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The study of various types of Participative design based on Contextualism-Regionalism (based on Designing a student's Science park in Razi University of Kermanshah)

Parya Pourmohammadi
Department of Architecture, College of Agriculture, Kermanshah Branch, Islamic Azad University, Kermanshah, IRAN

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Abstract

The regional feature is the necessary characteristic of each valid architecture. As all buildings form the definite place, all places are not the same and they should have the special features of definite place. The regionalism term was introduced in the late 18th century as one of the main theories of architecture criticism and it asked for continuing the traditions, beliefs and cultural and ethnic values and taking into attention the cultural, geographical and climatic characteristics of a special region and is rooted in deep beliefs as resistance to others culture and returning to the ethnical cultural tradition. The followers of regionalism in participative architecture consider using the features of region in architecture as indirect participation. The various participative types are social gathering, questionnaire participation, consulting design, functional participation, interactional participation, regionalism and indirect participation. This study evaluated various types of participative design that by searching new ways to respond the applied needs in a society, with special features and special definition of it their participative type in design process attempts the effect interference and respond the users in design. The study and analysis of participative samples in various regions showed that using regionalism participative type and indirect participation in the form of considering the models and symbolic buildings, referring to the collective memories and considering the sign qualities in the region can be applied as responding method in making the users interfere in design process of students science park in Razi University of Kermanshah.

Keywords: Regionalism, participative architecture, participative design process, students science park science park.

Introduction

Considering the human indices in the environments that couldn't meet their resident's needs. After the Second World War, it was turned into the general request. The role of architecture as the only decision making power to design environment is changed gradually and users' needs, requests and interests are taken into attention and provided some opportunities for collaboration of various people in the plans. This goal was considered for more attention to people and true understanding of the needs. This issue resulted into the change of architecture models as society people (people or users) were involved in various design and planning fields. These approaches are raised as various titles as: Participative design, participative planning, design with user and etc. namely in planning and urban design[1].

Rarely, it is seen in the newspapers or magazines, a column is dedicated to the user or there is news about the routine work of an architect, or there are no images, photos or articles being published, in which there are some people using architecture, changing it and re-build it. While architecture is not potential space and it is real, tangible place made of materials in which people with permanent relations (families) and temporary relations (friend, co-worker, client and etc.) are living[2]. In the current global policy-where democracy issues are under question- real participation in change processes are very low and rare but they are more required. In order that the people (final users) are attached to the world they live or feel ownership to their living place, they should interfere where they are living and this leads to the fact that architecture is considered as occupying space (living in space) via political excitation and political issues, not the technical process or aesthetic aspects. The aesthetic and applied aspect are not neutral and isolated terms and they are in the complex policy making world considering participation beyond work and benefit and participation is guided to the issues making architecture more responsive and responsible in long-term. Participative design: It is the view in which people are not on one side and architecture on the other side and the designer is in the group of people and an optimal state, design with people is occurred[3]. Architecture project is not an opportunity to present architect and it is human effort to increase the quality of environment. The architect is a helper and this help is done by people participation. The architect thinks about the resources and merely doesn't use them. Architecture space is development place and is faced with multi—dimensional perception of the effective factors. The architecture space is the users space and architecture is a context to increase the information and improving and architecture projects mostly are based on

program content. Most people only focused on a surface and temporary form of architecture and stopped on it and they don't have any view about change potential of human environment and the method of this change. Indeed, architecture is not only the surface and temporary form (what is achieved and seen), it is required to recognize architecture in a wide framework of image from two aspects of relationship with context and relationship with the senses in time and experience.

David Michael Levin in his comprehensive book and thinking on motivation "an opening of vision: Nihilism and the postmodern situation distinguished between two visions: (confirming vision) that is limited, flexible, constant, serious, preventive and unchangeable and (reality-based vision) inclining to see from pluralism views and it is pluralist, democratic, contextualism, encompassing, bounded and interesting[4]. It is mostly difficult for users determine based on their problems of imagining their requests and their expression to themselves and others that whether the proposed plan facilitates their future activities really or not. The users mostly don't understand until they transfer the proposed plans there and using them[5].

