

## The Present Situation and Countermeasures of Laboratory Interior Design in Colleges and Universities

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In recent years, with the implementation of the party and the national education policy one by one, the central finance supports the local university special fund vigorously, the applied university laboratory construction has made the considerable progress. But in the laboratory construction and later use process also found that there are many problems, especially the laboratory interior design of comprehensive, systematic, brand, pleasant and other serious deficiencies. This article through to the different provinces and cities many universities laboratory construction investigation, carries on the analysis, the arrangement, the induction, proposed the existence main question and the countermeasure suggestion.

**Key words:** University laboratory; Present situation of Interior Design; Countermeasures and suggestions

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### INTRODUCTION

The 13th five-year Plan period is the decisive stage for China to enter the ranks of innovative countries and

build a well-off society in an all-round way. the new needs and tasks of national development put forward by the Fifth Plenary session of the 18th CPC Central Committee have put forward higher requirements for scientific and technological work in colleges and universities. Since 2000, the number and scale of colleges and universities in China have made great progress, but many local colleges and universities have many shortcomings in the training strategy of applied talents, and the performance of laboratory construction is very prominent. Laboratory construction belongs to a huge, complex and comprehensive system. in the course of investigation, this project mainly analyzes the universality and particularity of laboratory interior design procedure and content, combined with the relevant design principle theory. On the basis of fully understanding its importance, this paper analyzes the problems existing in the current laboratory construction, and puts forward the general mode of laboratory interior design, so as to give full play to the role of laboratory interior design in the training of talents in local colleges and universities.

### 1. BACKGROUND

Most of the laboratory construction in colleges and universities still stays at the level of architectural design and planning layout. Although some colleges and universities have set up functional departments such as the Experimental equipment Office, the main staff are rarely composed of relevant personnel majoring in design, as well as the instruments and equipment that the school attaches importance to the necessity. However, there is a lack of attention to the overall planning and interior design of the laboratory. At present, experimental buildings have been basically built in major colleges and universities, and this kind of experimental buildings concentrate many laboratories in the whole building, and laboratories of different specialties and styles are mainly

in buildings with functional architectural design. It is difficult to reflect the professional characteristics and subject characteristics. Laboratory construction should not only understand its architectural design, but also consider the functional requirements of experimental equipment and instruments in the spatial layout and setting, which are only basic design. It is found that at present, most colleges and universities can improve the laboratory interior design and decoration from the functional level to the aesthetic and cognitive level is still very few. Some key colleges and universities have sufficient funds, laboratory construction funds investment is large, in the laboratory interior design is relatively adequate, but there are similar problems.

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## 2. STATUS QUO

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### 2.1 Architectural Design is Out of Touch With Interior Design

The importance attached to the design of the experimental building is self-evident, but many architectural design units like to put forward some so-called design concepts, and then use some design techniques, and then add dry hanging stone on the exterior wall. An experimental building with “master temperament” was designed. There is no problem with the specifications for the design of specialized buildings and the control of the data. the size, area, ventilation, fire fighting, fire prevention, safety and floor distribution of different laboratories can be considered more reasonably. However, the depth control of laboratories of different specialties and disciplines is very weak, resulting in the final laboratory internal design and decoration effect is very different from the appearance of the experimental building.

In addition to a few key universities, most of the local university experimental buildings in the architectural design is mainly considered functional design, material, technology, structure and other aspects are relatively simple. Interior design is more functional, such as ground materials to terrazzo, floor tiles, walls, tops are white latex paint, anti-static floor, plastic floor, mineral wool board ceiling are rarely used. The form composition of laboratory space is mainly presented by the original floor height, cast-in-place floor structure, door and window structure of the building, but the real laboratory exclusive design form, aesthetics is relatively lacking. At best, it's just on instruments and equipment. Form and aesthetics may be evident in the architectural appearance, but the internal structure is still based on modern functionality, the external form and internal form structure are not integrated, it is difficult to achieve the same effect. What needs to be made clear is that we do not have to deliberately pursue streamlined design, but at the aesthetic level of morphological state, most campus buildings

are full of rigid forms, the beauty of music and rhythm are missing, and the ideal combination of rigidity and flexibility has not been achieved. The effect of virtual reality.

### 2.2 lack of Innovation in the Layout of Furnishings

It is found that the internal layout of most university laboratories is mainly routine, functional and mechanical, and the necessary links and modules remain unchanged, but the overall spatial atmosphere may lack a sense of the times. Especially in the management professional laboratory, not in the simulation environment to experiment, practice, experience, how to participate in the rapid development of the modern office environment? The overly rigid layout is caused by stylized thinking, and the idea of innovation and entrepreneurship today is put forward because our college students are too lack of creativity. Perhaps there is some lack of learning environment we provide for college students. This is worthy of our university educators worthy of reflection. Rigid space form, may be more conducive to us to develop a good habit of abiding by the law. However, for the students who study and practice in the laboratory, it may be that because they seldom consider the behavior and psychological feelings of people in the environment, it is inevitable that people who work and learn in the environment will give people a dull impression.

