

In the second version, implemented on July 26 of the same year, 10 principles were changed in terms of the number of principles and the language used for the definition of each principle. The second version involved 6 principles each of which had a list of guidelines.[233] They are specified below:

> *- Make It Easy to Understand*

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230 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pp. 19-20.
231 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.4.
232 Ibid., pg. 10.5.
233 Ibid., pg. 10.5.

- Make It Easy to Operate
- Communicate with the User
- Design for Users Error
- Accommodate a Range of Methods of Use
- Allow Space for Access [234]

Story points out that, in the third version of universal design principles, which was dated August 31, 1995, the professionals were mainly concerned with the issue of *equitable use.* They thought that the considerations on the equality aspect of universal design were more needed rather than the others. After the third version, "Equitable Use" was placed in the Universal Design Principles as a first principle for a universally designed environment.[235]

The Center for Universal Design created the last and current version of Principles of Universal Design in April, 1997. [236] They are consisted of seven principles as follows:

- Principle 1: Equitable Use
- Principle 2: Flexibility in Use,
- Principle 3: Simple and Intuitive Use,
- Principle 4: Perceptible Information,
- Principle 5: Tolerance for Error,
- Principle 6: Low Physical Effort,
- Principle 7: Size and Space for Approach and Use [237]

Story mentions that each of these seven principles has its own guidelines which focus on the main concerns of the principle to be presented in a design. The goal of the Principles of Universal Design and their guidelines is to clearly and extensively express the concept of universal design. [238] According to Adaptive Environments, the principles have produced a deserving terminology for the definition of Universal Design philosophy. The definitions of universal design are slightly modified or primarily created by the help of one or two principles together and all of these definitions are frequently used all over the world. [239]

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234 Ibid., pp. 10.5-10.6.
235 Ibid., pg. 10.6.
236 Ibid., pg. 10.6.
237 Ibid., pg. 10.6.
238 Ibid., pg. 10.6.
239 Adaptive Environments. "Principles of Universal Design". Retrieved on April 15, 2008 from
    http://www.adaptenv.org/index.php?option=Content&Itemid=25

The principles are also aimed at becoming guidance in the design process, providing systematic assessment of designs, and becoming assistance for the education of designers and costumers related to the features of universally design solutions. [240] For the Center for Universal Design, Universal Design Principles lead designers to work out integrative design solutions that support the needs of all persons. It also focuses on that all guidelines may not be associated with every design. [241] Story asserts the importance of guidelines that guides principle as below:

> *"Guiding principles are needed that articulate the full range of criteria for achieving universal design for all types of designs, as well as clarify how the concept of universal design may pertain to specific designs under development and suggest how usability of those designs could be maximized."* [242]

According to Mayor's Office for People with Disabilities, there are some critical evaluations on Universal Design Principles one of which is their ambiguity and difficulties to understand and the other is that their very application to product and graphic design instead of building design. However, these principles are internationally acknowledged in a way that they sustain their continuing status as the certain declaration of universal design parameters. [243]

3.3.1. Principle 1: Equitable Use (Figure 3.1)

Figure 3.1. The symbol of Principle 1: Equitable Use. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 21. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

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240 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.6.
241 The Center for Universal Design. "About UD". NC State University. Retrieved on February 4, 2007 from http://www.design.ncsu.edu/cud/about_ud/about_ud.htm
242 Molly Follette Story. "Principles of Universal Design". 2001, pg. 10.4.
243 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 19.

The design is useful and marketable to people with diverse abilities
GUIDELINES
1a. Provide the same means of use for all users: identical whenever possible;
equivalent when not.
1b. Avoid segregating or stigmatizing any users.
1c. Provisions for privacy, security, and safety should be equally available to all
users.
1d. Make the design appealing to all users.[244]

The design of a building should provide equal access and usability for everyone as mentioned by Mayor's Office for People with Disabilities. In other words, the utilization of the buildings in essentially the same way should be a major objective for all users, for instance, designing an entry of the building which serves to everyone rather than separated one for a group of people. The building should not segregate any users or label individuals as advantaged or not. [245] All these guidelines of Universal Design are also valid for all elements of the physical environment such as near surroundings of buildings, open spaces, and pavements.

3.3.2. Principle 2: Flexibility in Use (Figure 3.2)

Figure 3.2. The symbol of Principle 2: Flexibility in Use. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 22. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

The design accommodates a wide range of individual preferences and abilities.
GUIDELINES
2a. Provide choice in methods of use.
2b. Accommodate right- or left-handed access and use.

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244 The Center for Universal Design. "Principles of Universal Design". N.C. State University. Retrieved on September 23, 2007 from http://www.design.ncsu.edu/cud/about_ud/udprincipleshtmlformat.html#top.
245 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 19.

2c. Facilitate the user's accuracy and precision.
2d. Provide adaptability to the user's pace. [246]

As evidenced by the universal design concept, the inclusive environment responds all needs of individuals so it offers a broader range of opportunities to use spaces and products. For Mayor's Office for People with Disabilities, architectural design features should allow individuals to make use of the building in more than one choice. Architectural design should also offer accommodation for people with different kind of abilities like right and left-hander and adaptability to their pace. It should provide flexible use even if the purpose and function of the building are changed. [247]

3.3.3. Principle 3: Simple and Intuitive Use (Figure 3.3)
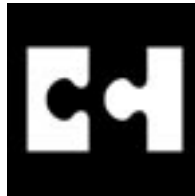
Figure 3.3. The symbol of Principle 3: Simple and Intuitive Use. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 22. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
GUIDELINES
3a. Eliminate unnecessary complexity.
3b. Be consistent with user expectations and intuition.
3c. Accommodate a wide range of literacy and language skills.
3d. Arrange information consistent with its importance.
3e. Provide effective prompting and feedback during and after task completion. [248]

Mayor's Office for People with Disabilities states in the light of this principle of Universal Design that the architectural design should allow everyone to easily understand

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246 The Center for Universal Design. "Principles of Universal Design". N.C. State University.
247 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 22.
248 The Center for Universal Design. "Principles of Universal Design". N.C. State University.

every features of architectural design and to support ease of use in built environment. Furthermore, it should be understood and used intuitively, which cause that the physical environment presents anticipated figure and so spontaneously used. [249]

3.3.4. Principle 4: Perceptible Information (Figure 3.4)

Figure 3.4. The symbol of Principle 4: Perceptible Information. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 23. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
GUIDELINES
4a. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
4b. Provide adequate contrast between essential information and its surroundings.
4c. Maximize "legibility" of essential information.
4d. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
4e. Provide compatibility with a variety of techniques or devices used by people with sensory limitations. [250]

It is stated by Mayor's Office for People with Disabilities that there should be all necessary information in a diverse form of expressions like written, symbolic, tactile, and verbal expression in order to provide successful communication between the building and all users as considering their functional and sensory abilities. If the information presented in the physical environment is designated with enough contrast to its surroundings, it can be apparently realized and understood in all representative way. [251] Besides, the

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249 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 22.
250 The Center for Universal Design. "Principles of Universal Design". N.C. State University.
251 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 23.

architectural design itself should offer essential information by using color, form, and texture of the elements providing cognitive differentiation in order to fully achieve this goal.

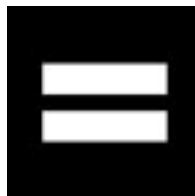### 3.3.5. Principle 5: Tolerance for Error (Figure 3.5)

Figure 3.5. The symbol of Principle 5: Tolerance for Error. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 23. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

The design minimizes hazards and the adverse consequences of accidental or unintended actions
GUIDELINES
5a. Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
5b. Provide warnings of hazards and errors.
5c. Provide fail safe features.
5d. Discourage unconscious action in tasks that require vigilance. [252]

The hazardous and improper conditions to anybody should not be existed within the architectural design of the building as mentioned by Mayor's Office for People with Disabilities. The design should acknowledge people with warnings when they will confront with an inevitable situation. For instance, it may be created warning elements in a variety sensory types close to the top of stairs. Furthermore, the building's design should foresee accidental events so that it can reduce the inconvenience situation and/or maintain users form hazardous effects. [253] To attract user's attention to hazardous effects of the design may help them avoid error.

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252 The Center for Universal Design. "Principles of Universal Design". N.C. State University.
253 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 23.

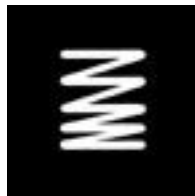### 3.3.6. Principle 6: Low Physical Effort (Figure 3.6)

Figure 3.6. The symbol of Principle 6: Low Physical Effort. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 24. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

> *The design can be used efficiently and comfortably and with a minimum of fatigue*
> *GUIDELINES*
> *6a. Allow user to maintain a neutral body position.*
> *6b. Use reasonable operating forces.*
> *6c. Minimize repetitive actions.*
> *6d. Minimize sustained physical effort.* [254]

For Mayor's Office for People with Disabilities, the characteristics of architectural design should allow people to make little or no physical effort to use the buildings. All users should have equal opportunity to use the design without meeting any unsuitable and hazardous circumstances when a little degree of energy is needed. For example, creating a ramp with the possible least slope and a smooth surface along the access to the buildings.[255]

3.3.7. Principle 7: Size and Space for Approach and Use (Figure 3.7)

> *Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility*
> *GUIDELINES*
> *7a. Provide a clear line of sight to important elements for any seated or standing user.*
> *7b. Make reach to all components comfortable for any seated or standing user.*
> *7c. Accommodate variations in hand and grip size.*

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254 The Center for Universal Design. "Principles of Universal Design". N.C. State University.
255 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 24.

7d. Provide adequate space for the use of assistive devices or personal assistance.[256]
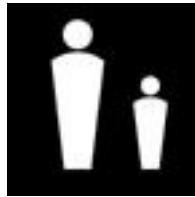
Figure 3.7. The symbol of Principle 7: Size and Space for Approach and Use. "Universal Design New York". New York: A City of New York Office of the Mayor Publication, 2001, pg. 24. Retrieved on April 26, 2008 from http://www.ap.buffalo.edu/idea/Publications/Articles%20and%20Publications%20-%20see%20alex%20with%20questions/UDNY1%20Compiled.pdf

Mayor's Office for People with Disabilities points out that appropriate space which is created in accordance with the needs of users to use buildings is made available in the buildings such as providing a sink with necessary knee space usable by individuals in a sitting position. Additionally, the space should enable an obvious way of movements in both the buildings and generally built environment for everyone.[257]

3.4. The Significance of Universal Design in Rehabilitation Center Architecture

As having increased of the population of people with disabilities and the aged and the life expectancy of people all over the world, the need for rehabilitation centers have been increasing all around the world.[258] Additionally, because conventional approaches in rehabilitation services have resulted in the exclusion of people with disabilities as mentioned in the second chapter of this study, rehabilitation center approach should be changed to a more inclusive and social-based approach in order to provide full integration of individuals into the society and as a result, contribute to the creation of an inclusive environment. Universal Design approach is one of the new design paradigms that respond to the fundamental shift of perception in disability and rehabilitation field. The concepts of *inclusiveness* as well as the *community based* –or – *user based* approach in design

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256 The Center for Universal Design. "Principles of Universal Design". N.C. State University.
257 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 24.
258 "White Book on Physical and Rehabilitation Medicine in Europe". May 2006, pg. 55.

which have been also adopted since the 70s [259] are important concepts which are closely related to Universal Design. Froyen et al. state in their paper, "A 'Universal Design' Mentality and Culture in Development: Processes and Dynamics in Europe", that community-based proves to be the most efficient aspect of Universal Design perspective, aiming at integrating diversity and complexity and in that point, this approach presupposes a "user-centered" aspect, rather than the "designer-centered". [260] In addition to that, it responds to the needs of not only individuals but also community in general. It mainly emphasizes maximum inclusion of everyone without segregation as mentioned above.

In this study, this critical parameter of Universal Design, *community-based / user-centered* or *inclusiveness* is correlated with rehabilitation center architecture in order to locate it within an inclusive society context. It contributes to the changing rehabilitation center approach from individual to society level, further from segregation to integration. Leung states the importance of community-based approach for the goal of rehabilitation center within the shift of conventional rehabilitation center approach as follows:

> *"The Rehabilitation Centre is a centre which provides social / communal, recreational and informational facilities and services. The purpose is to facilitate the disabled to adjust them as well as to integrate them back to the society, through self-development and community participation.*
> *Unlike conventional approaches of specialization in providing services, this Centre would stress, instead, on an integrated approach in servicing and on a community-based approach in allocating resources."* [261]

Hurst states by emphasizing community-based approach in rehabilitation services that if ones affirm the Universal Declaration of Human Rights in which it is stated "all human beings are born free and equal in dignity and rights (Article 1)" and nobody's rights should be disturbed by anybody, it is taken into consideration that services and social facilities for the equally integration of individuals should be created in the community, as

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259 The studies to improve understandings of the relationships between people and their environment have also been discussed since the 1970s through the theory of "man-environment" interaction.

260 Hubert Froyen, Luigi Biocca, Géza Fischl, Birgitta Mekibes, and Marcus Ormerod. "A 'Universal Design' Mentality and Culture in Development: Processes and Dynamics in Europe". Designing for the 21st Century III, An International Conference on Universal Design, December 7-12, 2004, Rio de Janeiro, Brazil. Retrieved on May 5, 2007 from http://www.designfor21st.org/proceedings/proceedings/forum_froyen.html

261 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 2.

a piece of the community, without any segregation. He also focuses on the equal access to rehabilitation centers with a following statement; "Society or any person acting on its behalf, cannot make an assessment of whether one individual is less or more human than another or more or less eligible for services". [262] Equal access to rehabilitation services and social integration of individuals without making segregation are of great consideration in the supply and implementation of rehabilitation services. [263] Leung points out that the center should have diverse and integrated facilities instead of the fact that it is designed as a separated center in the urban created only for people with disabilities like conventional rehabilitation centers. This perspective would help support full participation and integration of all members of society as well as people with disabilities. And also, this rehabilitation center approach would respond to the taste and interests of not only individuals with disabilities but also others to create a *close community*. [264]

For the success of community-based idea, involvement of community in all spheres of rehabilitation services as potential users of rehabilitation centers is an important point. McAnaney states that according to the conclusion of RI-Europe landmark study, there is an important gap in the field of that where existing rehabilitation services are and where required ones will be located in order to cooperate to the success of social inclusion of individuals. The *useful mechanism* to surmount these difficulties and further the most critical aspect for change is the real *User Participation* in all scope of rehabilitation services ranging form the designing, improvement and delivering of services to the evaluation of them in both individual and community-level contexts. [265] In the report "White Book on Physical and Rehabilitation Medicine in Europe", it is stated by citing Turner-Stokes (2004) that "*Demonstrating a person's well-being and social participation is an important feature of the fundamental outcome of patient-centred rehabilitation*." Because of all reasons, people with disabilities should be dynamic participants within the creation and development process of rehabilitation services. [266] For McAnaney, the most significant impressions of user participation within the design, development, and delivery of rehabilitation services as follows:

262 R. Hurst. "Re-Thinking Care from a Rights Perspective". Global Conference on Rethinking Care: "Rethinking Care" from Different Perspectives", Oslo, Norway, April 22-25, 2001, pg. 40.
263 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 6.
264 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 6.
265 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". 2005.
266 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 24.

