

Improving The Educational_Recreational Capacity Of Cities Through Designing Knowledge-Theme Park (Case Study: 10 District of Mashad's municipality in Iran)

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Abstract: In fact, 'City' has the same nature as what comes to the mind as culture. However, by development of cities and unlimited increase of cities, the relation between the human being and the nature has been reduced. Nowadays, the machinery life through the daily increase of cities has made the human being so far away from the nature. That is why breathing in a healthy weather and having rest and fun have become a vital need for the people of the cities. Therefore, as parks are the place of city inhabitants' rest, to avoid jobs and life's problems, these people try to use parks. This need has made that place a proper tool for culture making and an indirect education. This resulted into that the experts and relevant officials, through making the parks thematic and also with the education during fun, to improve the knowledge of their people and to be able to attract tourist as well.

Therefore, designing knowledge theme parks in order to improve the educational and amusing capacity of cities is under focus of this paper. The general topic of this research is to provide a proper field for merging education, amusement and building a pleasant, attractive and different atmosphere for the people, tourists and particularly for the kids in form of making knowledge theme park. In this regard, the basic concepts of knowledge, park and its functions, the knowledge park and its aims, the characteristics and the history of establishment are described. Then the national and foreign experience in theme parks and the derived norms and standards for designing them are reviewed. Finally, due to an increase in the number of Iranian and foreign tourists and pilgrims of Mashad city and because of the need in quantitative and qualitative improvement of leisure and tourism atmospheres and also the necessity of revising the process of planning and designing parks, the district 10 of Mashad's municipality is introduced for the case study; and therefore, the knowledge theme park is designed for this site. The research methodology of this paper is descriptive-analytical and is based on the process of environmental planning and designing.

Iran's Supreme Leader: "Iran is a cultural and knowledge based global city with Iranian and Islamic, beautiful, resistant, rich and model identity in Islam's world."

"We must promote the basic knowledge in a manner that knowing sciences such as physics, chemistry, mathematics and other fields of the basic science become customary and public concerns."

Keywords: knowledge theme park, city, education, outing, designing.

Introduction

Theme park: schools of the future

Considering the increasing expansion of industry and technology, buildings and factories, and roads and vehicles, creating green space is an undeniable necessity in order to continue normal life in cities and preserve urban environment. Since air-pollution is increasing day by day, not only parks and green spaces should be increased and developed, but also their ecologic efficiency should be taken into account to improve the quality of environment and hygiene in city. Furthermore, the global approach to industrial mass-production with low labor force has led to

reduced-working-hours and increased leisure time. As a result, tourism has increased and become so important that today tourism and its subcategories are considered an industry. (Mansouri, 2008)

Today, we are witnessing a new approach to park: the idea of these parks was inspired by breaking the fence around parks. Park is no longer a greenhouse; instead it is a mixed environment where current elements of life and elements of nature combined together. For example, there is no linear distance between the edge of the park and urban life and park changes from single operational mode to a multi-functional park. It is based on one or more specific themes or stories. (Chappell :2002: 122) These types of parks that are called theme parks are entering human knowledge. The goal here is educating and teaching a point. Natural things taken for granted by human are paid attention to in these parks. It has caused officials and experts in this field to change parks to theme parks to make them more exciting, increase public's knowledge and attract tourists. Considering the need to review the process of planning and designing parks, this article investigates enhancing educational-amusing potential of cities through designing Knowledge theme parks. Also, due to the increasing population of tourists and pilgrims from inside and outside of the country to the city of Mashhad and their needs which demand quality and quantity development of recreational centers, the present work has focused on a case study of District 10 of Municipality of Mashhad in Iran.

Methodology

The present study is descriptive-analectic and is based on the process of environmental planning and design which includes comparative study, analysis and field study. In addition, data analysis is done in the form of qualitative and quantitative evaluation, based on environment quality data that ultimately leads us to the design process.

