

Research on Space Design of Youth Activity Center in Post-Epidemic Era

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Abstract:

As the COVID-19 pandemic is gradually becoming normal, the previous management mode and special form of the youth activity center are no longer applicable to the current post-epidemic era. In this paper, the design strategies in aspects of basic space protection, space elasticity design and space comfort design are discussed in depth through analysis for demands in basic protection, space integration and space decoration for the space design of youth activity center in the background of post-epidemic era combining the current social realities, so as to seek for special dynamic adaptability in the changing times and then realize better innovation and application for the youth activity space.

Keywords:

Post-Epidemic Era, Youth Activity Space, Space Design

1. New Thinking on Environment of Youth Activity Center Triggered by Outbreak of COVID-19

COVID -19 viruses outbreak suddenly in the beginning of 2020, rapidly spread across the world and quickly covered multiple countries and regions. Faced with the sudden outbreak, some universities, middle and primary schools across the country have stopped the offline teaching mode. With changes in the teaching mode of the schools, it is inevitable for the youth activity center to stop all activities. The youth activity center is a space aiming at providing education and entertainment activities for the youth, guiding the youth to carry out extracurricular activities, highlighting personalized education, respecting the hobbies and interests of the youth, focusing on the youth's practices and innovations and helping them grow up happily.

The youth activity center is a resource center for off-campus study for students, and meanwhile it is also a relatively closed public place with high concentration of people. As most of the users are minors and there is a high concentration of people and high mobility, the youth activity center is highly susceptible to epidemics. Currently, the overall national epidemic prevention and control trend is steady. However, there are still repeating trends in small areas. Universities, middle and primary schools in most places gradually resume, the youth activity center also gradually steps into normal

state of work and study. This shows that, the youth activity center begins to enter into the “post-epidemic era”. In this era, the previous management mode and special form of the youth activity center is no longer applicable to the current social development. In this case, the youth activity center is of greater necessity to go deep into the space design for the youth activity center beneficial to the healthy development of youth learning and living in the background of post-epidemic era, so as to improve the crisis protection and accelerate the long-term development for healthy development of the youth.

2. New Demands in Space Design of Youth Activity Center in Post-Epidemic Era

Health and safe teaching environment is the basis for the resumption of the youth activity center. To develop the thirst for knowledge and the ability of inter-personal interaction for the youth, the original youth activity center did not restrict the daily activity scope for the youth in the activity center. In addition, according to the behavioral characteristics of the youth, diversified public facilities that can contain and induce more activities are also set. This is not only a reflection of humanization, but also creates an open and interactive space atmosphere and improves the communication enthusiasm between the youth and their parents [1]. However, this mode is not suitable to the current post-epidemic era. Therefore, it is extremely urgent to redesign or transform the youth activity center. The main body of the youth activity center is the youth, who are usually deemed to be in the transition period from childhood to an adulthood. In this period, the youth is characterized as extremely sensitive to matters and explorative [2]. Hence, the youth activity center shall not only carry out preventive measures in daily management, but also restrict the youth as much as possible in configurations of space facilities to prevent close personal contact. This is not only a superficial physical protection, but also brings a sense of safety in spirit to the students and their parents. As for the current sense of safety, in the past, people paid more attention to facilities, public security etc., and the sense of safety in public health ranked behind [3]. According to the current researches, viruses do not only spread through close contact between people, but also realize spread through specific site under certain conditions. Therefore, in the overall background of post-epidemic era, the space design required for the youth activity center is as follows.

2.1. Basic Protection

In the post-epidemic era, first, the basic protection ought to be ensured is a guarantee for the air quality, second, vigorous disinfection measures shall be taken. After the epidemics, people’s awareness of public health safety has been improved, and many health protection habits have been retained and become normal. These new health habits can better protect the health for students.

2.2. Space Integration

Re-integrate the indoor space and set rich moving lines to facilitate rapid personal evacuation in emergencies. Make diversified design for the space functions, namely provide space for isolation and protection when the epidemic is repeating. Creating stronger space toughness with elasticity is a necessary demand for the space design of the youth activity center.