Thus, the interaction between the user and architecture space is considered as a necessity for better understanding of the users of operation space and interference and participation in design process. Indeed, architecture is more important that it is only given to the architects[6]. It is required that in practice, architect and behavioral model of design activity and new features are presented and all the barriers between the manufacturers and users are eliminated and new conditions can change the participative models in design as can respond the current conditions[7].

The lack of familiarity with the concepts of collective design field (social) and its application method developed wrong methods and expectations of the design approach[8]. Some (namely the governments) consider this approach as luxurious, costly and time-consuming and evaluate it inefficient[9]. Some people considered participative issues as necessary and successful (while participation always doesn't lead to the favorite results). On the other hand, the presented projects with general participative-social approaches couldn't be satisfactory and efficient. It is necessary to reach the real concept of this field with exact view; some of this inefficiency is due to the lack of good recognition of architects of the design approach.

The present study evaluated various types of participative design and by new search, we can find new ways to respond to the applied needs in a society with its special features, with special definition of the society and their participative type in design process attempted to have effective interference and respond the users in design.

Study hypothesis: The participative approaches of design have various models and types, the hypothesis is based on the issue that: It seems that we can present design participative models for applied and real participation of users in architecture design process based on contextualism indices.

Methodology

Type of study method: The study methodology was qualitative and logical reasoning, content analysis methodology (case study of applied samples in design and content analysis of the obtained results) and other combined methods.

The data collection method (Field, Library and etc): The study of the texts and documents, evaluation of case samples (studied samples, including the required buildings in various models of participative architecture models), interview with the designers (mostly in design process) and interview with the researchers working in this sector (mostly about buildings analysis field), the interpretation and evaluation of the items of the studied population by participative observation methods.

Data collection with field method in the samples in which field data are used.

Data collection measures: The participative observations, interview, participative observation methods and etc.

Data collection method: The evaluation of case samples and their analysis in the fields as design process and analysis of each of the samples in terms of participation level and type.

Analysis of evaluation table of participative design criteria based on conceptualism data. The indices or time and place criteria regarding the users' participation in designing the recreational spaces are extracted from the review of literature and we consider measurable factors and measures for these indices. The content analysis of the views of users along the definition and descriptions of the spaces for Science Park.

Results and Discussion

The location and area of Kermanshah town with area 8547 km2 is located in the margin of Qaresuriver and is bounded on north to Kordestan province, on south to Lorestan province and on east to Hamedan pro vince and Sanghar town and on west to Islamabad and Pave. Its height from seal level is 1410m. Kermanshah region is extended as rough plateau among the mountains and Zagros mountain valleys. The important mountains of the province are including: Dalahu, Pero, Shahu Kuh Sesar mountains.

Site location: Selected site with area 11.5 hectare is located inside Razi University of Kermanshah, between Pardis of technical school, Physical education school and dormitory of students.

The reasons of selecting site: Based on the investigations, Razi

University of Kermanshah has some problems in educational, research, service, cultural and social fields. The university is the center of different thoughts and beliefs and the social and cultural movements have special features. This shows the importance of neighboring spaces of university complex with high potential to consider suitable spaces. One of the spaces is located between Pardis of technical school and physical education school and students dormitory. This site is in proximity of dormitory and University and it is in important position and can be the best choice to create collective academic spaces with the aim of eliminating the service, welfare and social shortcomings in neighborhood academic complex.

The forces surrounding the site: University is built in a big space in Bagh Abrisham Township beside Tagh Bostan. The University campus is around Biston Mountains giving more beauty to the university.