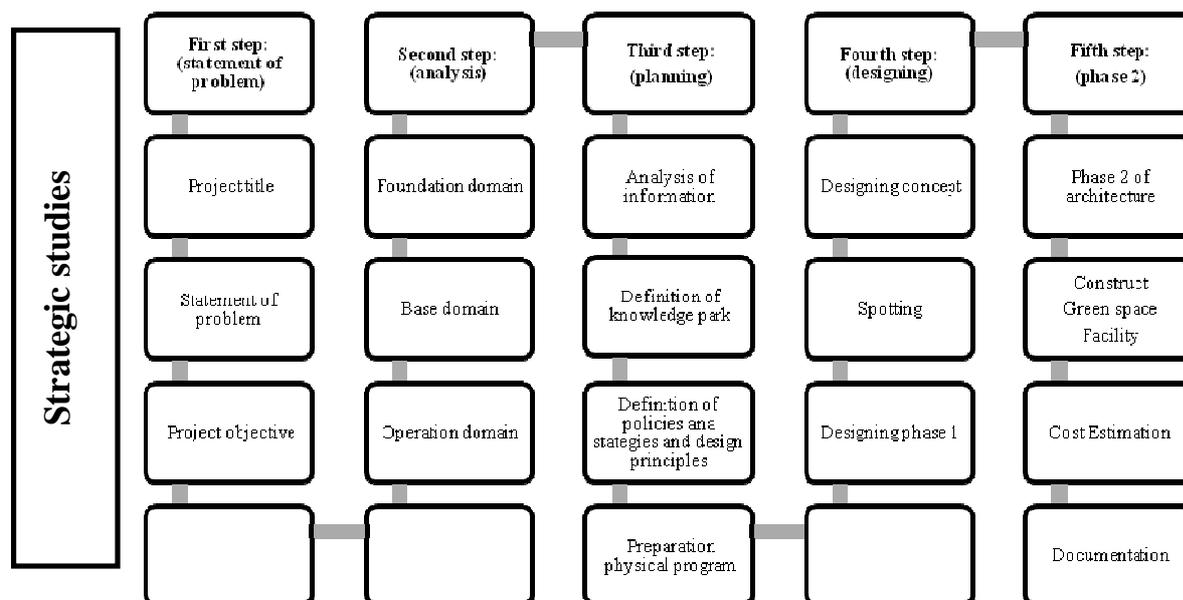


Figure 1: Methodology of research (source: the authors)

Theoretical foundations of the research

Primary concepts of park

In different dictionaries, park is defined as:

- Areas left apart for public use.
- A decorated piece of land used as resort
- A large piece of land which is preserved for public use
- A big, surrounded area in cities or near them used as resort
- A designed urban field

Key concepts in explaining definition of park

- Leisure time
- Recreation
- Promenade (Kandlys., 1982)

The importance of parks in urban environment

Parks satisfy many human needs which have been greatly limited by the phenomenon of urbanization. Parks improve weather in cities.

- Park is an essential and shaping element of urban landscape
- Park is a symbol of environmental health and hygiene.
- Parks and other municipal services, such as sports grounds and various resorts, create vital centers of cities.

Table1: functions of parks (Michaeli, 2003)

Recreational function	Recreational facilities and entertainment such as gaming devices, and cultural centers
Mental health function	Access to social and psychological effects of making man and nature closer to each other, providing a place to escape from the commotion of the city, calming effect of trees and green spaces
Communicational function	Consolidation of friendship relationships, a place for spending leisure time in the elderly, a meeting place for sports groups, students, art groups....
Educational function	The possibility of providing scientific observations of natural wildlife parks or botanical parks similar to a workshop
The function of buying and selling	A perfect place for the selling various goods due to the presence of large number of people

Urban park and it's classification

It is a park with entertaining, cultural and environmental features and can provide service to different regions of city. Urban park is classified into 4 groups

- Urban park in immediate vicinity scale

It is a park normally used by some residential units in vicinity and is less than a hectare big. A 9-year-old child can go from the farthest distance of the vicinity to the park by just taking a few steps without needing to cross the street.

- Urban park in neighborhood scale

It is a park located in a neighborhood and is about a hectare big. A 9-year-old child who wants to go from the farthest distance of the neighborhood to the park should walk two times as much as a park in vicinity.