1. Services will become more relevant to local/community needs
2. The attitudes of professionals and the public will be changed
3. The development of services, the evaluation of outcomes and the assessment of
  quality will be more evidence based
4. Standards will be more relevant to those using the services
5. Services will become more genuinely user centred in that:
  - Service users will have a more central role in the rehabilitation process
  - The user will have greater control of their own rehabilitation resources. [267]

For Miu Wah Pui, rehabilitation center architecture should give maximum values for full participation of people in the center as well as in the society as the conception of rehabilitation, which always highlights to interact with and integrate to the society. Furthermore, maximum social opportunity should be enabled in the design of the center.[268] Leung states that physical environment of the center should not involve barriers for people with disabilities. They have equal rights to act and use space and services as an independent person. Hence, the most important concern for rehabilitation center architecture should be a broad inclusive idea in the initial process of the plan, organization, and design of architectural space and form rather than later arrangements.[269] He expresses the features of inclusive rehabilitation center as follows:

> *"Removal of physical barrier would promote opportunities for the disabled to participate more activities, this would strengthen their confidence and personalities, as well as helping to lift their psychological barriers, and encourage positive participation of activities. Thus, enabling to fulfill the aim of self-development and society adjustment and integration."* [270]

By the help of above statements, it can be concluded that the shift of conventional rehabilitation center approach towards inclusive one significantly affects changing approaches of the purpose of conventional rehabilitation center, the rehabilitation services to be involved in it and their organization, and the architecture of rehabilitation center. These parameters of it have interdependent duties and close relationship with together. The general vision of the center displays what the services involves in the center and how they are organized. Sandhu focuses on that rehabilitation center is a social organization in which different professionals are needed to work together but there is little cooperation and coordination among services and further centers. Universal Design would help to

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267 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". 2005.
268 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". Unpublished Master Thesis. Hong Kong: Hong Kong University, 1996, pg. 35.
269 Herman Leung. "A rehabilitation Centre for the Disabled". 1995, pg. 6.
270 Ibid., pg. 6.

achieve the integration of services by its guidelines on information and communication systems. Options and self-dependence considerations are basis for quality services. [271] In that case, the architectural program and design of rehabilitation centers have a major role for the very achievement of rehabilitation services. It should be noted here that this study is aiming at defining the mission, the rehabilitation services and their organization, and primarily, the physical environment of rehabilitation center to be developed in order to create a universally designed rehabilitation center.

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[271] Jim S. Sandhu. "An Integrated Approach to Universal Design: Toward the Inclusive of All Ages, Cultures, and Diversity". 2001, pg. 3.10.

CHAPTER 4

TOWARDS A NEW REHABILITATION CENTER:
ARCHITECTURAL IMPLICATIONS OF
COMMUNITY BASED/INCLUSIVE REHABILITATION CENTERS
IN THE LIGHT OF UNIVERSAL DESIGN

This part of the study mainly addresses community-based/ inclusive rehabilitation center architecture in the light of Universal Design concept. Firstly, what community-based/inclusive approach means within the scope of the study both in architectural and social sense is explained. Then, emphasizing this approach, a new rehabilitation approach as well as the new disability concept is brought into discussion. Also, how rehabilitation services are organized and applied in the form of inclusive centers is explained. The discussion focuses on how community-based/inclusive rehabilitation center design contributes to the development of quality of life for all community members. Two samples of rehabilitation centers from Turkey and USA are critically evaluated in order to have a wider understanding of the new rehabilitation center approach. Then, the architectural characteristics of the new center approach are defined by using the major considerations of Universal Design concept based on community-based/inclusive context. These characteristics are categorized along three broad dimensions: the mission; the rehabilitation program; and the physical design of rehabilitation centers for all.

4.1. Definition of Community-Based/ Inclusive Rehabilitation Center in the Light of Universal Design

4.1.1. Community-based/ inclusive design parameter of Universal Design

Universal Design proves that everyone has a right and an opportunity to equally participate into a physical environment, which reflects *community based –*or *– user based*

or *inclusive*[272] *design* approach. As stated by Froyen and his colleagues (2004), *community-based approach* is based on the integration of a whole community as responding to its diverse and complex needs, which shows that it is the most important aspect of Universal Design approach. In that case, they also state that this community-based approach's foremost priority is to adopt "user-centered" perspective, rather than the "designer-centered" one.[273] Keates and his colleagues confirm that Universal Design fulfills its aim by "trying to make the user base as broad as possible".[274] The environment, thus, would be commonly accessible by large sections of the population and hence have good population coverage both socially and physically.

Connell and Sanford claim in their reference to Steinfield (1996) that in order to adopt an inclusive social model, the key strategy should be "the design for differences".[275] Specific design solutions for specific needs should be avoided. All users' needs should be equally taken into consideration. Community-based/ inclusive component of Universal Design for not only people with disabilities[276] but also community in general implies that the needs of everyone and every individual are of equal importance. Therefore, it significantly supports maximum social inclusion of everyone without any segregation in a universally designed environment.

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272 The dictionary meaning of "inclusive": 1. *comprehending stated limits or extremes* 2.a. *broad in orientation or scope* 2.b. *covering or intended to cover all items, costs, or services*. "Inclusive". Merriam-Webster Online Dictionary. 2008. Retrieved on September 22, 2008 from http://www.merriam-webster.com/dictionary/inclusive

273 Hubert Froyen, Luigi Biocca, Géza Fischl, Birgitta Mekibes, Marcus Ormerod. "A 'Universal Design' Mentality and Culture in Development: Processes and Dynamics in Europe". December 7-12, 2004.

274 Simeon Keates, P. John Clarkson, Lee-Anne Harrison, and Peter Robinson. "Towards a practical inclusive design approach". 2000, pg. 46.

275 Bettye Rose Connell and John A. Sanford. "Research Implications of Universal Design". In Enabling Environments: Measuring the Impact of Environment on Disability and Rehabilitation. Edited by Edward Steinfeld and Gary Scott Danford. Kluwer Academic/ Plenum Publishers, 1999, pg. 44.

276 It should be noted here that for the new disability model, the ICF, everyone living in the society has different kinds of disabilities from none to severe so the term "people with disabilities" implies anyone who has some kind of disability from little to severe.

4.1.2. New rehabilitation and rehabilitation centre concept related with the new disability model

WHO proclaims that, in the context of the ICF, disability is now seen as "a universal human experience" by mainstreaming of the experience of disability. As mentioned in the second chapter of the study, the ICF, which is the fourth model of disability, establishes more holistic and integrated approach in which individuals would not be marginalized because of their disabilities and seen as "citizens" who have equal rights. The following explanation asserted by WHO explains this view:

> "It acknowledges that every human being can experience a decrement in health and thereby experience some degree of disability. Disability is not something that only happens to a minority of humanity." [277]

The ICF, in its broader and comprehensive approach, concentrates on both medical and biological functionalities and social factors of disability.[278] In this context, participation of individuals to the society is related to not only abilities of individuals but also environmental and personal factors.[279] It is "a more dynamic approach which avoids dividing us up into diagnostic categories".[280] Selman mentions its universality and integrative characteristics by citing Schneider (2001) in following interpretations:

> Universal Model - *not a minority model*
> Integrative Model - *not merely medical or social*
> Interactive Model - *not linear progressive*
> Parity - *not etiological causality*
> Inclusive - *contextual, environment & person*
> Cultural applicability - *not western concepts* alone
> Operational - *not theory driven alone*
> Life span coverage - *not adult driven (children-elderly)*
> Human Functioning - *not merely disability* [281]

By encouraging a broad and integrative classification, the ICF involves three main components which are *body functions, activities and participation*, and *environment*.[282] These components can be associated with medical activities, personal life quality, and

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277 WHO. "International Classification of Functioning, Disability and Health (ICF)".
278 WHO. "International Classification of Functioning, Disability and Health (ICF)".
279 "White Book on Physical and Rehabilitation Medicine in Europe". May 2006, pg, 6.
280 Vic Finkelstein. "Tomorrow's Model". 1996, pg. 15.
281 K. Selman. "Trends in Rehabilitation and Disability: Transition from a Medical Model to an Integrative Model". 2004.
282 Ibid.

social and cultural satisfaction of individuals in order. These three components of the ICF are important in problem-solving practices with the purpose of enhancing equal opportunity to participate as claimed by Stucki and et al.. [283] The primary relations between *body function – activities and participation – environment,* therefore, need further scrutiny in order to emphasize the aims and the means of the rehabilitation process for all people.

In the framework of the ICF, Stucki et al. define rehabilitation by citing Stucki and Sangha (1997) as "a continuous process and involves the identification of problems and needs, the relation of problems to impaired body functions and structures and factors of the person and the environment, and the management of rehabilitation interventions". [284] Within this approach, the general aim of rehabilitation is to support individuals with disabilities to reach their desired life goals when they experience any restriction in the life activities which are caused by an illness or injury. Furthermore, it is also emphasized that, in order to realize this aim, the idea of environment is underlined for proper achievements. It is claimed in the above text that, a combination of measures should be taken to remove or decrease any restrictions and barriers in the environment for their participation into the social life. [285] In this case, rehabilitation process will improve "activities" and "participations" of individuals in the physical environment. Individuals' well-being and their social and vocational participation are two main target issues of rehabilitation which should be emphasized.[286]

The issues of activity and participation have become a central concern in various definitions of rehabilitation. It must be noted that in most of the definitions, these concepts are initiated as the personal intentional approaches on rehabilitation of people. For instance, in the Standard Rules, rehabilitation is defined as "a process aimed at enabling persons with disabilities to reach and maintain their optimal physical, sensory and/or social functional levels, thus providing them with the tools to change their lives towards a higher level of independence".[287] This reflects a limited approach based on the

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283 Gerold Stucki, Thomas Ewert, and Alarcos Cieza. "Value and Application of the ICF in Rehabilitation Medicine". 2003, pg. 631, 633.
284 Ibid., pg. 628.
285 Ibid., pg. 628.
286 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 7.
287 Tomas Lagerwall. "The Right to Habilitation and Rehabilitation – Promoting Integration and

adaptations of people with disabilities to the social life as it misses the duty of community and effects of the environment in general.[288] It must be noted that within the tripartite relations of *function – activities and participation – environment,* the higher level of *independence* could be achieved by means of intentional relations of community and people in the form of social integration. This situation that is entitled in the thesis represents the community based /inclusive form of rehabilitation, which is also underlined by WHO. Rehabilitation is defined by WHO as "the use of all means aimed at reducing the impact of disabling and handicapping conditions and at enabling people with disabilities to achieve optimal social integration".[289] In "White Book on Physical and Rehabilitation Medicine in Europe", it is pointed out that this definition includes clinical rehabilitation and also it significantly approves the issue of social integration. Such integration requires a close interaction between social environment and the needs of people with disabilities in order to eliminate all social and vocational barriers from society.[290] Elimination of all barriers and providing social and physical accessibilities by all means is an important factor in achieving an inclusive community and rehabilitation centers.

Rehabilitation should involve various basic and complementary measures, provisions, services, and facilities which would contribute to the physical, social, psychological independence as stated in the Recommendation No. R (92) 6 on a Coherent Policy for People with Disabilities (Council of Europe, 1992).[291] For the realization of the utmost achievement of rehabilitation, the following major complementary measures should be taken into consideration:

> • overcome or to work around their impairments,
> • remove or reduce the barriers to participation in the person's chosen
> environments and,

Inclusion of People with Disabilities". June 11, 2005.

288 Hammell states that the definition of the goal of rehabilitation proclaimed by United Nations' International Year of Disabled Persons (1981) also reflects this limited approach as mentioned in the first chapter of this study. See Karen Whalley Hammell. "Perspectives on disability & rehabilitation: contesting assumptions, challenging practice". Edinburgh ; New York : Churchill Livingstone/Elsevier, 2006, pg. 58.

289 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 2.

290 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 12.

291 Council of Europe Committee of Ministers. "Recommendation No. R (92) 6 of the Committee of Ministers to Member States on A Coherent Policy for People with Disabilities". April, 1992, pg. 16.

• support their reintegration into society. [292]

It should be noted here that "rehabilitation, in its practical conception, is not only the services and techniques of functional restoration but also the organization of all efforts of all the people involved, as well as the end result or goal of those efforts." [293] Because the goal for community based/ inclusive rehabilitation is to keep people of all ages participating into all social activities as much as possible, and to achieve a social integration in the above sense, all efforts for rehabilitation are related to all fields of community life. So, the above measures can be more specified in the social and physical life patterns of the environment. For example, above measures can be clarified in the forms of, *the adaptation of urban structures and town planning, access to buildings and housing, transport, communication, sport installations, cultural activities, leisure pursuits and holidays* that should be considered in achieving the goal of rehabilitation.[294] This may lead into the conclusion that "Rehabilitation is such a broad and complex activity that a wide range of expertise is essential. A consensus should always be reached about what the disabled person's objectives and needs actually are, the best way of meeting them, the timetable and programme that will be implemented and how the implementation is to be monitored." [295] So, it is important that rehabilitation be comprehensive and continuous process within a coherent and coordinated system. [296]

Also, it is essential that people with disabilities be part of this comprehensive and continuous process. UEMS Section of Physical and Rehabilitation Medicine and European Society for Physical and Rehabilitation Medicine assert that rehabilitation services should be designed and developed with the consent and active participation of people in the local community. For the best practice of rehabilitation, it is important that persons with disabilities be at the center of rehabilitation process and make decisions about what services they need in order to promote their participation. If it is needed, their

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292 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 23-24.
293 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 3.
294 Council of Europe Committee of Ministers. "Recommendation No. R (92) 6 of the Committee of Ministers to Member States on A Coherent Policy for People with Disabilities." April, 1992, pg. 16.
295 D. Lindsay Mc Lennan. "Introduction to rehabilitation". In Rehabilitation Studies Handbook. Edited by Barbara A. Wilson, D. Lindsay McLellan. Cambridge University Press, 1997, pg. 9.
296 Council of Europe Committee of Ministers. "Recommendation No. R (92) 6 of the Committee of Ministers to Member States on A Coherent Policy for People With Disabilities". April, 1992, pg. 1.

family takes part in the rehabilitation process too.[297] For instance, the EU HELIOS II program (1990-96) gave more attention to all users' inclusion into rehabilitation process. By emphasizing this, recommendations of good practice in rehabilitation are as follows:

- the person with disabilities should be at the centre of a multi-professional approach and should be able to make informed choices of treatment. He or she should participate fully in the process and have the right to receive services regardless of type of disability, age, gender, religion, ethnic origin, domicile and financial resources;
- family involvement should be included where appropriate;
- continuous and coordinated measures should enable a return to usual environment and chosen social and professional life;
- rehabilitation strategies should be subject to user-based evaluation.[298]

McAnaney also summarizes five key principles that support the 21st century's rehabilitation approach:

1. Rehabilitation should be a right for all citizens
2. Rehabilitation should be available in the community and in the workplace within both developed and developing economies
3. Rehabilitation services should be based on an holistic view of both the person and the environment in which they live their lives
4. Rehabilitation should be aimed at user empowerment and the advocacy of user rights
5. Rehabilitation services and professionals must be committed to continuously improved and raised standards. [299]

As understood from these views, equal participatory approach both in the process of rehabilitation and in the community is the main basis for rehabilitation. It is seen as "a vital part of the community" and shares the societal goal toward progress and human dignity. [300] Individuals who live in their community whether they have more severe or less disability should actively and equally benefit from all required services. This philosophy is established upon community-based approach.

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297 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 8.
298 Ibid., pg. 23.
299 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005.
300 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 9.