Figure-1
The location of Kermanshah province

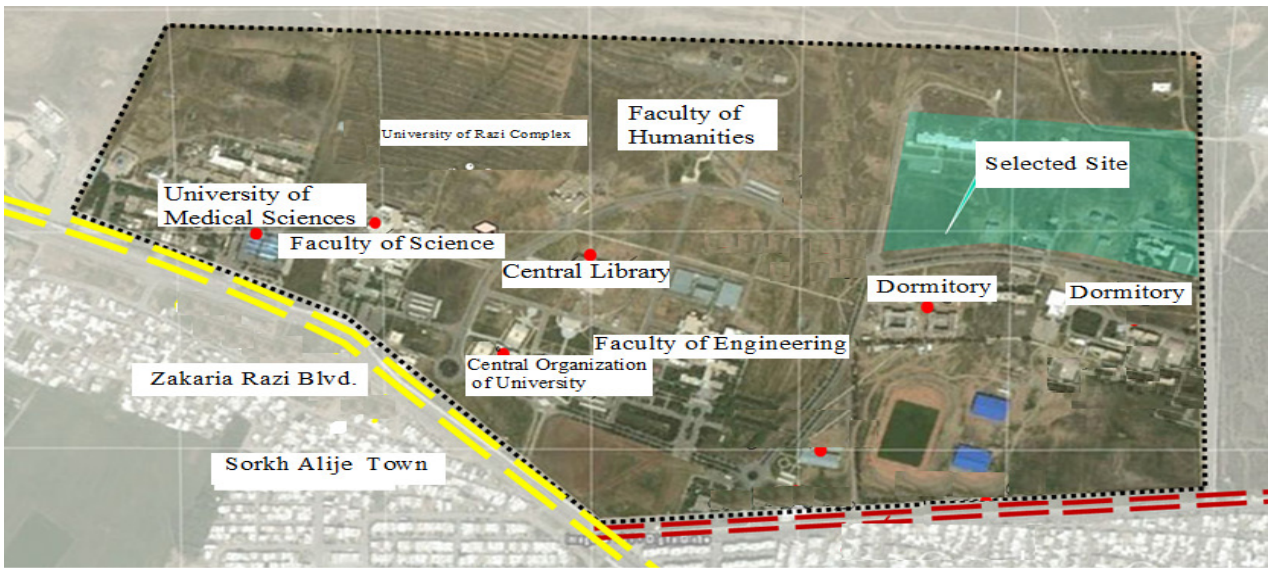

Figure-2
Selected site, located in Razi university complex

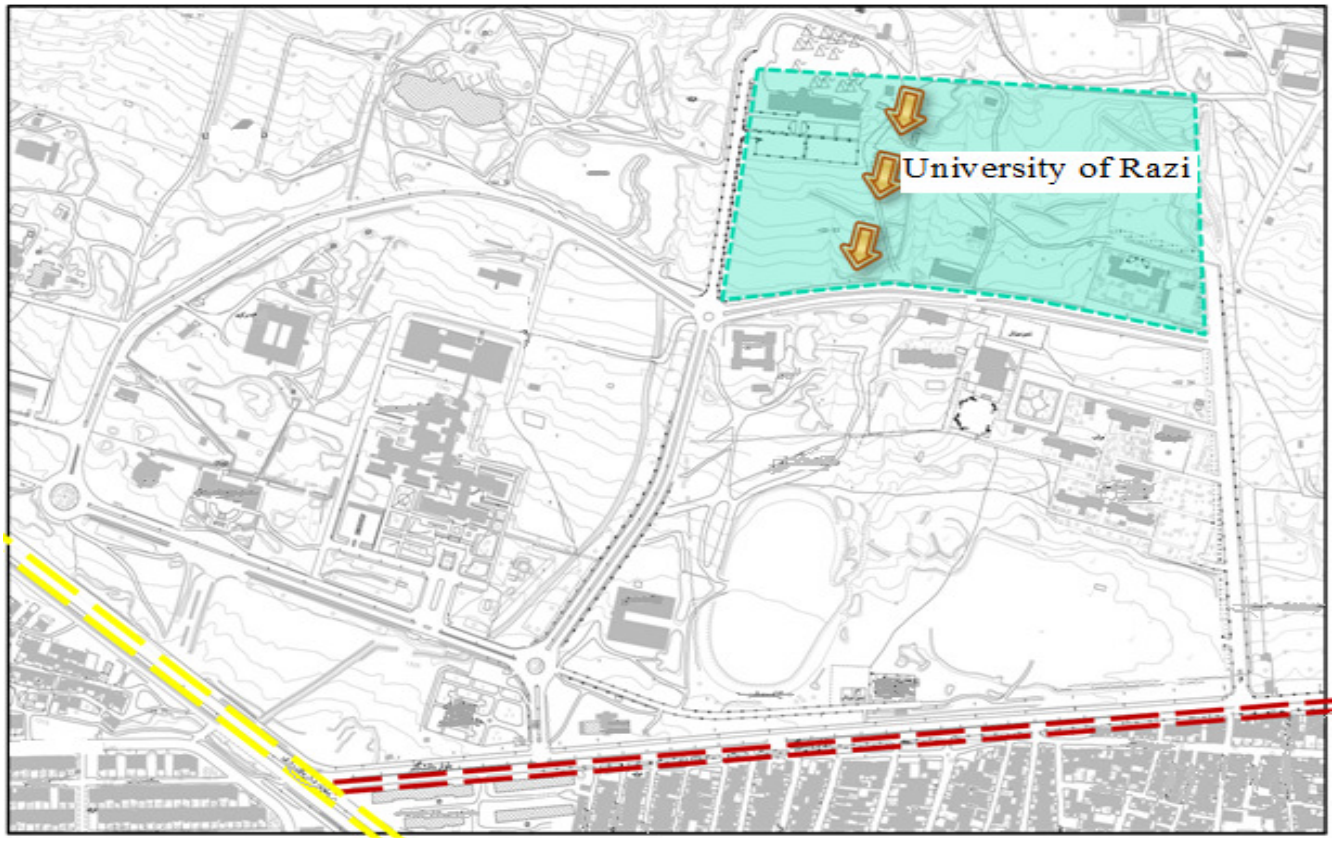

Figure-3
Selected site: as students' science park

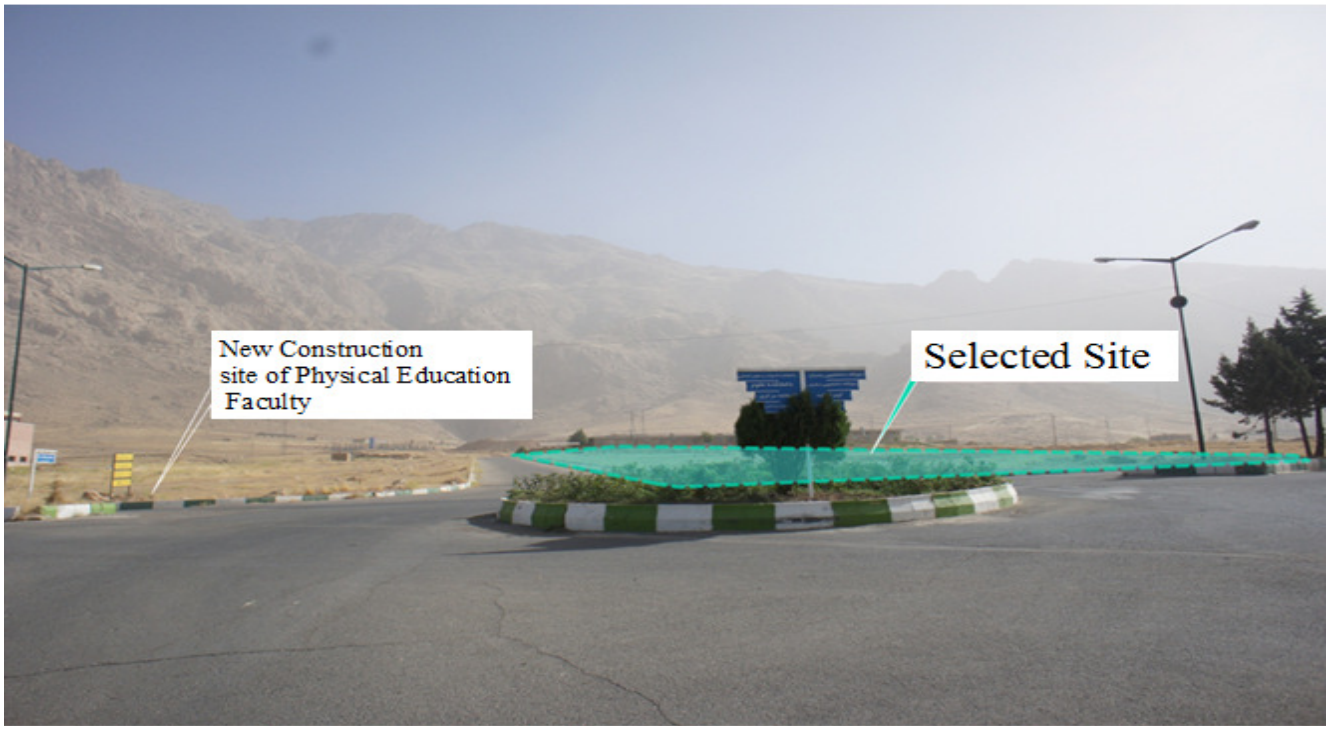

Figure-4
Selected site: In the proximity of schools and dormitory

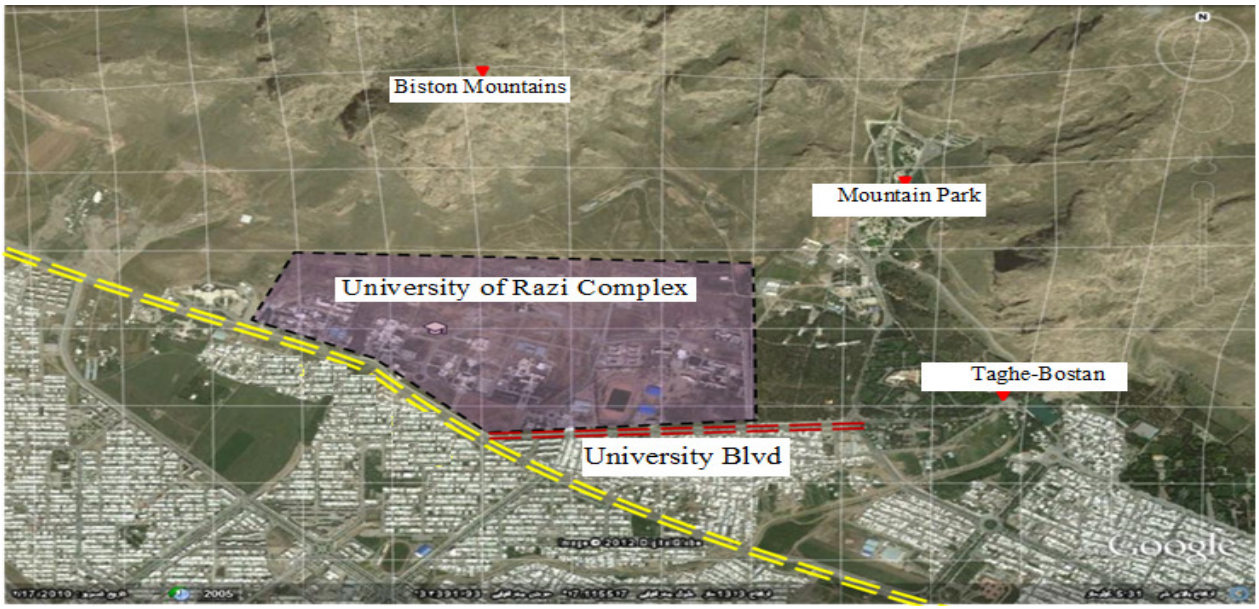

Figure-5
The site surrounding forces

Figure-6
The main accesses to the site from inside the Razi University complex

Table-1
Macro sections of the complex

Service Sector	Welfare Sector	Health Sector	Cultural and Social Sector
Stores	The restaurants in each storey	Health spaces: Injection and emergency room, physician room, sector expert room	Journal sector: Study hall, keeping the journals, responsible sector
Support spaces	Existing spaces to present knowledge seeking activities	Consulting spaces: Textbook counseling, family and etc, sector expert room	Computer center: Internet, Archive expert
Communication spaces	Open amphitheaters and green spaces		Music room: The spaces of listening music and keeping CDs archives, expert sector
	Sport spaces		The discussion spaces: The research private spaces, showing film and slide, meeting spaces
			Multi-purpose spaces: Fair spaces, meeting spaces, showing film and slide

The macro zoning of the space: The spaces of each building are divided into three groups as: net performance, net services, and net communication. Based on this segmentation, the explained spaces in the previous sections are classified as followings.

Net performance: The health unit, café tierraand restaurants, computer, music, journals, discussion space, sport halls, stores, Net services: WCs, utilities, store, Kitchen, Prayer Room, Locker room, Shower, Net relations: Closed connected hallways, Lift, Porch.