- Urban park in district scale

The park is located in a district and its area is about 2 to 4 times as big as the area of the park in the neighborhood scale. It takes a few minutes to walk there, although there may be fast access to it too.

- Urban park in regional scale

It is a park used by residents of a region. Its area is at least two times as large as the area of a park in district scale (between 4 to 8 hectares). It usually takes over 15 minutes to get there by motor vehicles.

Basic concepts of science and knowledge**Definition of knowledge**

Knowledge is the information human uses in his life. In the past, human knowledge used to be limited and could be stored even in one person's memory. But gradually with the growth of information, human knowledge was classified and different and specialized area of knowledge appeared. Knowledge can be either hard (expressible and definable) or soft (non-definable). It is the degree and level of softness or hardness which makes different kinds of knowledge.

Transition from information to knowledge requires putting together the scattered pieces of information in a meaningful way. With the advent of the Internet in the last years of the twentieth century AD, knowledge has manifested itself on a larger scale in the fields of science and technology.

Definition of science

Science is the learning and teaching of the book of religion but knowledge is exploration of the secrets of riddle-like phenomena.

Differences between science and knowledge

"Science" is an Arabic word which means teaching. In common usage, the word refers to any kind of information an individual acquires about the environment and the issues around him. Therefore, the more an individual knows, the more knowledgeable he is believed to be. That is why those who had knowledge about religion and Quran were called "Allamah" (Scientist) in the past.

Basic concepts of theme park

Definition of theme park

Parks have been given different names based on their usage, location, value and so on. The examples of this are historical parks, wildlife parks, and urban parks. The function of park also has a role in determining the kind of park. One of the functions of park is educational function which has been taken into account in planning parks in the third millennium which is called the age of technology and information. These parks are called theme parks. A theme park has landscape, buildings, and attractions that are based on one or more specific themes or stories. Theme park is a group of entertainment attractions, rides, and other events in a location for the enjoyment of large numbers of people. They are more elaborate than simple city parks or playgrounds, usually providing attractions meant to cater specifically to certain age groups, as well as some that are aimed towards all ages. (Cerver, 2005)

According to western thinkers, the followings are the features of a theme park:

- Open spaces
- A combination of attractions plus cultural centers, fantasy spaces and places to spend pastime
- Representation of cultural characteristics using modern technology.

Chinese definition

It is various man-made parts to associate the actual conditions for entertainment and recreation; Man-made attractions to attract tourism and provide entertainment and recreational activities.

The history of theme parks

Amusement parks started from hunting gardens in Europe which were built to entertain people. The world's oldest amusement park, Bakken, opened in 1583 at Klampenborg, north of Copenhagen, Denmark. It was the world's oldest and the most virgin environment survived. On the other hand, periodic fairs, like what started in 1133 in England, are considered the fathers of modern amusement parks. At the beginning of Elizabeth's time, fairs changed to a center of entertainment, food, games and carnival. In 1810, in Munich, Germany, beer festival started the future of theme parks. Theme parks developed until at the beginning of industrial revolution they became popular as a place where one could escape from ugly urban environment. London's most famous park was the Vauxhall Gardens, founded in 1661 in London and closed in 1859. (Lavasani, 2010)

Prater in Vienna, Austria, was opened in 1766 and survived longer. It was a place where ordinary people could enjoy the relaxation and participate in music culture of the city. Tivoli park in Copenhagen is another example of a European park which survived until later than 1843. Green spaces, concerts, rail rides and fireworks provided amusement for people there. Parks continued to develop by providing facilities to satisfy people's needs until in 1896, there were 65 amusement parks in London.

The 19th century had a bigger impact on the development of amusement parks. . Crystal Palace Exhibition in London in 1851 started another kind of fairs in the world. The aim of such fairs was celebrating the new achievements of industry for the world. American cities and business also saw the world's fair as a way of demonstrating economic and industrial success. State fairs had a significant role in the history of such parks. These annual fairs which were held to celebrate good harvest for a week or two served a place for animal shows, cooking and so on. In 1893, people took part in Chicago fair as a modern amusement park. The fair was an enclosed site that merged entertainment, engineering and education to entertain the masses. To make sure that the fair was a financial success, the planners included a dedicated amusement concessions area called the Midway Plaisance. Rides from this fair captured the imagination of the people who visited it through elements like the first steel Ferris wheel, which was

later found in many other amusement areas, such as the Prater. Also, the experience of the enclosed ideal city full of wonder, rides, culture and entertainment was based on the creation of an illusory place. (Mansouri, 2008) The midway Exposition containing not only the rides, but other entertainments such as shooting galleries, penny arcades, games of chance and shows became a standard part of most amusement parks, fairs, carnivals and circuses.