4.1.3. The comparison between the traditional approaches and the community-based/inclusive rehabilitation center concept

Allan (1958) claims that, historically, many efforts have been made to classify rehabilitation centers into different types on the basis of location, type of users, administrative structure, and specific work or goal. He gives an example by citing Redkey (1953) that in the first publication of records collected by the Conference of Rehabilitation Centers in 1952, it was asserted that rehabilitation centers were categorized as *teaching and research centers, centers located in and operated by hospitals and medical schools, community center with in-patient facilities, community out-patient centers, insurance centers and vocational rehabilitation centers*. Also, some have attempted to categorize them as *treatment centers* based on in-patient hospital facilities for rehabilitation. [301]

Allan states that "If we assume rehabilitation to be fluid, not a static, process and if we further assume the rehabilitation center to be focal point for integration and coordination of the rehabilitation process, then there seems to be little point in such differentiation". He also claims that the common philosophy for rehabilitation centers would be based on the meaning of the word "rehabilitation" in its aim of achievement which must be *decisive, positive*, and *inclusive*, regardless of particular concerns for particular purposes. As a result, rehabilitation centers are seen substantially different from such institutions whose interests and attentions are based on specific concerns such as a hospital, rehabilitation department of a hospital, even a sheltered workshop or vocational training school.[302] He briefly explains the reasons behind this distinction as follows:

> "Although it may have certain of the characteristics and even employ some of the methods of the hospital, workshop, social service agency, it is none of these. Basically, its approach and method is more functional than clinical; it is more concerned with adjustment than cure." [303]

Allan expresses that the center's being different is underlined through its over-all approach and final objective for full social integration, in approval of its responsibility not for the work of just one profession or discipline. The center should not merely supply

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301 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 47.
302 Ibid., pp. 47-48.
303 Ibid., pg. 45.

medical treatment, sheltered workshop or simply training, social counseling, testing, and evaluation. It might involve any or all of these services to a larger or smaller extent; however, its first and foremost initiative is to furnish a combination of such services with the aim of integration of people with disabilities physically, socially, and economically insofar as possible. [304] Leung defines the new rehabilitation center approach by comparing it with the traditional approaches as follows:

> "Unlike conventional approaches of specialization in providing services, this Centre would stress, instead, on an integrated approach in servicing and on a community-based approach in allocating resources." [305]

4.1.4. Application, functioning, and organization of rehabilitation facilities in community-based/inclusive rehabilitation centers

In the modern approach, a rehabilitation center concept is mainly associated with the community-based idea; it should meet all needs of community in which it is located.[306] Allan, thus, asserts that the central idea for present-day rehabilitation center concept is *comprehensive* in offering a complete, unified, and holistic rehabilitation program.[307] Experiences have revealed that all these services should be provided at the same time, while a person leads to a minimizing of the impact of both personal and environmental oriented disabling facts and thereby extend quality of life. [308] Apart from its holistic approach itself, these services would cooperate with other community directed facilities.[309]

For Lagerwall, in the contemporary world, rehabilitation center concept contains four core principles. These are as follows:

- Community based – Services should be provided in the community where the person lives. The person thereby remains in, and is integrated in, the community.
- Consumer driven – The person with a disability is part of the decision and has the final word. Interventions cannot be made against the person's will.

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304 Ibid., pp. 47-48.
305 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 2.
306 Henry Redkey. "Bugünün Rehabilitasyon Merkezleri". 1962, pg. 20.
307 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 47.
308 Henry Redkey. "Bugünün Rehabilitasyon Merkezleri". 1962, pg. 9.
309 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 47.

- Multidisciplinary – Many different professions are involved in the rehabilitation such as social workers, speech pathologists, technicians, e.g. orthopedic engineers, and teachers.
- Team work – Previously, doctors decided about interventions. Today a team of people with different backgrounds, together with the person with a disability, or the family in the case of children, discuss and come to an agreement. The person with a disability can refuse an intervention. [310]

In Lagerwall's opinion, community-based issue for rehabilitation centers is associated only with the location of them. This study asserts it also relates to responding to the diverse needs of community in serving its rehabilitation-directed services. Community-based/inclusive approach is a unified and more integrated approach which encourages all members of community to actively involve in all scopes of rehabilitation centers ranging from architectural design process to the implementation of rehabilitation services in them. In other words, it means that all members of community, individually and collectively, are part of the whole process. He also mentions the centers' multidisciplinary approach in today's new rehabilitation center concept. In this case, it is also essential to provide interdisciplinary approach on account of the need for integrated rehabilitation services in centers. Leung states in his dissertation titled "A Rehabilitation Centre for the Disabled" (1995) that in order to achieve "a close community", rehabilitation centers should provide diverse and integrated facilities and services instead of piecemeal services for a particular group of people in a way that everyone can benefit from the center. [311]

UN "World Programme of Action Concerning Disabled Persons" states which types of services a rehabilitation center usually includes as follows:

(a) Early detection, diagnosis and intervention;
(b) Medical care and treatment;
(c) Social, psychological and other types of counseling and assistance
(d) Training in self-care activities, including mobility, communication and daily living skills, with special provisions as needed, e.g., for the hearing impaired, the visually impaired and the mentally retarded;
(e) Provision of technical and mobility aids and other devices
(f) Specialized education services;
(g) Vocational rehabilitation services (including vocational guidance), vocational training, placement in open or sheltered employment;
(h) Follow-up. [312]

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310 Tomas Lagerwall. "The Right to Habilitation and Rehabilitation – Promoting Integration and Inclusion of People with Disabilities". June 11, 2005.
311 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 6.
312 United Nations. "United Nations Decade of Disabled Persons, 1983-1992 World Programme of Action Concerning Disabled Persons". 1983.

As can be seen from this claim, rehabilitation centers serve medical treatment facilities for physical, social, and psychological improvement of people and other services for the purpose of training activities which support medical rehabilitation services to enhance the quality of life for people both in daily life and vocational activities. Leung claims that social, cultural, and recreational services in addition to medical, psychological, vocational, and social counseling services should also be offered in the center as they would support more participation and enable the integration of general community as well as people with disabilities (Figure 4.1.). [313] Lifelong educational activities, sporting facilities, and pre-vocational and occupational facilities by art workshops, library and art center as social and cultural activities can be categorized as supporting rehabilitation services. These social-based services are so important that they would reflect its main goal as a necessary part of community and allow integration of the center with the societal life. [314]
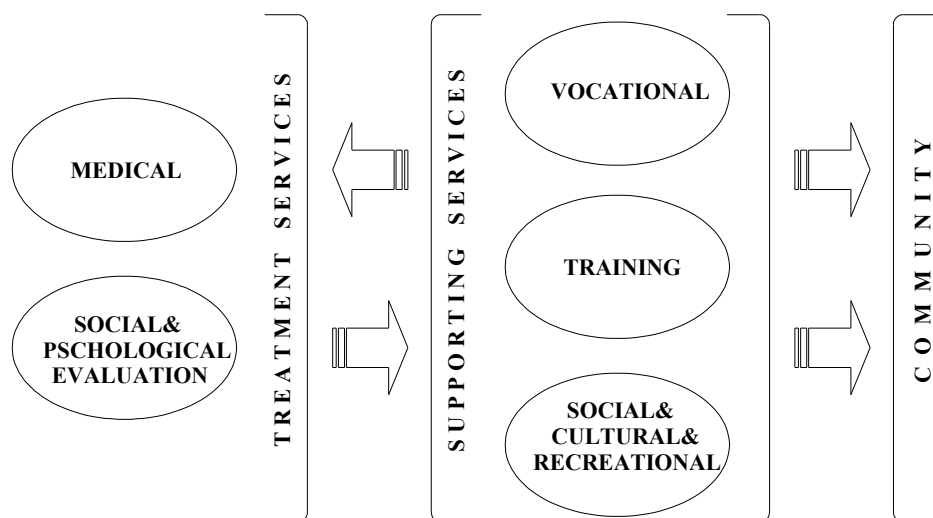
Figure 4.1. A model of inclusive rehabilitation centers. Dinç Uyaroğlu, 2008.

As a result, major services of inclusive rehabilitation centers can be categorized as follows:

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313 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 6.
314 Council of Europe Committee of Ministers. "Recommendation No. R (92) 6 of the Committee of Ministers to Member States on A Coherent Policy for People with Disabilities". April, 1992, pg. 9.

- Medical Rehabilitation Facilities,

- Psychological and Social Evaluation Facilities,

- Vocational Rehabilitation Facilities,

- Training facilities,

- Social, cultural and recreational facilities.

McAnaney states the most important acknowledged principles on the evaluation of rehabilitation services are as follows:

- The level of independence and social integration achieved by the service user
- Users' perception of success and their satisfaction with their participation and involvement with the rehabilitation process
- Fully implemented policies on equality and fairness, accessibility of services and facilities and partnerships with other mainstream and specialist organisations
- The impact on extended beneficiaries including families/carers/representatives and on the wider community and society
- Evidence of rigorous self evaluation, innovation and continuous improvement based on measurable trends in key performance indicators and the achievement of relevant and recognised quality accreditation [315]

Allan mentions that a rehabilitation center needs a definite place for implementing rehabilitation services effectively. For example, it should not be provided in a hospital which might be expected to deeply concentrate on in-patient type of rehabilitation care and physical therapy. Nonetheless, the independent community centers would seriously undertake to render pre-vocational testing, work preparation, psychological and social participation to community life as well as medical services. Also, he assumes that the independent centers would be more dealt with the relations with social and economic resources for full integration of individuals in its inclusive rehabilitation process. [316]

All these information about applications of rehabilitation services have significant emphasis in architectural programming of the center. Inclusive approach in the design of the center would be more emphasized through the applications adopted in the concept of Universal Design. Architectural program of an inclusive rehabilitation center within the new approach can be achieved by the investigation of service models. The data emerged in this stage constitutes preliminary architectural knowledge.

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315 D. F. McAnaney. "RI-Europe Landmark Study: Rehabilitation in the 21st Century". November 12, 2005.
316 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 49.

4.2. Sample Studies

In this part, two sample studies are explained in relation to their appropriateness to community-based/inclusive approach that underlines the interactive relationship among *body function*, *activities and participation*, and *environment* in a holistic way. Within this context, their contributions to people's social participation and integration into the society are brought into discussion.

Sample 1: Crossroads Rehabilitation Center, Indiana, USA, 1950s

Crossroads Rehabilitation Center is located in Indiana, USA. Allan defines it as "the more typical comprehensive community center in a sizable city". [317] As investigated from its architectural project (Figure 4.2.), it mainly involves medical, social, psychological, and vocational rehabilitation services for people of all ages.

Figure 4.2. Crossroads Rehabilitation Center: First and Ground Floor Plans. W. Scott Allan. "Rehabilitation: a community challenge". New York: Wiley, 1958, pp. 56, 57.

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317 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg.. 49.
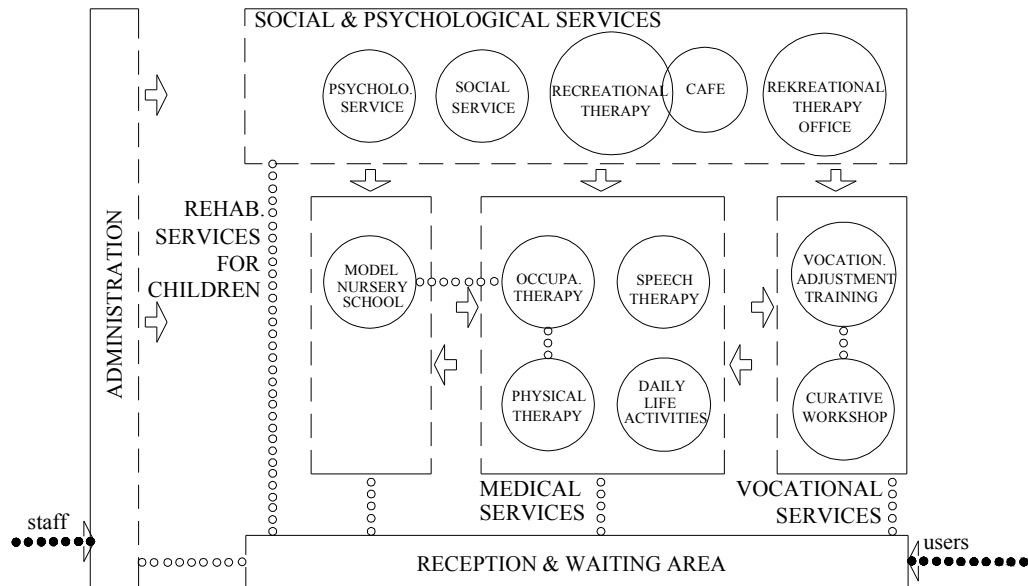
Figure 4.3. The diagram showing the relationships among rehabilitation services of Crossroads Rehabilitation Center. Dinç Uyaroğlu, 2007.

Medical services of the center can be categorized as occupational, physical, and speech therapy department (Figure 4.3.). It is stated in "Rehabilitation: a community challenge" (1958) by Allan that occupational therapy department supports people to improve their functionalities as teaching them *to "do" through "doing"*. Within a close relationship with occupational therapy department, a space is offered for activities of daily living for the purpose of re-education in dressing, eating, bathing, and etc. In physical therapy department, people are able to make exercises to increase physical strength and range of motion and to improve coordination in movement. It also offers prosthetic training for people using assistive devices. In the department, there are spaces for a hubbard tank which is for immersion of a person's entire body and whirlpool baths and a hydrotherapy service which increases circulation and stimulates nerve ends of a person. Speech therapy department is for speech defects and abnormalities resulted from paralysis, cleft palate, deafness, and etc.[318]

As can be seen from space organization in the center, there are social and psychological services within the interaction with medical services. Social services are classified as social service and recreational therapy department (Figure 4.3.). It is stated in

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318 Ibid., pg. 56.

"Rehabilitation: a community challenge" (1958) by Allan that in the social service, physical, emotional and economic factors of individuals are evaluated and their intake and loans appliances are controlled. Recreational therapy department which might be medical or non-medical provides emotional stabilization for all ages through participation, planning, and organization. There is also a kitchen for refreshment and re-education in domestic skills in this department. Besides indoor activities, outdoor recreational activities both for an individual and groups such as boy scouts, girl scouts, campfire girls, teen canteen, adult league, and summer camp are offered and they are supervised by trained attendants, with proper equipment. In addition, for children 3 to 5 years old, model nursery school is offered in order to further physical, emotional and social inclusion of children. For this purpose, it provides training to improve daily living activities of children such as toilet training, eating, drinking. In the psychological service, testing of capacity, ability, personality, and learning level is implemented so the decisions towards school readiness and selection of suitable vocation might be made if needed. [319]

For vocational services, the center involves two spaces interconnected each other as understood from the projects (Figure 4.2.). One is vocational and adjustment training shop in which people learn skills for gainful employment such as typing, bookkeeping, machine shop, etc. as mentioned in Allan's book. The second one is curative workshop which provides lucrative employment, develops work habits and skills and physical tolerance and which prepares individuals for self-supporting jobs.[320] There is a volunteer service department closely linked to these vocational services as well as other departments, which reflects the center opens to community participation in enhancing rehabilitation services and public awareness.

It can be concluded from above explanations that Crossroads Rehabilitation Center with its rehabilitation program is aiming at enabling all users in community to improve physical capacity and social and vocational adjustment. Spaces for rehabilitation services have close relationship between them. Spatial organization of spaces in accordance with rehabilitation program would help to carry out rehabilitation process in a coordinated and effective way. Besides, as can be seen from the projects of the center, the center is accessible to all users: it offers different means of access which are a ramp, staircase, and

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319 Ibid., pp. 56, 57.
320 Ibid., pg. 57.

an elevator. It also provides vehicles for easy transportation of people with severe disabilities to the center.