### 2.3 lack of Specific Images

Because of the different disciplines, there are many kinds of laboratories, the number

is also very large, but there are fewer laboratories that can make a strong impression. The reason is that the characteristics are not obvious and the exclusive image is missing. Many laboratory color use is relatively different, there is no systematicness and regularity, not from the design science to consider, there is no certain internal logic and induction, not so much colorful, rather than messy. Because the construction side rarely considers the influence of the environment on the psychology, it is basically a simple conventional design, basically based on the linear geometric layout. The creation of spatial professional attributes is extremely lacking, the deductive design of shape, color, CIS system is not in place, or even no visual communication design, the communication value is extremely weak, the identifiability of the laboratory is poor, and the aesthetic value is low. Under the background of rapid knowledge renewal and iteration, laboratory interior design can not blindly pursue the so-called style and catch up with fashion, but must consider safety and durability in space composition and material selection. As far as possible in the brand building and connotation promotion efforts, a change before only do simple decoration and decoration, equipment and equipment stacking based on the disadvantages.

### 3. COUNTERMEASURES AND SUGGESTIONS

#### 3.1 Clearly Understand the Importance of Laboratory Interior Design to Personnel Training

At present, the understanding of laboratory construction in colleges and universities is still at a low level. Most local colleges and universities do not know how to build laboratories at all, and lack of long-term, systematic and omni-directional design planning for laboratory construction. As far as possible in the planning of recommendations to achieve field research, multi-coordination, integration of communication, to avoid the existence of blindness and unscientific in the planning and design, fully taking into account the needs of users. Laboratory is the product of professional construction process and professional constructor. Without professional means, it is impossible to complete a perfect laboratory without profound experience. Pay attention to the link control, emphasize communication as the design basis, and in the preliminary design stage, the relevant units and personnel are required to intervene in the project. It is clear that the laboratory is the incubation base for scientists and professionals, and must be in accordance with the overall requirements of scientific design, reasonable layout, perfect function, convenient use, and optimization of the overall effect. Considering the function, space, environment, environmental protection and other factors of the laboratory, Avoid in the power supply, water supply, drainage, air supply, exhaust, purification, sewage system and other aspects of unreasonable design, resulting in repeated laboratory transformation, repeated construction and waste of funds, in order to avoid losses and ensure the safety of personal and property.

Different regions, different regions of college teachers and students have different preferences for color. There are significant differences in the length of time, frequency and participation of different professional laboratory users in the study and experiment. Therefore, it is necessary to know what they like, what they think the laboratory should have, what quality of experimental environment it should create, what benefits it can bring to itself, and whether it is of great help to their own employment. Familiarity with the environment, adaptation to the environment, love of the environment, for the improvement of professional practice and communication skills is very important. After all, the important role and significance of the laboratory is to incubate and cultivate students' ability. Therefore, from the laboratory building, indoor environment, instruments and equipment, lighting environment and other "human-environment-equipment" comprehensive research to ensure the advanced, practical and forward-looking laboratory.

#### 3.2 Focus on Shaping the Brand Value of Laboratory Space

At present, there are many employees in the interior design industry, but they are mainly concentrated in the field of indoor design. It is found that the proportion of funds for interior design and decoration in laboratory construction plans in almost all colleges and universities is very low, and the reason for this situation is not only affected by special supply channels such as instruments and equipment, but also by special supply channels such as instruments and equipment. There are also many aesthetic problems in design and decoration. It is easy to dispute in communication and coordination. After many times of communication and coordination, there is a long and changeable decoration construction period. As a result, the project can not be as efficient and fast as the transaction of instruments and equipment, which is also the problem of multi-party wrangling and prevarication in laboratory construction. With the development of the times and social progress, laboratory construction must be built into its own unique brand, focusing on the complexity, comprehensiveness and systematicness of laboratory construction. Therefore, it is urgent to train laboratory professional design talents with strong ability. After all, brand is not only a slogan, not only the external form of the experimental building, but also needs to extend to every detail and corner of the laboratory space, as well as deep into the hearts of the people. The laboratory not only needs the brand image, but also needs to consider the influence of the environment on the psychology, the promotion of the brand value and the shaping of the students' character.

#### 3.3 The Interior Design of the Laboratory was Evaluated

Laboratory construction is not the testing ground of designers, it carries many factors and demands. Design evaluation and feedback is not simply to draw a good or bad single conclusion, but to track, analyze, evaluate and feedback laboratory users and other parties on an irregular or long-term basis.

At present, most of the so-called companies engaged in the overall planning and design of laboratories in the market are vendors of instruments and equipment, and some of the outstanding laboratories are completed by a small number of famous architectural design firms. There are only a handful of real professional laboratory planning and design companies. For whether the laboratory has a distinct theme, engaged in teaching and research and development and other personnel of the laboratory recognition, satisfaction, suitability and so on, only through the post-evaluation to complete. The development of laboratory interior design industry has not yet formed a climate, and there is no perfect knowledge system construction. Evaluation and feedback are particularly important for the accumulation of experience and the development of the industry.

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## CONCLUSION

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To sum up, there are the above problems in laboratory interior design in colleges and universities, which have attracted the attention of many teachers and students and academic circles in colleges and universities. As teachers in colleges and universities, working in colleges and universities, teaching in laboratories and interpersonal circles, using SWOT analysis, it is concluded that on the basis of the research on the construction of KAQ applied personnel training model, teachers lead and students participate. Multi-party linkage can design excellent university laboratories, and form related design theory and general model. It is believed that with the increase

of laboratory construction projects and the development of aesthetic education in colleges and universities, in the near future, these unbearable status quo will be gradually improved, the industry will be more standardized.

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## REFERENCES

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- Johnannes, E. (1996). *Design and morphology*, In G. Q. Zhu (Trans. ). Shanghai People's Art Press.
- Wang, X. D. (2009). Analysis of interior design procedures. *Art and Design*, (06), 94-96.
- Zheng, S. Y. (2003). *Interior design: Thinking and methods*. China Construction Industry Press.