Next page

A review of national and international experiences of theme parks

Table 2: Investigating national examples (Yoonjoung Heo, Lee: 2009)

Theme park: national examples				
Name	Location	Area	Activities	General Characteristics
Jamshidieh	Tehran - northern end of Alborz mountain range		Amphitheater, entertainment and tourism units, meeting point, rock gardens, cultural facilities for mountaineers, stone hights for the education of children and teenagers, bushes and plants of the Alborz mountain range, collections for introducing architecture, culture, theater, concert, coffee houses, restaurants, shows, special courtyards ---- concerts, workshops and handicrafts	Reconstruction and visualization of architecture and culture of different regions of Iran and establishing a meeting point
Bagh boland	Shiraz Chamran highway	3 km long with a width of 30 m.		Seasons and the elements that have the ability to express special signs of that season
Parke khajoo	Shiraz, Darvaze Quran	1 hectare	Walking paths and pause areas , rock fountain and waterfall and ...	The construction and asphalt over the mountains and the use of motifs and forms of Persepolis and Ancient Greece
Boostane goftogoo	West of Tehran	14 hectares	Library, health and toys land, children's playground, skating rinks, restaurants, mosques, waterfalls and ...	Familiarity with culture and architecture of different nations in Persian, English, French gardens, etc.)

Table 3: Investigating international examples (Yoonjoung Heo, Lee: 2009)

Theme park: international examples				
Name	Location	Area	Activities	General characteristics
Disney land	Florida USA			Inspired by Nat farm and Tivoli Gardens, facing desert, conquering forbidding mountains and ...
Dubai land	Dubai	2 billion square feet	Star-like Ferris wheel, bazar,....	exciting park; for example market vulnerable to dinosaurs' attack
Florida's cypress trees	Florida		Botanical garden Restaurants, coffee shops and concert A place for holding parties and celebrations	Creating a sense of adventure and facing the world with five ships and the highest rotating rides, a two-class ships full of bright colors, spinning horses and wooden railroads with an adventure train on
World's central park	south of Manhattan	40×25 acres		
First option	WRT	40×25 acres	Wildlife, parks, farms, camps for children	spaces active at different times of the year
Second option	Margryoz and Michael Maltzn	40×25 acres	Garden sculptures, exhibition hall, restaurant, hotel, entertainment center, ecology, hotels and conferences, theater and amphitheater	organizing a re-creation of active and passive components and attention to sculptural forms
Third option	Ella and Michael Ramos	40×25 acres		Expansion of the areas around the island and dedicating interior spaces for small-scale agricultural activities
Fourth option	Roger Marvel	40×25 acres	positive Island, Green Island, international Park	Environmental, educational, philosophical, and structural issues
Fifth option	Wilkinson airfield operation	40×25 acres	Greenhouses, indoor public places, flexible structures	
Taekwondo park	Korea		Education and Healing	History and culture of

			Center, ascending routes, sport fields, educational and research center, amphitheater	Korea, the Taekwondo and dramatic topography
Great park	California		Deep and dark valleys, lakes, agricultural terraces, lawns, sport and recreation park, botanical garden, controlled balloons	Looking to the future and respect for the past and the recent impact of the Mexican, Spanish and Native American cultures
Telecommunication tower square	China	1750000		An important symbol of Customer modernization along with transparent and attractive scenes of modern life
Eden garden of United Kingdom	England	23000	A collection of green houses, and farms	Creating a touristy space on a global scale to tell stories of the dependence of human on nature



Figure 3- Banyan tree in Cypress Gardens: Sample of theme park (<http://www.noandishaan.com>)