Sample 2: Turkish Armed Forces (TSK) Rehabilitation and Care Center, Ankara, Turkey, 2000

Figure 4.4. General view to the Center. TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/bize_ulasin.asp?sub=resim&nowaday=0

Figure 4.5. The entrance of the Center. TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/bize_ulasin.asp?sub=resim&nowaday=36

TSK Rehabilitation and Care Center is located at Bilkent Road in Ankara, the Capital of Turkey (Figure 4.4., 4.5.). It was designed by Nimet Aydın and the construction was fully completed by the donations. Its major mission is to contribute to social, physical, and vocational integration of veterans to the society. [321] Within adopting this mission, rendering services to merely a segregated group of the society does not reflect a community-based/inclusive approach. It principally involves in following rehabilitation oriented services:

Medical services
- Spinal cord and orthopedic hospital (200 beds)
- Physical therapy department
- Pediatric rehabilitation services
- Orthesis and prosthesis

Social and psychological services
- Psychological and social service counseling
- Sporting facilities
- Spare-time activities
- Recreational Facilities (Amphitheater, Greenhouse and botanical garden, Recreational areas)

Occupational and vocational services
- Occupational services
- Vocational rehabilitation department

In-patient unit
- Long term care house (50 beds)

Other facilities
- Guesthouse (50 beds)
- Shopping center
- Library
- Parking lot
- Parade ground
- Heliport
- House, nursery, and other necessities for all employees [322]

Kamil Yazıcıoğlu, who is a professor in the discipline of physical medicine and rehabilitation at TSK Rehabilitation and Care Center, claims that medical rehabilitation services in the Center meet essential medical needs ranging from diagnosis of

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321 TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/ana_sayfa.asp

322 TSK Rehabilitation and Care Center. "Project workings". TSK Rehabilitation and Care Center website. Retrieved on September 12, 2008 from http://rehab.gata.edu.tr/ana_sayfa.asp

impairments to the treatment of impairments in the hospital department of it.[323] The hospital department consists of clinics for out-patients, neurological and orthopedic examination, acute care, and surgical intervention for examination of individuals and treatment of impairments.[324] The physical therapy department involves gymnasium, hydrotherapy and electrotherapy departments, and a speech therapy department (Figure 4.6.).[325] The center also provides medical rehabilitation services for children 0 to 16 years old with physical, mental, and developmental disabilities. Besides medical oriented services, a gymnasium for children with physical disabilities and a play room in which educational and developmental activities are carried out are offered in pediatric rehabilitation services.[326] All medical services, as well as in the pediatric rehabilitation department, are provided with social-oriented services in coordination as mentioned by Yazıcıoğlu.[327] This displays the center's interdisciplinary and comprehensive approach towards rehabilitation.

Figure 4.6. Spaces for hydrotherapy. TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/tibbi_bolum.asp?sub=tani

323 The Author's interview with Prof. Dr. Kamil Yazıcıoğlu who works in TSK Rehabilitation and Care Center. September 12, 2008.
324 TSK Rehabilitation and Care Center. "Head Department of Rehabilitation". TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/tibbi_bolum.asp?sub=rehab
325 TSK Rehabilitation and Care Center. "Head Department of Diagnosis and Treatment". TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/tibbi_bolum.asp?sub=tani
326 Ibid.
327 The Author's interview with Prof. Dr. Kamil Yazıcıoğlu. September 12, 2008.

It is stated in the formal website of TSK Rehabilitation and Care Center, in order to evaluate existing psychological factors in individuals' lives, the center offers psychological and social service counseling conducted by psychologists and social service specialists. It mainly aims to increase social participation of individuals by evaluating individual, social, cultural, and environmental factors. It importantly supports to the active participation of individuals and their families' in the rehabilitation process. [328] As means of supporting departments of social participation, sporting, spare-time, and recreational activities are offered in the center as pointed out by Yazıcıoğlu. Individuals are able to do such sports involving basketball, football, ping-pong, etc. (Figure 4.7.) as dabblers or professional players that these activities would facilitate independence and social participation and also they would contribute to enhance public awareness concerning people with disabilities. The fact that some professional players trained in the Center were attended Paralympics is an indicator of the achievement of it in these scopes. After individuals are completed their rehabilitation process, they can also benefit from these services as well as staff and individuals not using the Center for rehabilitation. [329] In addition, the center offers other community services such as a shopping center, and library, which are open to all veterans in the community. These facilities provided not only for the purpose of rehabilitation but also for social needs of community present community-based/inclusive approach of the center.

Figure 4.7. Sporting activities in the center. TSK Rehabilitation and Care Center website. Retrieved on 12 September, 2008 from http://rehab.gata.edu.tr/tibbi_bolum.asp?sub=tani

328 TSK Rehabilitation and Care Center. "Department of Psychological and Social Counseling Service". TSK Rehabilitation and Care Center website. Retrieved on September 12, 2008 from http://rehab.gata.edu.tr/tibbi_bolum.asp?sub=rehab
329 The Author's interview with Prof. Dr. Kamil Yazıcıoğlu. September 12, 2008.

Yazıcıoğlu states that occupational and vocational rehabilitation services are also parts of rehabilitation process.[330] Occupational services and diverse recreational facilities are seen as a threshold to take veterans away from hospital environment.[331] According to the rehabilitation program, individuals and their families can attend occupational and vocational activities two days a week such as painting, ceramic, wood painting, carpet business, and etc.. These efforts are done in collaboration with other services in the center and other community services- vocational schools and community training centers.[332]

Yazıcıoğlu explains that a person after having a kind of disability might think that he/she is passive and valueless. Rehabilitation in its social sense is responsible for his being peaceful with himself and the realization of his quality of being expedient. If an occupation has not been experienced by a person, despite of the desire, carrying out it provides more benefit for him/her. Occupational activities in which individuals' movements are oriented to certain goals are more effective both physically and socially than the activities accompanied by therapists. In this process, working about the integration to their real works is also carried out by social counseling and vocational rehabilitation services. New vocational opportunities such as accounting, computer operator, web design, and signalization system for traffic are offered in the center by certificated training programs. All these services in a rehabilitation process are carried out by a team work involving a wide range of professionals such as physiotherapist, occupational therapist, social service worker, psychologist, sociologist, vocational consultant, technician of prosthesis and orthesis, and etc. These professionals together with a user make an interdisciplinary rehabilitation plan and try to achieve this plan as much as possible. This decision process covers all circumstances about the life. As there is a need for cooperation with other disciplines in the community, it is also provided. For example, an architect help this process in defining and solving he problems related to physical environment of a person.[333]

Besides its comprehensive rehabilitation approach, the architectural design of TSK Rehabilitation Center partially responds to the needs of users. This means individuals with physical disabilities, especially wheelchair users, are able to move around the Center

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330 Ibid.
331 TSK Rehabilitation and Care Center. "Project workings".
332 The Author's interview with Prof. Dr. Kamil Yazıcıoğlu. September 12, 2008.
333 Ibid.

independently and safely; however, the design of the Center does not totally meet the needs of individuals with visual and hearing impairments.

4.3. Characteristics of Community-Based/ Inclusive Rehabilitation Center Design in the Light of Universal Design Approach

In this study, the mission, the rehabilitation program, and the physical environment are three key parameters of a successful rehabilitation center which implies community-based/inclusive rehabilitation center in the study (Figure 4.8). The mission of the center reflects the primary goal of the center, for example it indicates what the purpose is, why the fulfillment of it is needed, for whom it is adopted, and how it works. The mission of the center formalizes the rehabilitation program applied in the center. In the same way, the rehabilitation program constitutes the architectural program of the center, which has an important impact on the success of the architectural design itself. As a result, an architect should take into consideration these three interdependent parameters of the center as designing the building in congruent with today's more inclusive rehabilitation center concept. In this study, these three parameters of an inclusive rehabilitation center are explored in the framework of a more inclusive set of design requirements of Universal Design.
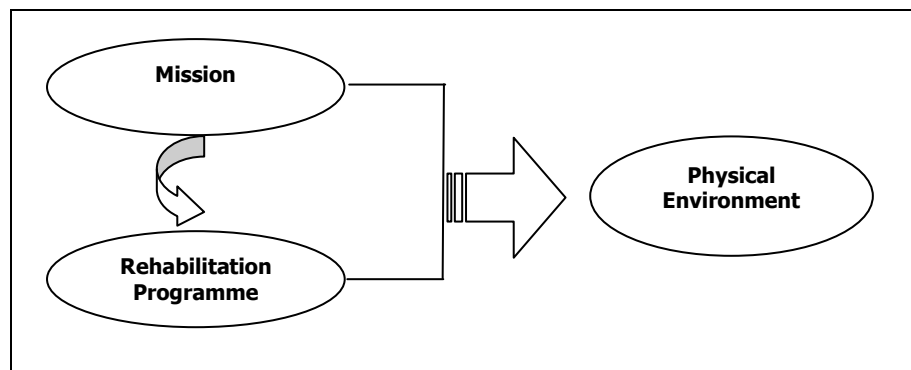
Figure 4.8. The diagram showing the relationship between three components of Community-based/ Inclusive Rehabilitation Center design. Dinç Uyaroğlu, 2008.

4.3.1. The Mission of the Center

4.3.1.1. Open to all/ for all

Ostroff claims in UDNY2 that:

> "Universal Design is an approach to design that honors human diversity. It addresses the right for everyone – from childhood into their oldest years – to use all spaces, products and information in an independent, inclusive, and equal way."[334]

From this point of Universal Design, "open-to-all mission" of a rehabilitation center ensures that each member of a community should be able to benefit from the center in his/her own living environment. In order to achieve this, the center should meet required services of the community, as a communal target (Figure 4.9.). Because individuals have diverse disabilities as mentioned above, a rehabilitation center should involve diverse facilities which serve for medical and psychological rehabilitation purposes. However, in a community-based rehabilitation center, social, vocational, cultural, and communal facilities play important roles for including diversity of all people according to the needs of a person. Hence, a "comprehensive" community- oriented center involves all living activities while welcoming for everyone.
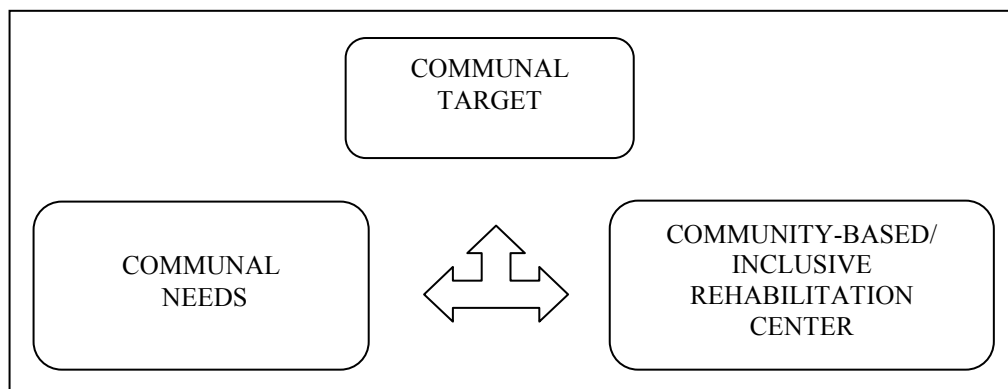
Figure 4.9. The importance of communal needs for community-based/inclusive rehabilitation center. Dinç Uyaroğlu, 2007.

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334 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive Design & Environmental Access (IDEA), University at Buffalo, The State University of New York, 2003, pg. 192.

4.3.1.2. Equal participation

Aslaksen et al. claim that *equal status*, *equal treatment* and *equal merit* are the notions ideologically and practically underpinned by Universal Design. For them, these notions are based on the ideal that everyone should have the similar opportunities to participate into all areas of life.[335] It can be inferred from their idea that equal participation within a rehabilitation center would be provided by means of the appreciation of all people's equal status, equal value and equal treatment opportunities in the society. Within this opinion, the mission of an inclusive rehabilitation center should ensure that everyone, without consideration of their age and abilities, has an equal access to and benefit from it to become active participant in and contributors to the community. It should be remarked here that the physical environment of the center should also reflect this idea to achieve full equalization of opportunities for all to participate in all facilities of the center.

4.3.1.3 User participation

The main idea behind Universal Design is the viewpoint of "people-centered design" as emphasized by Ostroff.[336] Keates and Clarkson explain people-centered design as a design approach that "place the user at the heart of the design process and often involve and engage with users in ways that make them part of and integral to the process itself."[337] Adopting this idea in the design process would make it possible to understand different wishes and needs of individuals who use the design. At that point, as the community and its needs have a central role in the mission of an inclusive rehabilitation center, community members' participation in decision-making process in all aspects of the center that range from designing the center to the evaluation of their own rehabilitation process is so important.

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335 Finn Aslaksen, Steinar Bergh, Olav Rand Bringa, Edel Kristin Heggem. "Universal Design: Planning and Design for All". Translated by Ingrid Bugge. Oslo: The Norwegian State Council on Disability, 1997. Retrieved on October 16, 2008 from http://home.online.no/~bringa/universal.htm
336 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 192.
337 Siemon Keates and John Clarkson. "Countering design exclusion an introduction to inclusive design". Great Britain: Springer, 2004, pg. 220.

4.3.2. The Rehabilitation Program of the Center

As far as the activities and architectural program of an inclusive rehabilitation center are concerned, the above parameters that are indicated in the mission become significant in the organization of the building spatial components.

4.3.2.1. Open to all/ for all

This component for the rehabilitation program of the center implies that services, activities, and opportunities of the center is planned and provided in an inclusive and integrated approach so that the center would be equally open to all. This inclusiveness is related to the fit of the center's rehabilitation program into the diverse needs of the society of which the center is a part, which is an ideal appreciated by Universal Design concept.

Salmon et al. claim that "a survey of the need includes an estimate of the number of persons and kinds of groups requiring rehabilitation services, as well as a study of existing services and how they may be best augmented." [338] Moreover, the facts concerning the neighborhood, city, state, and nation in which the center is located is needed to know as successful rehabilitation center design is central to the community idea to a greatest extend. [339]

As mentioned before, rehabilitation program should be planned with an ideal which is far from medical-based approach. It should be created for the purpose of full social integration of people into every scope of life. This, in truth, relates to the welfare of the whole community.[340] For the purpose, the rehabilitation program should be *flexible* with regards to both equipment and case evaluation so that not only people with severe disabilities but also ones with less severe disabilities are able to use the center.[341] Allan claims that it also ensures an *individualized program* for each individual because each

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338 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 13.
339 Ibid., pg. 11.
340 W. Scott Allan. "Rehabilitation: a community challenge". 1958, pg. 172.
341 Ibid., pg. 65.

person shows different reaction to his/her disabilities, to his evaluation process and to rehabilitation professionals. [342]

4.3.2.2. User participation

Aslaksen et al. explains following reasons why participatory approach in the planning is important within Universal Design approach:

> • *Participation increases knowledge about the needs of various groups of the population. Planners do not have sufficient knowledge about this. The information may be mediated by those who participate. This kind of insight, as well as information, is necessary as a correction and additional information to achieve a good result.*
> • *Participation ensures that consideration for various groups of the population is developed at an early stage. When consideration of different groups is a part of the planning process only at a late stage, there is an increase in the probability of having to choose additional or compensatory specialized solutions, rather than solutions usable by all. Participation at an early stage increases the possibility of achieving a universal design.[343]*

They also mention that the planning process should also be *inclusive* and reflect the goal of Universal Design so as to fulfill the purpose of full participation for all.[344] In the case of rehabilitation issue, knowing the exact needs of community concerning rehabilitation services is an important point to create a community-based rehabilitation program. Hence, active and equal participation of people should be provided within the planning and improvement process of rehabilitation services as stated in the report, called "White Book on Physical and Rehabilitation Medicine in Europe" (2006). In fact, people should be informed related to choices of their rehabilitation process because they are at the center of "a multi-professional approach" in the modern rehabilitation approach.[345] This would assist them to participate in the layout of their rehabilitation program. If an individual such a person with a severe mental disability does not sufficiently represent himself/herself in the rehabilitation process, the rehabilitation program should make it possible for family members or legally-designated agents to take part in planning and

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342 Ibid., pg. 65.
343 Finn Aslaksen, Steinar Bergh, Olav Rand Bringa, Edel Kristin Heggem. "Universal Design: Planning and Design for All". 1997.
344 Ibid.
345 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 7.

decision-making process. [346] In a broader sense, to provide and support active participation of individuals and their families during the application of the rehabilitation program reflects a humane environment in the center, which may also influence and increase the potential of social participation of them into the society.