Relations between the spaces: In this section, we investigate the relations between the spaces and the aim is recognizing the arrangement of various performances beside each other. In other words, understanding which performances are put together. To study the relations, at first, the relations between the spaces are evaluated by diagram and then by proximity matrix, the importance of the relationship of various sections is defined.

Discussion: The measurements and solutions of design applied in design including: Creating the center of academic science park; Cultural meeting place; Creating a new image of university in the north of Kermanshah city; Relationship with history for the place and background; Relationship with architecture of historical periods; Earth manipulation with creating gaps and spatial sequences with various activities; Creating a space for University cultural center; Proposing volume with open view not preventing the human view to the Taghbostan mountains and can allow continual movement of the academic users in a an open hall without column; Encouraging collective exchange and entering various forces into lawn space of the university ; Proposing a green roof and forming an academic park to improve view and perspective as a place for resting.

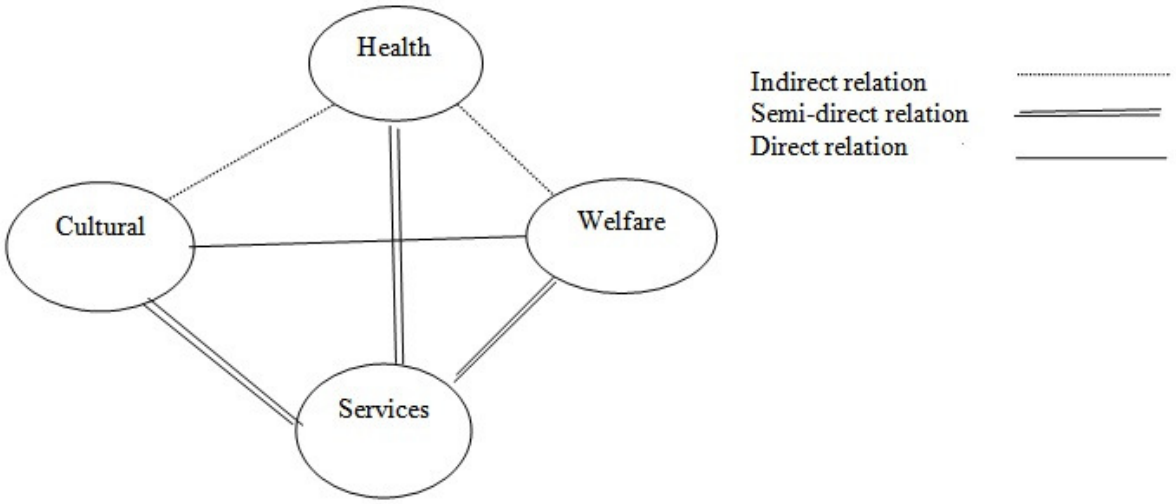

Figure-7
Bubble diagram of spaces

A place related to comfort: An ideal place for meeting, rest and distraction; Close relationship of the buildings via bridges system; Defining the urban situation of this place: Located in front of the mountains and historical place of Taghbostan; Achieving a uniform design and integration of dispersed buildings in a consolidated design; Consolidated texture eliminates the complexities of academic life; Creating green and friendly yards; The lack of covering all the buildings and using some open places improve building performance based on saving in energy and enjoying healthy weather close to mountain.

Table-2
Goals, measurements and strategies in the related design

Measurement	Strategy	Goal
	Considering the social symbolic models and buildings	The aim is using regionalism participative type and indirect participation
	Referring to the collective memories	
	Considering the sign qualities in Kermanshah province	
✓ Relationship with the architecture of historical periods in Kermanshah as reference: Bisoton bridge, Sassanid era ✓ Resolution of design via earth nature ✓ Creating space for cultural center in Razi University	Relationship with history	
✓ Using symbolic buildings of Pero and Bisoton mountains, their metaphor relation with design and returning to the collective memories ✓ Volume proposal with open view not preventing the human view to Taghbostan mountains ✓ Proposing a green roof on bridge in the design: Forming science park to improve view ✓ An ideal place for meeting, rest and recreation of students ✓ The lack of covering whole buildings and installing some open spaces and enjoying healthy weather.	Relationship with environment and memories	
✓ The proposal of performing model of design by real sizes in site and its experience by users and using their ideas in developing the plan	Direct participation of users	
✓ Consolidation of plan use via communicative bridge system	Achieving a unified design and integration of dispersed uses in a consolidated design	Designing the complex as unified generality
✓ Creating consistent uses in site to eliminate service, welfare and social needs of users	Considering the uses	
✓ The complex as a joint between the dormitory and universities ✓ Consistency of view and extension of collective spaces between three spaces in a unified whole	Users interaction (students)	
Changing the curves form in bridge (metaphor relationship with Biston bridge)	Suitable building consistent with modern technology and architecture	