2.3. Space Decoration

New improves are also required in soft decoration layout of the space. The appropriate use of soothing color match and large amounts of plants can reduce the sense of urgency caused by the epidemic. In this way, the design with sense of safety cannot only offer a more appropriate environment, but also eliminate the students and their parents' concerns on public health and safety in the post-epidemic era and sooth their sensitive emotions.

3. Space Design Strategies for Youth Activity Center Adapting to Post-Epidemic Era

3.1. Basic Site Protection

The basic site protection mainly refers to the protection equipment required for public places after the epidemic as well as the measures required for daily protection. First, sterilization and disinfection are required to be arranged at key links and gathering place, e.g., entrances, corridors and public areas etc., where are all positions requiring key protection in the youth activity center. second, add temperature measurement area and isolation area in the lobby space. When the epidemic is relatively stable, the most direct way to evaluate the body state is temperature measurement. When the temperature is abnormal, the isolation area can be rapidly divided through the mobile partition. When the epidemic is seridious, the entrance space can be effectively sealed through the mobile partition to avoid personnel access [4]. Moreover, anti-bacterial carpets, atomization disinfection facilities and other facilities also can be equipped at the entrance for protection and detection, and disposable disinfectant can be set in necessary parts. In addition, contactless devices can also be introduced into youth activity center to improve environmental protection by limiting the spread of viruses through reducing direct contact. For example, add automatic sensing faucets, contactless dustbins etc., which are all direct and effective coping methods. In addition, the door pull on the site is a highly frequent public contact surface. therefore, automatic contactless door can be used to provide a more convenient and secure access way. Besides, it is also one of the selections for environmental protection by its own material properties or by application of antibacterial materials of biological films that can inhibit bacterial residence and avoid the breeding of harmful bacteria, and then normal guarantee can be provided for healthy environment.

In terms of indoor air environment, as the indoor space of the youth activity center is strongly closed and the ventilation is poor, the problem can be improved by adding air ducts and changing the window opening mode. Furthermore, a window opening reminder sign shall be set up in each classroom to remind teachers and students to open the window to increase the ventilation quantity of the space, so as to improve the air quality.

3.2. Elastic Space Design

Reducing personnel movement is the most effective method to stop the spread of viruses. However, for the convenience of parents, there will be many students after class at a same and fixed time in the youth activity center, and correspondingly there are many parents waiting at the door, causing indoor and door traffic congestions. This situation is not allowed to occur in current post-epidemic era. Therefore, to cope with these problems, the teaching time can be changed to ensure that personnel gathering will not occur at the same time point, meanwhile make the students leave

the youth activity center through different moving lines when they are after class through space integration. The layout can be changed by movement of light partition in corridors and other positions of indoor traffic flows (Figure 1). The partition shall be made of light materials with good gas tightness, and it also can be endowed with a decoration function in non-epidemic situations. When the epidemic is repeating, the original large space can be quickly divided into small traffic lines through simple operations by push-and-pull, translation, folding etc. to reduce the possibility of contact as much as possible, and meanwhile satisfy the space demands for students in study. Moreover, mobile furniture cannot only become a space partition to keep a social distance, but also rapidly change functions by itself. It is applicable to the function transformation demands for the public space in youth activity center. For example, introduce sliding tables, screens, display boards etc. to isolate, freely divide and utilize the space (Figure 2).

For indoor space of the youth activity center, the protection awareness and constitution of minors are relatively weak, thus increasing the movement distance between students is an effective measure to prevent the spread of viruses. Keeping a distance as much as possible within a certain space cannot only provide a spacious learning environment, but also maintain sufficient social distance. At present, many youth activity centers only have one building. The layout will be limited and it also will be difficult to expand the per capital activity area. However, it can be considered that each student has different classes, schedules and their time requirements for activity space are also different. In consequence, while making reasonable time allocation, we also can paint the floors and walls in relatively obvious colors and effectively remind the students to keep a distance for communication activities through visual stimulation. The social distance between students is enlarged, meanwhile, a more lively atmosphere is added to the layout of the indoor space. This is a funny way that can keep a social distance at the same time. It is easier to be achieved in a more restricted indoor space. In addition, the increase of distance also makes the changes in indoor space more flexible, thus it helps to the extension of other designs of the indoor space (Figure 3).