4.3.2.3. Coordinative and integrative approach

It is stated in "White Book on Physical and Rehabilitation Medicine in Europe" by citing Turner-Stokes (2004) that the rehabilitation plan should be responsible for the needs and properties of individuals, the assessment of disabling medical situation of them, the nature of their physical and cognitive impairments, and their ability in obtaining the new information and skills. All these evaluations are needed to increase their levels of activity and social participation. Also, it is essential that environmental barriers to participation which caused by either the physical environment or the attitudes of the community be considered in the rehabilitation program. Providing welfare and social participation is an important issue in the fundamental outcome of user-centered rehabilitation.[347] As can be seen from an all-round purpose of rehabilitation, joint effort of different kinds of disciplines in the realization of the rehabilitation program is necessary as pointed out by Allan.[348] This joint effort is constituted by the government agencies, administrators of the center; doctors, nurses, orthopedists, psychiatrists, physical and occupational therapists, medical caretakers; social scientists involving psychologists and sociologists; designers involving architects, urban designers, industrial designers; trainers; manufacturers, and etc. with the partnership of the general public of all ages as users. It is important in terms of the total understanding of individuals and their own notion about the full program and the success of the entire effort.[349] For example, a person with a severe physical disability may need teamwork of medical specialists such as doctors, physical and occupational therapists for improving his skills and an architect for spatial arrangements in his workplace and house in order to live independently and increase social participation opportunity.

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346 United Nations. "United Nations Decade of Disabled Persons, 1983-1992 World Programme of Action Concerning Disabled Persons". 1983.
347 "White Book on Physical and Rehabilitation Medicine in Europe". 2006, pg. 24.
348 W. Scott Allan. "Rehabilitation: a community challenge". pg. 123.
349 Ibid., pg. 123.

This joint effort should reflect coordinative and integrative approach in the creation of the rehabilitation program.[350] Allan mentions that "In their social application, coordination demands an efficient working or the parties in relation to one another, but integration becomes the seeking or ways and means to unite the parties in a functional whole."[351] Due to this reason, the integration of services is more effective rather than the merely co-ordination of them for community-based/inclusive rehabilitation center. Integration of rehabilitation services establishes not only the understanding and harmony in between services but also combining them for the general goal and to the intended end.[352] If we think that the expectations of people from the rehabilitation program changes, the integration of required services for each person might provide better solution for his/her. This would support *equal treatment* opportunities for all, which is central to Universal Design in its ideological sense.[353]
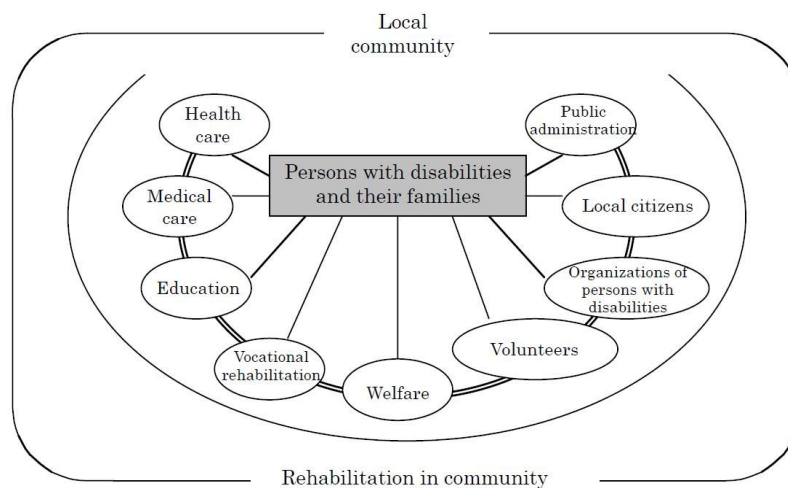
Figure 4.10. Scope and organization of rehabilitation in community (Quoted from Satoshi Ueda, Illustrated Rehabilitation Medicine, 1991, p7) "JICA Thematic Guidelines on Disability". Japan International Cooperation Agency, October, 2003, pg. 26. Retrieved on April 12, 2007 from http://libportal.jica.go.jp/Library/Data/ThematicGuidelines/SocialSecurity/Disability0509e.pdf

Coordinative and integrative approaches are valid not merely for the rehabilitation program of the center but also the services of whole community for the purpose of

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350 Ibid., pg. 121.
351 Ibid., pg. 121.
352 Ibid., pg. 122.
353 Finn Aslaksen, Steinar Bergh, Olav Rand Bringa, Edel Kristin Heggem. "Universal Design: Planning and Design for All". 1997.

rehabilitation. The center's program should endeavor to coordinate with each element of the local community, namely, heath care, medical care, education, vocational rehabilitation, welfare, volunteers, organization of persons with disabilities local citizens, public administration (Figure 4.10.).[354] This would further the integration of individuals into their communal lives.

As a conclusion, the integration and coordination of many diverse disciplines are essential points in improving the quality of life of each individual as claimed by Salmon and Salmon. Coordination and integration of these disciplines and forming the spatial organization for the effectiveness of the rehabilitation process is the contribution of the architect to that. [355]

4.3.3. The Physical Environment

Everyone living in a community has an equal right to use and benefit from all components of the built environment so the design should allow them to move independently in the physical environment and access to spaces and services within the society. Universal design should be of top priority concern in planning the built environment. In the case of a rehabilitation center design, universal design approach is a more important issue as mentioned in UDNY2 in a reference to Ostroff:

> "Because of the broad range of services available, facilities should be designed to ensure that people of all ages, sizes and abilities have access to quality services that protect and enhance physical, mental and social well-being."[356]

Within the scope of its mission, a community-based/inclusive rehabilitation center aims to support all people in the community of which the centre is a part. For the realization of the purpose, its architectural design, as well as its general conception, should accommodate the needs of all people in the community. Elimination of all physical barriers would further the opportunities of people with or without disabilities to attend all activities in the center. This would help strengthening their self-reliance as well as

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354 Japan International Cooperation Agency. "JICA Thematic Guidelines on Disability". October, 2003, pg. 26.
355 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 5.
356 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 192.

removing their psychological barriers, which enable to realize the aim of self-development and adaptation and integration to the society.[357] In generally, this would improve their quality of life, which is a concept considering *freedom of choice, personal life satisfaction, community involvement and social interaction/support* of individuals.[358] The design of a rehabilitation center should be considered in accordance with all these considerations. The *land*, *building*, and *people* are three interrelated considerations that are essential for the successful design of the center.[359] In this study, by the help of universal design approach, the first two necessary components of planning are analyzed in congruent with their equal usability by all people in the community.

4.3.3.1. Site Considerations

The site of a rehabilitation center must be selected carefully and developed beneficially because of the importance of the relationships of indoor and outdoor environment in between as claimed by Salmon et al. It should be noted here that although site selection is a foremost criterion, it can not be separated from the general design process.[360] Following considerations is needed to enhance an inclusive site design in relation to the whole design of community-based/inclusive rehabilitation center.

4.3.3.1.1. Location within the community

A rehabilitation center within its substantial purpose deserves the best possible location in the community as stated by Salmon et al.[361] As explained in detail below, the best possible location of the site depends on its close proximity to residential population and other human facilities within the community and providing equal access to it in an urban fabric.

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357 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 6.
358 Roy V Ferguson. "Environmental design and quality of life". In Quality of Life for People with Disabilities models research and practice (2nd Edition). Edited by Roy I Brown. United Kingdom: Stanley Thornes (Publishers) Ltd, 1997, pg.264.
359 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 35.
360 Ibid., pg. 35.
361 Ibid., pg. 35.

Centrally located within the community

Universal Design Principles emphasize that the design should be equally usable by everyone and it should be appeal to everyone with an appropriate size and space for approach and use. From the point of Universal Design, a rehabilitation center should be centrally located within the community which is a part of in close nearness to a residential population as stated by Leung (Figure 4.11.).[362] This would significantly provide easier access to the proposed facilities in the center especially for people with disabilities, as well as for the general public so they can be best served as explained in UDNY2. It is implied in this article that one of the main considerations of an inclusive rehabilitation center is the central location of it within the community, which improves *convenience* and *utilization* of the center.[363] Also, this would create close social relationships among people[364] and between people and the center.

Additionally, City of New York Department of Design and Construction and the Mayor's Office for People with Disabilities claim that other supporting facilities served in the community should be provided in close proximity to the site of the center. This establishes efficient partnerships between rehabilitation services and these facilities, which shows a holistic and an inclusive approach.[365] Salmon et al. categorizes these facilities as hospitals, light industry, housing, recreation, and public transportation. Location within or near the residential or light industrial area, parks, fire, and police protection is a desirable aspect for the center.[366] These human service buildings near the site provide a humane environment where people can meet and share their cultures.[367] Facilities such as social/recreational or governmental facilities in near district where people live would make it possible to be easily usable of the center for everyone.[368] All these cases foster equal participation and prevent people being isolated from their own community. "Stonebridge Hillside Hub" in London designed by Edward Cullinan

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362 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995. pg. 12.
363 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pp. 193, 194.
364 Ibid., pg. 194.
365 Ibid., pg. 194.
366 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 36.
367 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 194.
368 Herman Leung. "A Rehabilitation Centre for the Disabled". 1995, pg. 12.

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Architects in 2005 can be given as a sample that is located in the middle of the communal life (Figure 4.12.). It is explained in Edward Cullinan Architects web site that it is a multipurpose building that has two "wings"; one serves as a health center while the other is designed for a retail unit. Each wing is topped with residential blocks. These two functions are joined with a central community facility, forming a generous public entrance space welcoming everyone. [369]
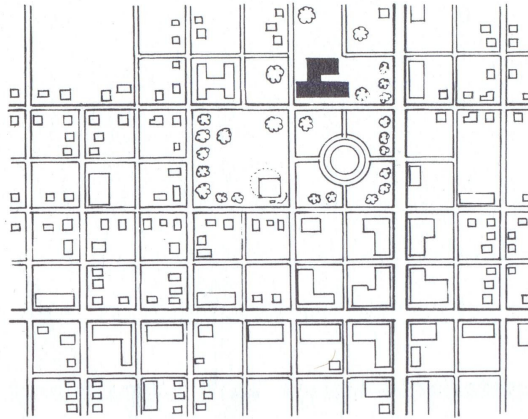
Figure 4.11. The schema showing the close relationship of a rehabilitation center to the community. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 36.

Figure 4.12. The location and public entrance space of Stonebridge Hillside Hub that welcomes everyone. Edward Cullinan Architects web site. Retrieved on October 20, 2008 from http://www.edwardcullinanarchitects.com/projects/stb.html

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369 "Edward Cullinan Architects Projects: Stonebridge Hillside Hub (2005)". Edward Cullinan Architects web site. Retrieved on October 20, 2008 from http://www.edwardcullinanarchitects.com/projects/stb.html

Approaching to the site

Within the concept of universal design, people of any ages, sizes and abilities should be able to equally access to any part of the built environment. From this point, the site of the center should ensure all-inclusive usability. Accessibility of the site is considerably related to the location of the center in the community to a wide extent. Remoteness of the center results in the problems about transportation.[370] The center, therefore, should be located close to the means of public transportation that are usable by all people such as bus or the underground railway system, as well as the other human facility services to guarantee the easy and equal access of everyone.[371] The quality of being visible and perceptible of the center's area from nearby roadways should also be considered in the fulfillment of this purpose.[372]

For universal design approach, the design should accommodate diverse preferences and abilities of individuals and it should minimize the possible risks for everyone. In that point, the access to the site should ensure that private autos and taxis also come close to the site and it should be far from heavy traffic as noted by Salmon et al..[373]

As a result, four major considerations for the location of community-based/ inclusive rehabilitation center can be categorized as follows:

- Located centrally within the community to further equal usability of the center,
- Located near other community services to support equal participation and social integration of the public as well as easy access to the center (Figure 4.13.),
- Located in close proximity to the means of public transportation to offer easy access to and perception of the center's area (Figure 4.13.),
- Located where the site is far from heavy traffic for safety approach to the site.

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370 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 36.
371 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pp. 193, 194.
372 Ibid., pg. 194.
373 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 38.

Figure 4.13. The location in close proximity to other community services and public transportation facilities provides easy access to the site. City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive Design & Environmental Access (IDEA), University at Buffalo, The State University of New York, 2003, pp. 117, 138.

4.3.3.1.2. Equal usability & accessibility

Imrie and Hall quote from The United Nations (1995) as follows:

> "Even if public buildings are barrier-free, reaching them is often a problem. The problem of accessibility cannot be tackled piecemeal, but requires a holistic approach…"[374]

As universal design emphasizes, all components of the built environment should be taken into consideration in its set of inclusive principles in order to achieve physically and thereby socially inclusive society. Hence, inclusive building design with its inclusive landscape design is one of the most important considerations for community-based/inclusive rehabilitation center design. It is important that "The design of the site should reflect the surrounding community without being isolated from the neighborhood" as mentioned in UDNY2. For instance, the fact that the design of the building has a more human scale and involves landscape facilities accessible to the whole community would reflects an inviting and open physical environment.[375] Providing outdoor recreational facilities for the general public is an important aspect in today's inclusive rehabilitation

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374 Rob Imrie and Peter Hall. "Inclusive Design: Designing and Developing Accessible Environments". London and New York: Taylor and Francis Group, 2001, pg. 39.
375 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 195.

center as well as in all human service facilities (Figure 4.14.).[376] The site design of a rehabilitation center is an important issue not only to provide equal access to the center but also to reinforce equal participation into rehabilitation activities that involve outdoor recreational therapy facilities. Following considerations are necessary subjects in inclusive site planning of the center.
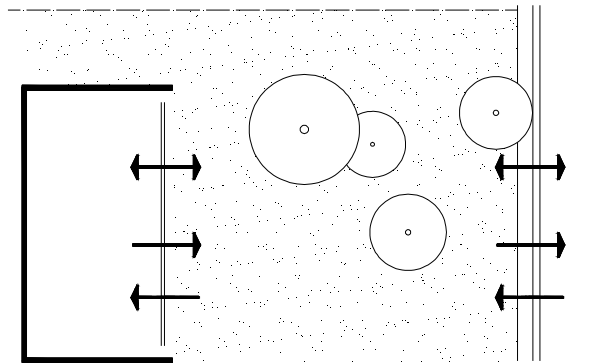
Figure 4.14. Inclusive outdoor recreational areas of the building would reflect a welcoming environment for all community members. Dinç Uyaroğlu, 2008.