Figure 3- Gazebo famous Park - an example of pruning and flower (<http://www.noandishaan.com>)



Figure 4- Dubailand: Dubai thematic park - the dream of the future (<http://www.noandishaan.com>)

Analysis of research findings

Principles and criteria extracted from the global experience of theme parks

- These spaces first start working as a small collection and then they are gradually expanded.
- Implementation and operation of this type of project requires participation of profit and non-profit companies and institutions leading in science and technology.
- The attitude to these spaces is extra-recreational.
- It is important to make science interesting and attractive in order to enhance the culture and develop scientific insight
- The spaces are designed, implemented and run by the Board of Trustees.

- In all cases, training is based on experience and not just observation.
- The target population is children and adolescents.
- There is a variety of different branches of science in order to meet different tastes.
- There are spaces allocated to short-term thematic exhibitions in the form of open and closed spaces.
- There are secondary spaces like cafes and restaurants in these spaces.
- At the present time the majority of activities are done indoors.
- Short-term goal: increasing the level of scientific information of citizens
- Long-term goal: helping children to discover their talents and abilities

The attractions that can be the subject of theme parks are as follow

- Cultural attractions such as historic sites and archeology
- Architectural buildings, tombs and monuments
- Museums
- Concerts and theater
- Industrial sites
- Events such as festivals and community events - religious events - sporting events - business events
- So, future fun activities can include the following examples: Flying with balloons, walking on water, photo tourism in the wilderness, cave climbing, yoga in the lap of nature, skiing on sand, etc., for which it may not be necessary to go out of town as each of them can be experienced in a theme park!

Theme parks in comparison with museums

- Only rarely do museums show a subject related to the past in details
- Theme parks stimulate the imagination and each stimulus exactly covers its own response
- Movement in museums is less controlled.

Comparative study of national cases

The spaces called science parks in Iran can be divided into 2 groups

Science and technology parks:

Contrary to the common concept of park, these spaces are in service of industry and research activities and are located adjoining to big cities in Iran. Such parks are not the focus of the present study.

Science parks for children and teenagers

All the areas are designed and administrated by a group of jihadists of the holy war.

Case study

The location of the chosen site

Increasing number of tourists and pilgrims from inside and outside of the country to the city of Mashhad demands qualitative and quantitative development of leisure and recreational spaces as well as holy ones. Therefore, the process of planning and designing parks has been re-investigated. Mashhad Municipality region 10 is located in the North West and is next to the regions 12, 2 and 11. It has an area of about 12 million square meters and population density of 160 million in a hectare.

The existence of elements such as Imam Ali Highway, Chehelbaze National Park and international exhibition in the area has given it a particular importance in urban scale. Knowledge theme park in this region with about 15 hectares of green space and Rabi and Recycling Park will hopefully increase the potentials of the city in meeting the needs of the citizens, especially children, who are bored with the monotonous atmosphere of parks.

Analysis of the chosen site

- The facilities of the site:
- being located at the edge of Imam Ali highway
- Its proximity to Chehel baze national park, international exhibition and
- Proper perspective of the important residential and land on the southern side of the site (District 11, the mountain park, amusement park, etc.)
- Access to surrounding areas of the site from different parts of the city of Mashhad
- Nice view from Imam Ali highway
- Moderate slope of the site

Opportunities

- improving visual quality of the edge of Imam Ali highway
- Reducing environmental pollution
- Using the topography of the site in order to reduce the impact of environmental pollution
- Increasing the green space per capita
- A space for spending leisure time

Threats

- Increasing the traffic on local collector roads
- Increasing environmental pollution for nearby residential areas
- The flow of current waters and erosion
- Increasing traffic accidents and mishaps
- Changing park into separate and incomplete components

Strategies

- Establishing links between visual and motor components of park
- Geometric correction and removal of the problems caused by traffic from the park
- Immunization of the roads around the project
- Improving the vegetation and guiding the flowing water

Objectives of the project

Main objectives

The main purpose of building Knowledge theme park is integration of education and recreation, and creating a pleasant, attractive and different space for citizens, travelers, tourists and especially children.