Figure-8
Location in site

Structure: Using concrete and cantilever central core: One of the structural benefits of cantilever is supporting the ceiling and creating view without barrier by columns in one side. The main foundation of the structure of vertical buildings is central core of reinforced concrete and its root foundation is cantilevered for inverse moment resistance against the lateral wind.

The mechanical installations: The factors effective in determining a special system are: The cooling load and heating load; Zoning; Building architecture; Other restricting factors (noise, humidity control, pressure control as in plane, using energy and its type, future development); The comfort of ventilation systems has various aspects and they should be taken into consideration. There are some choices for final selection in a special project. To design such systems, we should have comprehensive understanding of ventilation. We can recognize the customer needs and the barriers in design well.

To compare and select a good system, it is required to consider the following technical and economic factors as: Temperature control, relative humidity; Ease of operation; Controlling fresh air; Using period of system; System life; Initial investment; Water, electricity and gas costs.

The major ventilation systems to be used in the plan are introduced as:

Table-3
The major ventilation systems

A	B	C	D	E
Evaporative cooling system	Fan Coil with central fresh air system	Gas cooler and Radiator system	Aeration system with air system one-regional or multi-regional	Package unit system

Table-4
Different sectors of program

A	B	C	D	E	F
Recreation sector	Cultural sector	Residence sector	Sport and swimming pool	Fair sector	Welfare sector

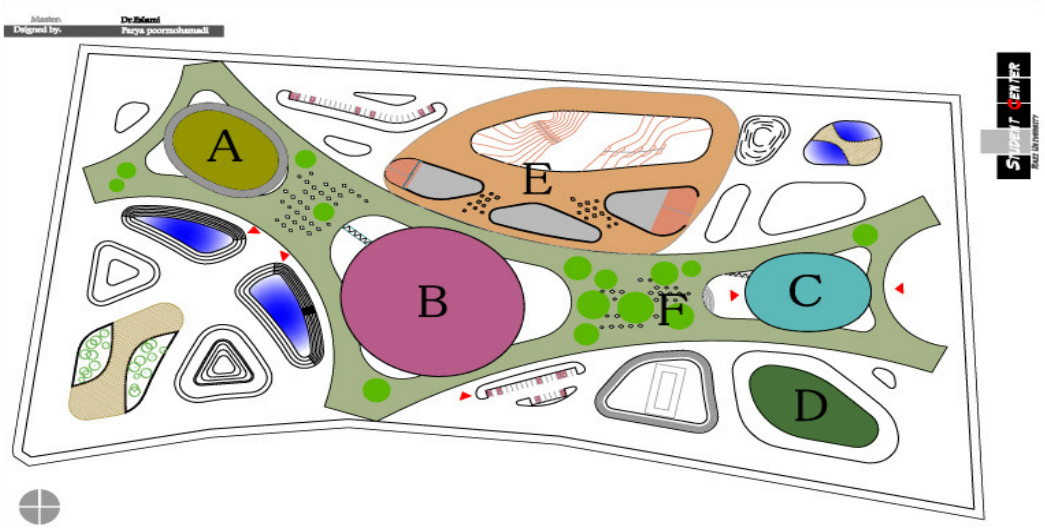

Figure-9
Program

Conclusion

The design issue is dedicated to "science park and students activity" with the aim of using regionalism participative and indirect participation of participative approaches of design and giving identity to it, that is rooted in the vital role of such spaces in enrichment of academic environments in students life and is at the same time with their shortage in the universities and on the other hand has close relation with the project situation-in Razi University complex.

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