Maneuvering/circulation on the site

- Offering accessible walkways for all that are linked to the main pedestrian set-up in the local area (Figure 4.15.), [377]

- Providing at least an accessible route oriented to all accessible facilities on the site,[378]

- Providing firm, stable, and slip resistant ground surfaces to eliminate hazards (also refer to parking areas), [379]

- Provide passenger loading zones with adequate size for possible users to enable people to get together without interfering with pedestrian and vehicular traffic, [380]

- Locating pick-up and drop-off joints in order not to hinder the stream of traffic,[381]

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376 Ibid., pg. 196.
377 Ibid., pg. 196.
378 Ibid., pg. 195.
379 Ibid., pg. 195.
380 Ibid., pg. 196.
381 Ibid., pg. 196.

- Illuminating pathways for safety and security, [382]

- Providing necessary information system including directories, maps, and signs in order to guide people through the movement around the site (Figure 4.15.). [383]

Figure 4.15. A network of walkways with signs provides equal opportunities for all. City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive Design & Environmental Access (IDEA), University at Buffalo, The State University of New York, 2003, pp. 149, 157.

Figure 4.16. Digital rendering of the entrance to Ed Robert campus in Berkeley, the United States. Ed Robert Campus web site. Retrieved on October 18, 2008 from http://www.edrobertscampus.org/design.html

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382 Ibid., pg. 196.
383 Ibid., pg. 196.

Entrance(s) to the building

- Designing easy and safety entrances and exits to be used by all people (Figure 4.16.), [384]
- Offering direct accessible route with no obstacle for any user from parking lots, sidewalks and public transportation systems to the entrances of the center, [385]
- Providing apparent visual access to the entrance and directional signage towards the entrance from the site entry, [386]

Car parking

- Provide adequate parking areas for all users (Figure 4.17.), [387]
- Separate the parking lots from neighborhood traffic patterns to create easy and safety approach to the site and building (Figure 4.18.), [388]
- Consider appropriate directional signs or other information systems for wayfinding. [389]
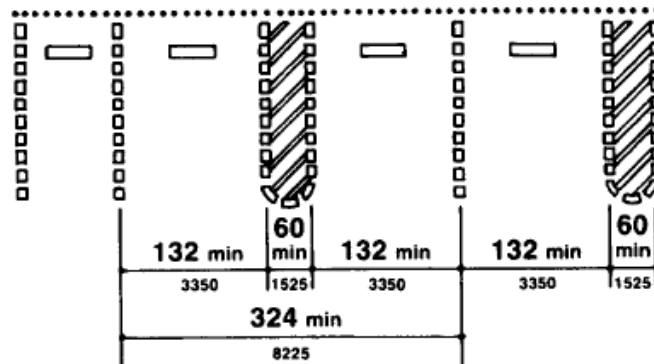
Figure 4.17. The image of Universal Parking Space Design. "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities". U.S. Architectural and Transportation Barriers Compliance Board (Access Board), pg. A8.

384 Ibid., pg. 196.
385 Ibid., pg. 196.
386 Ibid., pg. 44.
387 Ibid., pg. 195.
388 Ibid., pg. 194.
389 Ibid., pg. 75.

Figure 4.18. The building has its own parking lot that welcomes everyone with equal ease.
City of New York Department of Design and Construction and The Mayor's Office for People
with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive
Design & Environmental Access (IDEA), University at Buffalo, The State University of New
York, 2003, pg. 151.

4.3.3.1.3. Flexibility

It is important that an inclusive rehabilitation center be open to changes which will be in
the future to easily adapt to meet the changing needs of the community due to aging, age-
related diseases and injuries. The program of rehabilitation activities settle on the
dimension of the site area. [390] Hence, the size of the site should allow the center to be
expanded and developed according to the ever-changing program of the center. This is of
great importance in terms of the fulfillment the purpose of continuing equal opportunity
to participation into the activities of the center for all community members. Following
considerations about the site design is needed to enhance the flexible design of the center.

- Providing an oversized area to allow for expansion, which is a cost-efficient
  approach in long-term planning (Figure 4.19.), [391]

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390 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural
    guide". 1959, pg. 36.
391 Ibid., pg. 36.

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- Ensuring that the size of the site is enough to serve outdoor needs of the center such as off-street parking, service areas, outdoor recreation, and outdoor therapy (Figure 4.20.),[392]
- Offering chances to have contiguous spaces for outdoor rehabilitation programs,[393]
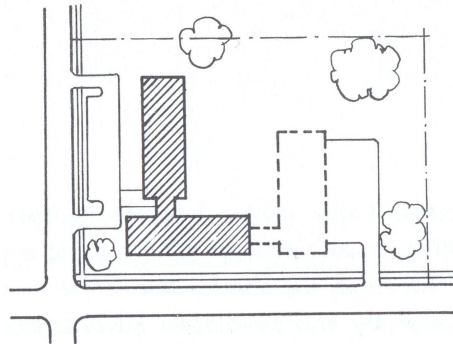
Figure 4.19. The image showing that the size of the site accommodates the future needs. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 36.

Figure 4.20. The site accommodates outdoor needs of the building in a pleasant environment. City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive Design & Environmental Access (IDEA), University at Buffalo, The State University of New York, 2003, pg. 154.

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392 Ibid., pg. 36.
393 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 194.

4.3.3.2. Space Considerations

The first stage of the design of an inclusive rehabilitation center is to form a holistic and an integrated rehabilitation program which should be in accordance with the needs of community as mentioned earlier. Successful coordination and integration of all needed services in the community should be provided because communal needs are the main concern of community-based/inclusive rehabilitation center. Successful spatial organization in the center facilitates maximum coordination of these services and providing equal opportunities for all.

4.3.3.2.1. Spatial organization

4.3.3.2.1.1. Scope of services

Medical services

Medical department of a rehabilitation center involves medical evaluation that carried out by the physician and his staff; physical therapy, including hydrotherapy; occupational therapy; speech and hearing therapy; and prosthetic and/or orthetic services as mentioned by Salmon et al. (Figure 4.21.). The rehabilitation program of the center itself affects the nature of this department. The needs of users and existent medical services in the community have an impact on the planning of the medical rehabilitation program. As medical department is the principal component of total rehabilitation process of individuals, it should be designed in a way that it is accessible to all other services in the center. [394]

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394 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 40.

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Figure 4.21. The spatial organization in between medical services. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 41.

Psychiatric, psychological, and social evaluation

Psychiatric, psychological, and social services are offered in the center to tackle with the mental, emotional, and social problems of individuals. In this area, the flow pattern of users might change with regards to their individualized program as mentioned by Salmon et al.. Nonetheless, a most common-used pattern sequentially involves receptionist, waiting room, social worker for case history of people, medical evaluation for all incoming users, psychological testing, and psychiatric screening (Figure 4.22.). The two latter services may not be needed for each user. Besides, vocational evaluation involving vocational counseling and assessment of individual employment potential may be considered in the beginning of the evaluation process and audiometric screening and speech evaluation are frequently useful within the purpose of vocational evaluation.[395] As can be seen above explanations, this department needs close spatial relationship with medical and vocational services.

Salmon et al. explains that the location of this department should also supply an accessible route with ease from the main entrance of the building because many new comers will take part in some activities in this area. Moreover, it should be located in a silent part of the building to separate noisy activities from areas where meeting takes

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395 Ibid., pg. 94.

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place. If there are a number of children who need these services, they should be provided in children's treatment and training unit.[396]
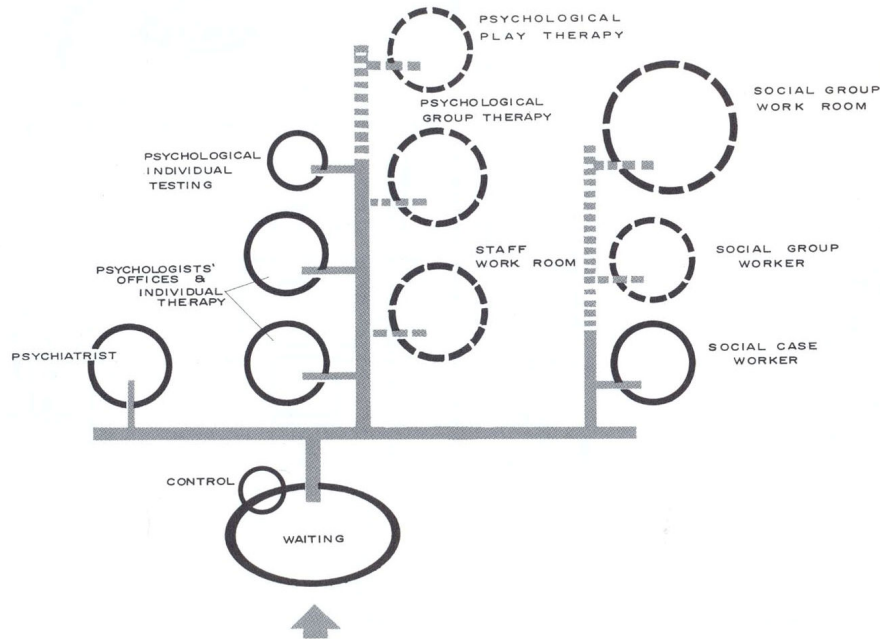
Figure 4.22. The spatial organization of services for social and psychological evaluation. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 41.

Vocational evaluation

Salmon et al. states that vocational rehabilitation department involves the following services: counseling, evaluation, training, and placement, the sheltered workshop/ rehabilitation workshop, and in some circumstances, it serves certain field of special education (Figure 4.23.). [397] As can be seen from the Figure 4.27, this part of the center has partnerships with other areas in the building, medical and psychiatric, psychological, and social evaluation. This department, especially sheltered workshop and training facilities in it, should be located close to a service area to easily obtain supplies and equipment. As certain activities for vocational evaluation and training cause

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396 Ibid., pg. 94.
397 Ibid., pg. 100.

uncomfortable sound, this department should be located far from the quiet parts of the building. [398]
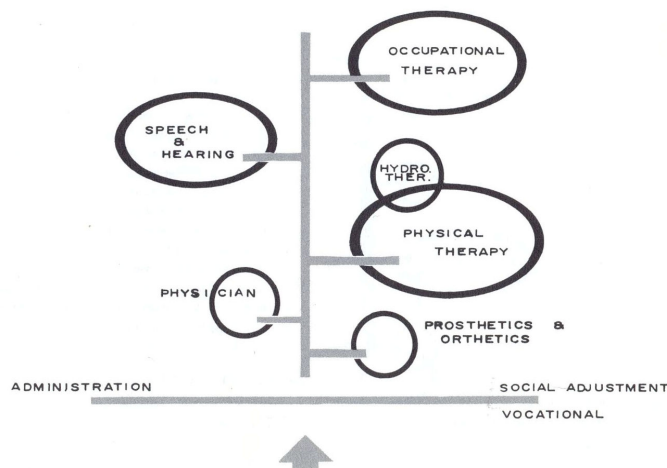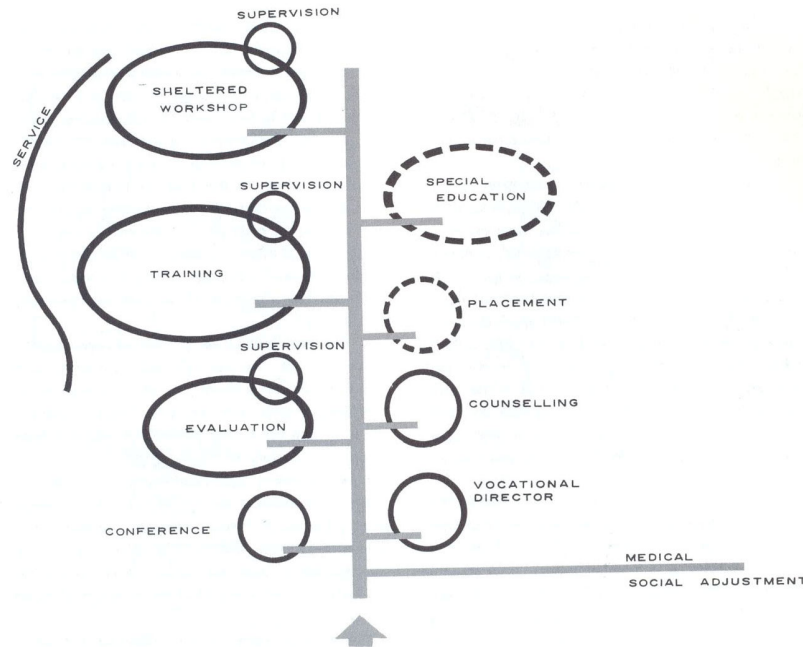

Figure 4.23. The spatial organization in between vocational services. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 101.

The vocational rehabilitation program depends on the needs of individuals as well as in other departments as claimed by Salmon et al.. It is also affected by the needs and opportunities of industry in the community. This department should meet the needs of each user by presenting a large spectrum of job opportunities. [399] It can be realized by the co-operation of a trade school or some other related agencies in the community as such in TSK Rehabilitation and Care Center.

Day care unit

Salmon et al. state that the center may offer nursing unit for providing assistance and training in self-care, non-nursing unit for people not requiring self-care assistance, and

398 Ibid., pg. 100.
399 Ibid., pg. 100.

children's units if there is a need in the society.[400] As emphasized above characteristics of community-based/ inclusive rehabilitation center, the center should be located at the focal point of the community so that individuals would not need the long-term accommodation in the center. The long-term accommodation that causes isolation of people from the society should be avoided. But, it can be essential when there is a need for a short term accommodation due to some reasons,. These are as follows as mentioned by Salmon et al.:

- *There are social problems in the patient's home environment;*
- *The patient is unable to cope with the problems of self-care;*
- *There is a need to control the social life and habits of the patient.* [401]
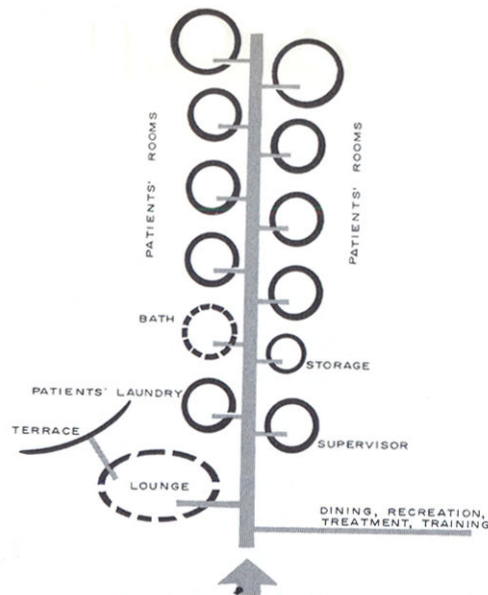
Figure 4.24. The spatial organization in nun-nursing unit. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 132.

Salmon et al. claim that, in generally, day care unit involves bedrooms and lavatories for users, a nurse's station, pharmacy, a doctor's examining and treatment room if needed staff assistance (Figure 4.24.). Supporting facilities some of which are *the lounge, storage, library, personnel laundry room, table games room, television room, and canteen* should

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400 Ibid., pg. 130.
401 Ibid., pg. 130.

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be designed in this area. For children, a separate day care unit with its supporting facilities involving *television room, lounge, play area, and library* should be provided in the building. These facilities can be somewhat used by not only short-time accommodators but also for all users. This area should be open to the outdoor recreational facilities and other facilities in the building such as dining room, social, medical, and training facilities, particularly occupational therapy department. [402] The fact that the care unit is not confined to only caring facilities and opens to other indoor and outdoor facilities in the building presents an inclusive approach.