Figure 1. Taking Folding Plate as Carrier of Partition Moving Line.



Figure 2. Movable Tables and Chairs in Public Spaces.



Figure 3. Floor Partition by Different Colors.

Figure 1 Source: <https://www.goood.cn/music-market-cultural-center-by-sibling-architecture.html>

Figure 2 Source: <https://www.goood.cn/ninos-conarte-by-anagrama.html>

Figure 3 Source: <https://huaban.com/pins/3232908363/>

3.3. Space Comfort Design

After the epidemic subsides, after a long time of studying at home, there will be great changes in life and learning style for students, which usually causes negative emotions to students. Researches show that, long-term isolation under epidemics may

post-traumatic stress symptoms, mental disorders and angers [5]. Thus, we can effectively relieve the fatigue of students by improving the space comfort and make students and teachers in the space have a psychological sense of belonging and identity. An effective way of improving the indoor space comfort is adding green plants, which help students concentrate, and meanwhile relieve their anxious emotions and then improve the learning efficiency for students. In addition, green plants are also required to increase vitality for the indoor environment of youth activity center in the post-epidemic era. Taking green plants as a natural barrier to mutually cooperate with the furniture, then improve the sense of site safety for students and their parents while effectively controlling the social distance. Meanwhile, green plants are natural air purifiers, and have the function of sterilization disinfection, increasing the negative oxygen ions of indoor air, purifying the air and beautifying the environment [6]. At present, strengthening the indoor greening for youth activity center and improving the indoor environment for youth activity center are of great significance for the physical and mental health of students and teachers (Figure 4).

Natural light has a positive effect on improving students' learning environment and atmosphere. Therefore, natural lighting should be maximized to make the students and teachers enjoy more light and window scenery and provide more excellent and comfortable teaching environment (Figure 5, Figure 6).

In addition, the indoor color of youth activity center is also closely related with the improvement of the user's comfort. Colors that can soothe people's heart and pacify the soul can be selected to speed up the separation from negative emotions. For example, the relaxing pink color is a neutral earth color that may help people feel the forces of nature indoor and, and meanwhile it is a happy bright color that can enhance people's happy emotions and eliminate negative feelings [7]. Colors are attached to objects, directly act on people's senses, and meanwhile bring about deep emotional changes and echoes. The indoor space colors in the post-epidemic era cannot only care about people's emotions, but also classify these emotions in detail, eliminate negative emotions, and strengthen and amplify positive emotions.



Figure 4. Areas Dividing by Green Plants.

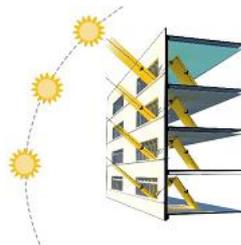


Figure 5. Light Analysis Diagram.

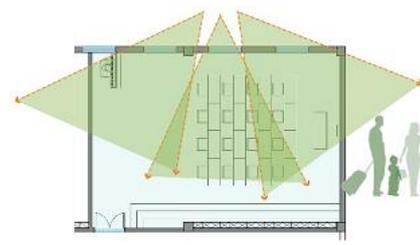


Figure 6. Analysis Diagram of Indoor Illumination Area.

Figure 4 Source: <https://www.goood.cn/the-crown-sky-garden-by-m-k.html>

4. Conclusions

In the background of post-epidemic era, for youth activity center, providing safe and effective protective space environment is the most important demand in the current stage. In this paper, it aims to think about the space environment of youth activity center, propose new demands that are applicable to the space design of youth activity center combining the current historical background, study the design strategies in three aspects in depth, i.e., basic space protection, elastic space design

and space comfort design of youth activity center, endeavor to seek for special dynamic adaptability in the changing times and then realize better innovation and application for the youth activity space.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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