Operational objective

- Structural objectives
- Content objectives

Consequential goals

- Establishing social justice
- Increasing urban attractions
- Efforts to improve environmental quality of New Urban textures (Qasim Abad and Elahiye)
- Integration of education and research
- Increasing per capita green space
- Improving the quality of the urban landscape
- Improving the readability of city
- Promotion of cultural and social level of citizens
- Increasing self-confidence of citizens, especially young people
- Promoting productivity features

Next page

Strategic-spatial planning

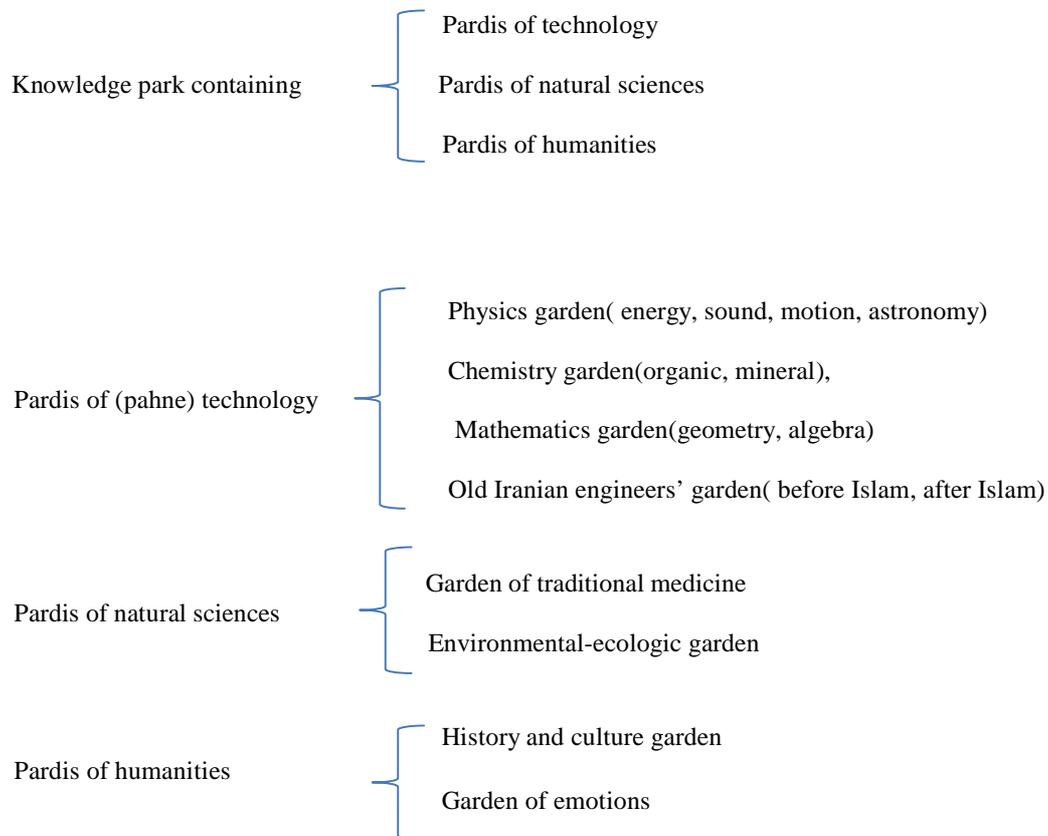


Figure 5: physical-strategic planning of site (source: the authors)

Conclusion

In most urban communities, because of the changes in life style of people and financial crises, there is no traditional tendency in building recreational centers any more. In modern urban planning, it is necessary to concentrate on the quality of parks instead of the quantity. In many cities, traditional and ordinary recreational plans and programs which are not adapted with new models of leisure time and are not based on new concepts of design and management techniques have lost their efficiency.

In a traditional approach, we are going toward reducing working hours and retirement age and increasing availabilities; recreational activities are in the same simple form and individuals spend most of their leisure time in the countryside. In modern view, humans see little difference between work and leisure. In a rich society, people are willing to spend some leisure time together. This attitude has encouraged the authorities to change parks to theme parks in order to make them more attractive, increase the level of information of public and attract tourists.

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