Children's treatment and training

PHYSICAL THERAPY

PSYCHOLOGICAL THERAPY

OUTDOOR THERAPY

OCCUPATIONAL THERAPY

COT ROOM

NURSERY

SPEECH & HEARING

OUTDOOR CLASSROOM

SICK ROOM

CLASSROOM

STAFF ROOM

MEDICAL DIRECTOR

PLAY

WAITING

SOCIAL WORKER

PHYSICIAN SOCIAL ADJUSTMENT

CONTROL

CHILDREN'S IN-PATIENT UNIT
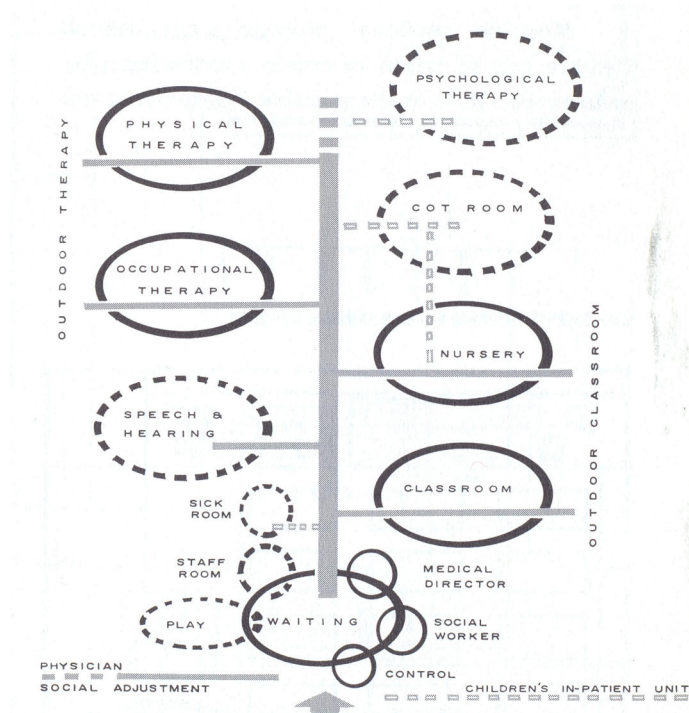
Figure 4.25. The spatial organization of children's treatment and training services. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 143.

This area is aiming at improving the life quality of children in their own environment. It can be seen as a bridge for the child's participation into a special education class or a

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402 Ibid., pp. 130-132.

regular school classroom. [403] It should offer a minimum facility for this purpose. Salmon et al. claim that it involves *a nursery room for preschool children and a classroom for school-aged children, a physical therapy exercise room, treatment cubicles, a room for occupational therapy, speech therapy, psychological therapy, and hydrotherapy* (Figure 4.25.). This part of the building should also have a close relationship with outdoor environment which might be used for play therapy and classrooms. [404] Playgrounds are outdoor extensions of classrooms, providing many of the same opportunities as indoor spaces (Figure 4.26.). Specialized spaces engaged in play and learning activities should be provided for children of all ages and disabilities. This unit preferably should be located in a separate part of the building by designing its own entrance and playground that welcome each child. [405]

Figure 4.26. Inclusive playgrounds for children as extensions of indoor spaces. Broadwater Farm Children's Centre designed by Gollifer Langston Architects who gets the RIBA Inclusive Design Award in 2007. Retrieved on November 27, 2008 from http://www.architecture.com/Awards/RIBAAwards/Winners2007/London/Broadwater/Broadwater FarmChildrensCentre.aspx

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403 Ibid., pg. 142.
404 Ibid., pg. 143.
405 Ibid., pg. 143.

Social, cultural and recreational areas

It is noted in UDNY2 that "Social spaces are avenues for communication. The facility should provide many spaces that encourage interaction as well as allow for isolation when it is needed." [406] Therefore, social or communal activities that welcome everyone are so important for total rehabilitation of individuals. Salmon et al. explains its significance in a way that well-designed recreation areas that have important potential to support morale and interest of both staff and individuals are vital for the achievement of the center.

Figure 4.27. Outdoor spaces for relaxation, social and cultural activities. Leigh LaFargue. "Nature is to Nurture: A Post Occupancy Evaluation of the St. Michael Health Care Center, Texarkana, Tx.". Unpublished Master Thesis. Louisiana State University, 2004, pp. 45, 67.

The areas of activities might be categorized as indoor and outdoor spaces for recreational, sporting, cultural, and social facilities. Miu Wah Pui claims that if the center successfully provides outside facilities, a connecting link among the community and the proposed activities can be created. [407] As an example of sporting facilities, a gymnasium designed in the center can be used by a group of individuals for games, meetings, and social activities as asserted by Salmon et al.. Besides, an auditorium for cultural activities such as plays, recitals, movies would prove that the center is a valuable integral component of communal activities. Moreover, a library for staff and users would offer recreational and

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406 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 198.
407 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". pg. 36.

studying facilities. [408] Some facilities providing social participation and interactions of individuals such as a lounge and canteen are also essential for all centers. A lounge designed in the center of the building and close to the main entrance may serve each user and his/her family. A canteen is also a desirable space that both staff and users can snack and make a "coffee break" (Figure 4.27.). [409]

Salmon et al. state that especially the children's unit, the gymnasium, occupational therapy facilities and day-care unit should have direct spatial relationships with outdoor recreational facilities that may offer social and physical therapy activities. [410]

Administration
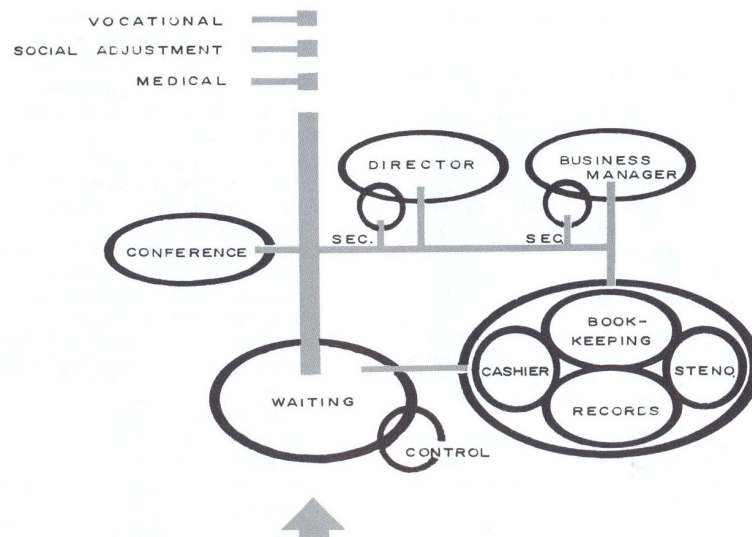
Figure 4.28. The spatial organization of administrative services. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 153.

The spatial dimension of the administrative unit may substantially change according to the rehabilitation program of the center; however, some certain functions should be

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408 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 154.
409 Ibid., pg. 154.
410 Ibid., pg. 154.

considered in all centers. [411] As can be seen from Figure 4.28, the administrative body of the center mainly involves a director and business manager room with their secretaries, a conference room for staff meetings, a room for book-keeping, cashier, records, and stenographic recording. As the administrative director is responsible for the total organization of the rehabilitation program of the center, the location of it should provide easy access to all staff and users of the center as pointed out by Salmon et al.. [412] They also state that "The administrative unit of the center not only serves as the focal point for the internal organization of the building, but also is the point for initial contact for visitors of the center." [413] Hence, it should also be designed for all types of users so that each individual can easily reach to these areas.

4.3.3.2.1.2. Spatial organization of these services

Aslaksen et al. mention the broader framework of Universal Design as follows:

> Universal design deals not only with a building or a means of transport being physically accessible, but it also deals with their social connections. Making the relation between physical and social planning visible is called *inclusive planning* by the architect Jim Sandhu,(Sandhu 1995). [414]

Within this view, designing of a rehabilitation center with its environment in a unity of approach would provide close physical interaction between inside and outside activities and further social linkage between the center and the community. So, for the purpose of successful rehabilitation, spatial organization should promote social connections as well as physical ones between different parts of the center and the community itself. As can be seen from Figure 4.29, all proposed services both inside and outside are directly or indirectly related to each other. So the design should make certain the interactions between these various services.

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411 Ibid., pg. 152.
412 Ibid., pg. 152.
413 Ibid., pg. 152.
414 Finn Aslaksen, Steinar Bergh, Olav Rand Bringa, Edel Kristin Heggem. "Universal Design: Planning and Design for All". 1997.
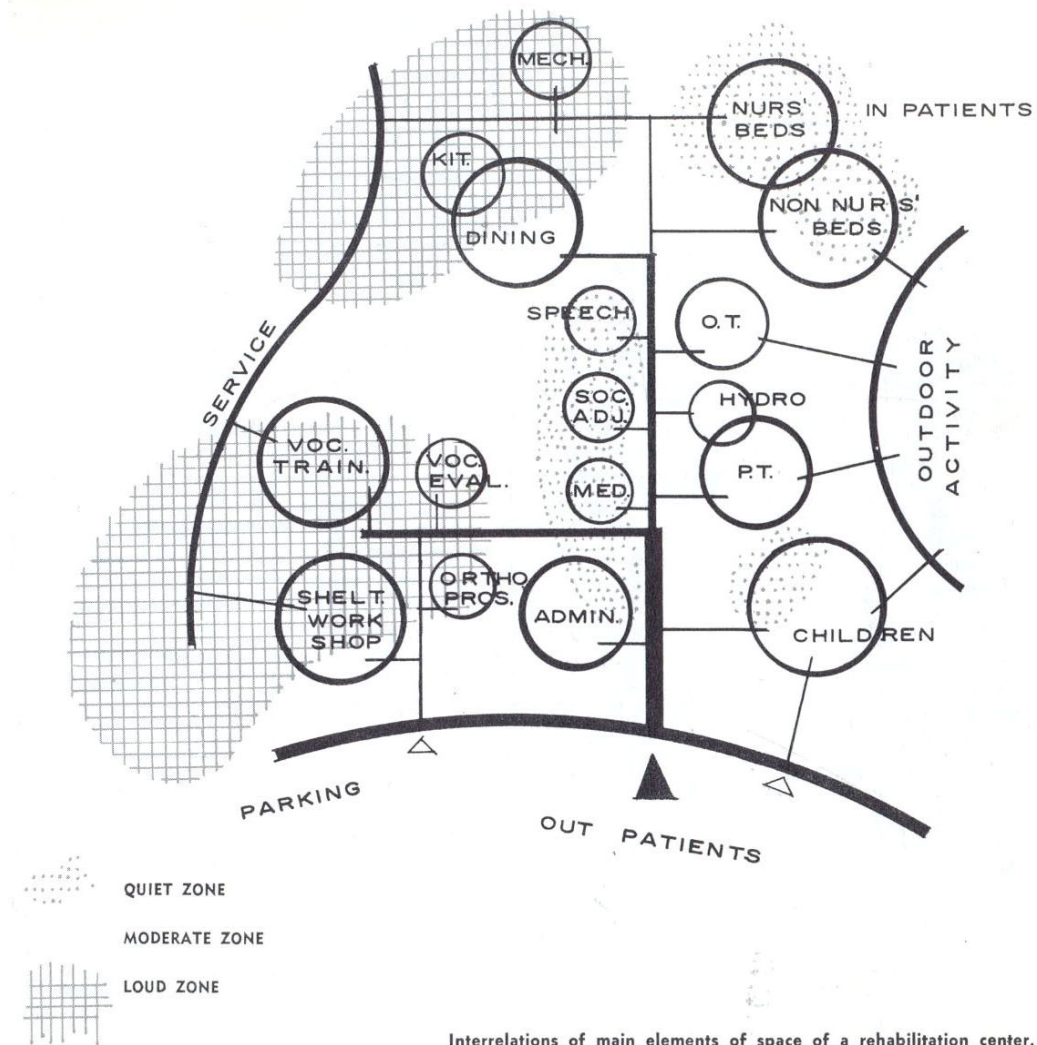
Interrelations of main elements of space of a rehabilitation center.

Figure 4.29. Interrelations of main elements of space of a rehabilitation center. F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". University Park: Pennsylvania State University Press, 1959, pg. 17.

Salmon et al. claim that one of the most important planning principles is the best organization of spaces for the intended purpose. As the purpose of a rehabilitation center is mainly for full social inclusion of people with disabilities into society, designers should consider restricted mobility and severe sensitivity to architectural design of the center. [415] It is noted in UDNY2 that human service facilities, involving rehabilitation centers, offer variety of activities and support persons of all size and ages; therefore, interior and

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415 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 17.

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exterior spaces must be designed to adopt a wide range of activities and people.[416] Above all, the design should not reflect a discriminating attitude to any group of users. For the purpose, this study is intended to set essential design principles for community-based/inclusive rehabilitation center design in terms of *equal usability*, *flexibility*, *safety/confidence*, and *humane environment***.**

4.3.3.2.2. Equal usability & Accessibility

Jaeger and Bowman emphasize the importance of providing equal access to the built environment in terms of the equalization of opportunities in all aspects of life for people, especially for people having disabilities as follows:

> "Access is a multifaceted concept with impacts on every part of daily life. For individuals with disabilities, access can best be understood as the right to participate equally in ways that are not constrained by physical or mental limitations. Access can include entering and maneuvering around buildings, being allowed to actively and meaningfully participate in employment and other social functions, and employing assistive technology to use objects in a manner similar to people without disabilities."[417]

As understood from their expression, when all parts of the physical environment are accessible to individuals with a wide range of disabilities, they, like people without disabilities, are able to participate into the society independently. It implies that equal status of individuals in the community is mainly related to the physical access to the built environment. In this broader sense, Universal Design underlines *the principle of equal status* which means that everyone, with or without disabilities, must have equal opportunities to participate into the diverse areas of life as much as possible.[418] As the aim of this study is to investigate the architectural principles of a community-based/inclusive rehabilitation center that welcomes everyone, providing equal access to and in the center is very crucial aspect.

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416 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 197.
417 Paul T. Jaeger and Cynthia Ann Bowman. "Understanding Disability: Inclusion, Access, Diversity, and Civil Rights". London: Praeger Publishers, 2005, pg. 63.
418 Finn Aslaksen, Steinar Bergh, Olav Rand Bringa, Edel Kristin Heggem. "Universal Design: Planning and Design for All". 1997.

As mentioned above, the center serves different kinds of rehabilitation facilities. For the successful rehabilitation process of each user, the design should accommodate an inclusive means of circulation between spaces. The design of the main access, entrance and the building's internal circulation system should reflect an ordinary solution that appeal to everyone in the same way. [419] For the purpose, following design principles that make the building equally usable by all should be considered:

- There should be an accessible circulation system from the entrance of the building to all areas of activities and amenities both for staff and users. [420] In all spaces, enough circulation space around furnishing should also be provided in order to allow people to move easily and comfortably.
- As accessible elevators, automated doors, wide corridors, and hand-rails in the corridor help easy circulation as well as eliminate hazardous facts, they should be considered in the design process in a non-stigmatizing way (Figure 4.30.). [421]

Figure 4.30. Locating the elevator and escalators together avoids segregating people with different abilities. Center for Universal Design. Retrieved on October 21, 2008 from http://www.universell-utforming.miljo.no/file_upload/udclarification.pdf

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419 Ibid.

420 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 20-21.

421 "Universal Design Welcomes Everyone". Ed Robert Campus Website. from http://www.edrobertscampus.org/universal_design.html

- All users should easily access to each floor of the building. For example, a helical ramp connecting two floors enables easy access and safe evacuation (Figure 4.31.).[422]

- There should be easy comprehended markers, signs, and other way-finding devices to guide people throughout the circulation pattern (Figure 4.32.). [423]

Figure 4.31. Digital rendering of the use of a helical ramp, Ed Robert campus in Berkeley, the United States. Ed Robert Campus web site. Retrieved on October 18, 2008 from http://www.edrobertscampus.org/universal_design.html
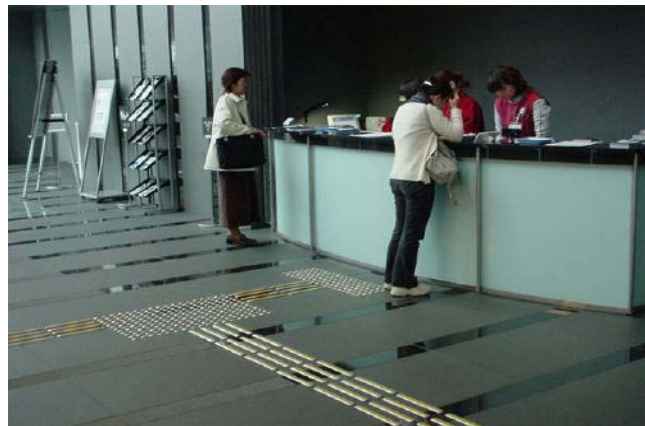
Figure 4.32. The use of texture and color assist people with special needs and provide a respective environment for all. E. Steinfeld and G. S. Danford. "Universal Design and the ICF". Living in Our Environment: The Promise of ICF, 12th Annual North American Collaborating Center Conference on ICF. Canada, 2006, pg. 11. Retrieved on October 21, 2008 from http://secure.cihi.ca/cihiweb/en/downloads/STEINFELD%20&%20DANFORD'S%20UD%20&%20THE%20ICF.pdf

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422 Ibid.

423 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 32.

- Related social and recreational spaces should be grouped together in order to facilitate physical and social interaction between activity areas to encourage vicarious participation, and increase incidental socialization.[424]
- Restrooms should be used by all people equally. If needed, it should include private rooms for assisted people. Restrooms should be placed in close proximity to activity areas for easy access. [425]

4.3.3.2.3. Flexibility

Miu Wah Pui focuses on that the best rehabilitation center should not be seen as "a static complex" that involves all rehabilitation services. In fact, it should not be seen as existing rehabilitation "institutions" in terms of their notion of the program and setting. [426] In this study, it is emphasized that a rehabilitation center should serve every members of community where it is located so firstly rehabilitation program should be open to the changing needs of the community and, thereby, spatial organization of the proposed activities in the program should respond to these changes. In this case, flexibility in the design of the center is an important issue due to the ever-changing characteristic of the rehabilitation program and continuing progress in the methods of evaluations and applications as claimed by Salmon et al. The development of rehabilitation activities will be surely restrained by inflexibility in the design of the center.[427]

Salmon and Salmon asserts that a survey of the relationship between possible parts and the anticipated areas in the future is the first stage of the design of a rehabilitation center.[428] Successful architectural program depends on the combined effort of a planning team at the earliest possible stage. The planning team must make a decision on which services the center will provide now and which services it might suggest in the future.

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424 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 107.
425 Ibid., pg. 107.
426 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pp. 1-2.
427 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 20-21.
428 Ibid., pg. 13.

The "completeness" of the program closely influences the achievement of the center's design.[429]

From the aspect of Universal Design, the design should provide *flexibility in use* by considering choices and abilities of people to be inclusive for all. Hence, for an inclusive rehabilitation center, following planning principles should be adopted:

- Wherever possible, spaces should be designed to be flexible and adaptable per activity (Figure 4.33.).[430] For this purpose, *movable partitions, screens, folding walls and storage equipment, and suitably co-ordinated details* might be offered in indoor spaces.[431]

Figure 4.33. The accessible path makes it possible for the whole group to enjoy the same experience. The United States Forest Service web site. Retrieved on October 21, 2008 from http://www.fs.fed.us/recreation/programs/accessibility/htmlpubs/htm06232801/page03.htm

- In all areas of the building, furnishing spaces with modular[432] furniture provides not only flexible use but also cost efficiency. [433]

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429 Ibid., pg. 14.
430 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 197.
431 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 20-21.
432 Keates and Clarkson define modular design as "Design that, by virtue of interchangeble units

- Especially, the areas of vocational rehabilitation should provide maximum flexibility in use and especially in *heating, ventilating, plumbing, lighting, electrical installations, and equipment placement* on account of the changing types of vocational opportunities and techniques in industry.[434]
- Main entrance of the building should have enough dimension for wheelchair storage space, coat space, and a suitable waiting area for all incoming users and their families. [435]

Figure 4.34. Sliding windows provide flexible use of outdoor as well as easy access to outdoors. Texas Institute for Rehabilitation and Research. "Hospitals, Clinics, and Health Centers". New York: F. W. Dodge Corporation, 1960, pg. 200.

- Windows should be designed to allow people of all ages who are standing or seating to see outside[436] and to increase the chances for flexible use of spaces (Figure 4.34.).[437]

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or elements can be configured to suit or fit different users, thus extending the range of users potentially served by a single design or product." Keates, Siemon and John Clarkson. "Countering design exclusion an introduction to inclusive design". 2004, pg. 218

[433] F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 30.

[434] Ibid., pg. 100.

[435] Ibid., pg. 156.

[436] Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 107.

[437] City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 197.

- Designing patios, courtyards, and terraces for all as extending areas of indoor activities provides flexible use in between inside and outside of the building in warm weather. [438]

4.3.3.2.4. Safety/ confidence

Miu Wah Pui mentions by giving reference to Lebovich (1993), the fact that if a person with a disability feels confidence as entering any space, the social relationship between his/her and others will be expected to improve is important.[439] When it is thought that people having different kinds of disabilities that result in less mobility use a rehabilitation center, the precautions for safety and confidence in the center is very important.

- Safety requirements such as fire safety systems should be provided in terms of the need of each area within the building.[440]
- The design should involve essential measures to prevent individuals from falls.[441] Stable, firm and slip-resistant floor surfaces are greatly advantageous for everyone to eliminate adverse results of activities.[442]
- All elements having potential risk like power tools should be isolated and controlled to provide maximum safety. Additionally, hot radiators, hot pipes, projecting pilasters, and swinging doors which cause serious problems particularly for people with disabilities should be considered in order to eliminate possible hazards. [443]
- In outdoor recreation areas for children, an architect should consider an enclosure that is surrounded by fence or wall, easy supervision and the prevention of the

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438 Mayor's Office for People with Disabilities and Department of Design and Communication. "Universal Design New York". 2001, pg. 107.
439 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pg. 34.
440 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 159.
441 Ibid., pg. 159.
442 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 31.
443 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 159.

area from vehicles in order to provide safety environment to all children. If there is no need for security, the enclosure can be open to the community. [444]

- Uncertainty in the building should be avoided for safety, particularly during emergency circumstances (Figure 4.35.).[445] Clear signs should also be offered to recognize controlled areas such as mechanical, electrical, utility, and etc.[446]

- Sufficient illumination should be supplied within the inside and outside spaces of the center for security as well as for safety. [447]

Figure 4.35. Entrances or exits which prevent uncertainty in the building. City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". Edited by Danise Levine. Center for Inclusive Design & Environmental Access (IDEA), University at Buffalo, The State University of New York, 2003, pg. 52.

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444 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 196.

445 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pg. 34.

446 City of New York Department of Design and Construction and The Mayor's Office for People with Disabilities. "Universal Design New York 2". 2003, pg. 198.

447 Ibid., pg. 150.

4.3.3.2.5. Humane environment

In UDNY2, Ostroff states that universal design is "a process that invites designers to go beyond compliance with access codes -- to create excellent, people centered design."[448] it should be noted here that emotional and social comfort is just as important as the physical involvement within the space in order to create the best rehabilitation center design as mentioned by Miu Wah Pui.[449] Not only physical barriers but also psychological and social barriers should be eliminated in the design of a community-based/inclusive rehabilitation center.

The design should never employ the method which stigmatizes any user as considerably emphasized by Universal Design concept. From that point, an architect should consider following points during the design process:

Figure 4.36. Lambeth Community Care Center, designed by Edward Cullinan Architects, 1985, London. Retrieved on October 21, 2008 from http://www.edwardcullinanarchitects.com/projects/lcc.html

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448 Ibid., pg. 192.
449 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pg. 34.

- The building with its landscape should reflect a harmony within the community, which make the design *a symbol of normality* (Figure 4.36.). [450]
- All parts of the building should be designed to create an open, bright, and cheerful atmosphere in congruent with the rehabilitation program whose main objective is to advance the quality of people's life at large. [451]

Figure 4.37. Lambeth Community Care Center, designed by Edward Cullinan Architects, 1985, London. Retrieved on October 21, 2008 from http://www.edwardcullinanarchitects.com/projects/lcc.html

- Centripetal spaces such as a central courtyard and foyer should be designed to facilitate possible social opportunity for all as mentioned by Miu Wah Pui. Apart from that, sporting and cultural activities performed in the center should be open to and visible from the public to keep social interaction at center stage (Figure 4.37.). [452]

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450 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 37.
451 Ibid., pg. 24.
452 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pg. 34.

- The design should reduce the emphasis of a clinical atmosphere to a great extent.[453] For example, as long corridor seems endless to people, alcoves or resting place should be placed at particular intervals throughout the corridor, which decrease its negative feature. [454]
- As heavily built-up areas restrict planning and rarely provide a pleasant environment, these areas are not suitable to create humane environment in the center. [455]

As a conclusion, Salmon et al. state that in general, there are tangible and intangible elements that produce a better environment in the center. Some of the intangible elements can be categorized as views, light, color, music and art, sound, smells, and air. Tangible elements consist of wall finishes, floor finishes, furnishings, heating systems, air-conditioning, plumbing, electrical, landscaping, maintenance, safety. These are such important considerations that have an important impact on the psychology of space which is perceived with the eyes, by the ear, or through the senses. These elements deserve significance in the whole design of the center because the users of the center are always responsive to them.[456]

453 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 157.
454 Edward Miu Wah Pui. "Rehabilitation and Community Complex in Cha Kwo Ling". 1996, pg. 34.
455 F. Cuthbert Salmon and Christine F. Salmon. "Rehabilitation Center Planning: an architectural guide". 1959, pg. 37.
456 Ibid., pg. 158-159.

CHAPTER 5

CONCLUSION

People with disabilities have generally been seen as a marginal group segregated from the mainstream of the society, which prevents them from getting involved in the social life. This segregation has resulted from negative ideas about disability as it is narrated in the second chapter of this study. People with disabilities are viewed as ones who have special requirements different from "other" people because of their functional limitations. Besides, their physical limitations rather than the barriers in the community are perceived as major causes that obstruct their social participation to the society. Following on such discriminative understandings, conventional rehabilitation approaches based on medical curation of people with disabilities by providing long-term institutional care was adopted to eliminate their disabling situations. In these medical-based rehabilitation approaches, people with disabilities were seen as "patients" requiring cure and care, which displays their segregation from the rest of the community. With the impact of these views, rehabilitation practices were not achieved the goal of full social integration and equal opportunities of people with disabilities in their society.

Especially after two World Wars, rehabilitation became very important issue because of the labor shortage. It was mainly aiming at re-integration of veterans into their working life in those times. Rehabilitation concept has evolved on account of the development of the understandings on disability, disability movements, increasing of social sensitivity towards people with disabilities, the development of legislations. While the understandings on disability have developed in the form of equalization of opportunities for all people, the mission of rehabilitation has been shifted from the improvement of functional impairments to enhancing 'quality of life' for people. Rehabilitation in the contemporary world has been discussed in a way that it should be provided in a comprehensive and inclusive way that refers the integration of various fields of social life as well as medical profession in order to advance full social integration of people with

disabilities to the society. Throughout the study, it is argued that the successful rehabilitation activities are of top priority in equalization of opportunities for all. Within the traditional rehabilitation approaches, rehabilitation services were mainly provided by taking people with disabilities into the specialized institutions isolated from the community life. It is argued in the thesis that institutionalization of people increases the exclusion of them from the society. As a means of social inclusion, rehabilitation centers should be integrated within the community as an integrated part of the community.

Many research areas focus on these changing views on rehabilitation and subject to today's rehabilitation approach. Nonetheless, rehabilitation center concept within changing view of rehabilitation concept is not adequately discussed and studied. Also there are very few studies with regards to architecture of rehabilitation centers in this new approach. My contribution with this critical study is to explore the new rehabilitation concept and much importantly investigate the architectural characteristics of rehabilitation centers in this new approach. By pointing to the correspondence between rehabilitation center architecture and Universal Design (UD), this study aims to investigate how effective rehabilitation can be best provided for all community members of society. UD offers a vision that the physical environment should accommodate diverse needs of the community, which gives equal opportunity to participation, both socially and physically. With the implementation of UD, people with disabilities in their own environment have a chance for equal participation to all activities of personal and communal life to the greatest extent. Therefore, UD is used as a crucial tool for the realization of the purpose of this study.

It is argued in this thesis that within the aspect of UD, rehabilitation centers should be seen as 'comprehensive community centers' that welcome to its users in their own environment. The cooperation of supportive public services including those of educational, vocational, social, and living environmental services, apart from medical services should be enhanced in their body in order to carry out a holistic rehabilitation process for people of all ages, sizes, and disabilities. For the purpose, the mission, the rehabilitation program and the spatial organization of the spaces in relation to the architectural program should be planned by promoting equity and user participation. Therefore, this study scrutinizes the architectural parameters of community-based/inclusive rehabilitation centers by highlighting the mission, architectural program

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and spatial formation of the centers referring to the principles of UD. In this framework, it also emphasizes the importance of the location of rehabilitation centers in the urban fabric. The primary concern of this issue is based on the ideas of equal usability/accessibility and participation. Their location in close proximity to other public areas such as residential, working, educational, sanitary, social and cultural facilities on the basis of an integrated approach in urban planning promotes easy and equal access to them. Therefore, future studies in this field can include the role and power of rehabilitation centers in 'urban planning and transformation".

Creating 'inclusive society' and enhancing 'quality of life' for people with diverse abilities and disabilities are significant goals of architects and planners. Depending upon the human diversity, they should be aware of the diverse needs of people of all ages, abilities and sizes while creating the urban fabric. In the case of rehabilitation center architecture, not only meeting physical design requirements of the users but also providing all needed supportive services in its body is the basis for adopting inclusive approach in designing the centers. Hence, they should also pay attention to the formation of the architectural programs of the centers. It is important that each center have different program in terms of the needs of the community of which the center is a part. This critical study aims to not only investigate physical design features of community-based rehabilitation centers but also to make research on preliminary data for their architectural program as all these information are important for community-based rehabilitation center architecture. Future studies can also include the development of architectural program of rehabilitation centers that can serve for all potential users with diverse abilities and disabilities within their own community.

In Turkey, as in all developing countries, it is important to design community-based/inclusive rehabilitation centers that welcome every members of community for the achievement of inclusive society. If rehabilitation centers are thought in the urban planning by promoting equal usability, and participation of people with disabilities in their own environment, they can easily reach and equally benefit from them. While they offer required medical, occupational, vocational, educational, social, cultural, and recreational services within the coordination of other related community services, they can invite all people with diverse disabilities. It results in the achievement of social inclusion of them as much as possible. In this point, this study brings about a relationship

between social issues and the physical environment by associating the design of community-based rehabilitation centers with equal participation.

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