Post occupancy evaluating space utilization of elementary school libraries

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The elementary school libraries have the most appropriate reading environments for pupils and teachers. They are the primary users in elementary school libraries. For library management, it is much important to investigate the library space usage from users' point of views. Adopting the post occupancy evaluation in this research, we record and analyze users' activities in libraries by observation, interviews and painting. We clearly disclose what activities users do, what space usage experience users have and what roles elementary school libraries act. The research results give critical references for elementary school library management in space utilization and maintenance

Introduction

In the situation of insufficient children room space in public libraries, the elementary school libraries are the most convenient places to read for pupils. However, the suitable library environment designs should take people as central core elements. We have to consider the users' requirements and then to integrate users, librarians and the environmental components in order to carry out library activities effectively. Lushington and Mills (1980) have pointed out that children's impression of first contact with libraries will influence their future studying and usage behaviour in libraries. The researches of Miller (1990) and Morrow (1989a, 1989b) have proved that it is valuable to children's reading behaviour with offering good planned space, abundant and diverse books. Children are protagonists of using and studying in libraries of elementary schools. We should consider their characteristics of cognition, development and behaviour as configuring service space in libraries. While designing and planning the library space for children, we should do it according to their need and development of physiology and psychology. This is often neglected and more difficult part inside the elementary school libraries. The pupils are the main users and serviced targets of elementary school libraries. They have their own aesthetic conception, idea and opinion. Can we look over the roles in the space inside the libraries from the viewpoints of the pupils and teachers? How do the pupils and teachers use the space?

Based on pupils and teachers' viewpoints properly, the usage assessment of elementary school library space can help us to understand their behaviour, experience and feel, and to gather indispensable materials for planning or improving the space in the future. Applying post occupancy evaluation theorem and selecting an elementary school library as the study case, we record and analyze their activities in the library by observation, interviews and painting. We clearly disclose what activities they do? What space usage experience they have and what roles the elementary school library acts? The research results give critical references for the elementary school library to make right management in space utilization and maintenance.

Literature Reviews

Elementary School Libraries

In Taiwan, the elementary school libraries should offer services such as reading, circulation, consultation and information retrieval, and help teachers in courses development. They also handle activities such as book clubs, class stacks, story time, new book recommendation, reading passports, stayed writers, the gentle exhibitions, and special topics discussions, in order to excite the interest and awareness that pupils and teachers use the library. The Taiwan 2004 Library Yearbook has pointed out that there are 2627 elementary school libraries, accounted about 49.93% libraries in Taiwan. However, they are obviously insufficient in personnel, funds and collections, the librarians are those of part time teachers or the enthusiastic volunteers to help operations of libraries. The library usage education and popularization are still confined to traditional library environment understanding, reading classes, new books shows and writings what users reads. The assigned function of elementary school libraries lies in cooperating with teaching and assisting with learning.

The libraries are not only the collection centres of all kinds of education resources; they are the teaching supporting centres too. It should be able to help the teachers to prepare teaching materials of diverse courses, to train pupils' spontaneous studying spirit, and to excite pupils' interest in reading and learning. The way to set up children's learning environments is closely related with their development and study, and also influences their attitudes, motives and the capabilities to accomplish the work (Usalis, 1998). If the design and arrangement in libraries can bring pleasant feeling to users, readers will be glad to approach libraries and promote their usage. In addition, the atmosphere of children's libraries will influence their wishes and behaviour to use libraries in the future.

Environmental Psychology

Environmental psychology is to study the interactions of people and physical environment where they live in. During the interacting process, people changes the environment, and the environment changes people's behaviour and experience relatively. Heyman (1978) pointed out that environmental psychology is a research that space influences people's attitude, mood and behaviour. Research and practice of environmental psychology are namely to understand the interactions between people and the environment, and to make use of the knowledge to improve the design procedure of human environment and various environmental problems.

The environmental psychology researches are problem oriented with attempts to solve some practical problems. They adopt the traditional psychological methods such as observation, questionnaire, and focus group approaches to carry on investigation, experiment and study. Their purposes are to derive out the causal relationship and key elements from the research focuses.

Post Occupancy Evaluation

Post occupancy evaluation is mainly to study the relationship of people's behaviour and architectural designs (Preiser, Rabinowitz & White, 1988). Post occupancy evaluation is applied to understand users' responses against architectural designs, to look over the designs that do not accord with users' demands, and to examine exactness of the design. In addition to improvement, post occupancy evaluation can offer critical reference on plan and design of new buildings in the future. Post occupancy evaluation is a systematic and rigorous method to evaluate the real effects of built environment with the viewpoint of users. It can be as the measuring tool to the suitability among facility, organization, users and activities in the environment of buildings, and to assess the satisfaction to the environment of individuals or colonies.

Two targets that post occupancy evaluation is applied to investigate, one is the concept of people to use school library space, and another is the measurement of physical concept of school library buildings. Schools are the best designed environments for pupils' learning, teachers' teaching and staff working (Herman, 1995). Users are those who use the environment and know it best. It is more reliable and correct that users do the evaluation. In school libraries, pupils, teachers and staff are the essential but most important users. They are the best ones to do jobs of post occupancy evaluating school libraries. Barrett and Baldry (2003) .pointed out that the most useful data gathering methods includes standard investigation form, focus interview, structured observation, document inquiry, simulation, and research interview.

Research Design and Methods

In order to reveal the real situation of school library space usage of pupils and teachers, this research is based on the users' viewpoint to post-occupancy-evaluate the library space of the elementary school selected as a case school. The case school is located at Taipei, and has 11459 square meters ground. The space of buildings is totally 36625 square meters. There are totally 36 classes having about 1100 pupils, and 70 teachers and staff. The school library is sited on the second floor of the building located at the southern, and it takes about 539 square meters in space. The library collection has more than 21000 volumes. Literature books are with the most proportion of more than 10400 copies. Its annual budget is about 40000 NT dollars for purchasing books. The library is staffed with one teacher as leader and one professional librarian. Fortunately, there are about 30 volunteers worked for the library. The library is designed to include areas of entrance, video/audio, multimedia, reading, English child's books, native teaching material resources, Chinese periodical, teaching aids, book stacks, caricature, performing stage, information retrieval, consultant, service, and working. The Figure 1 depicts the sketch map.
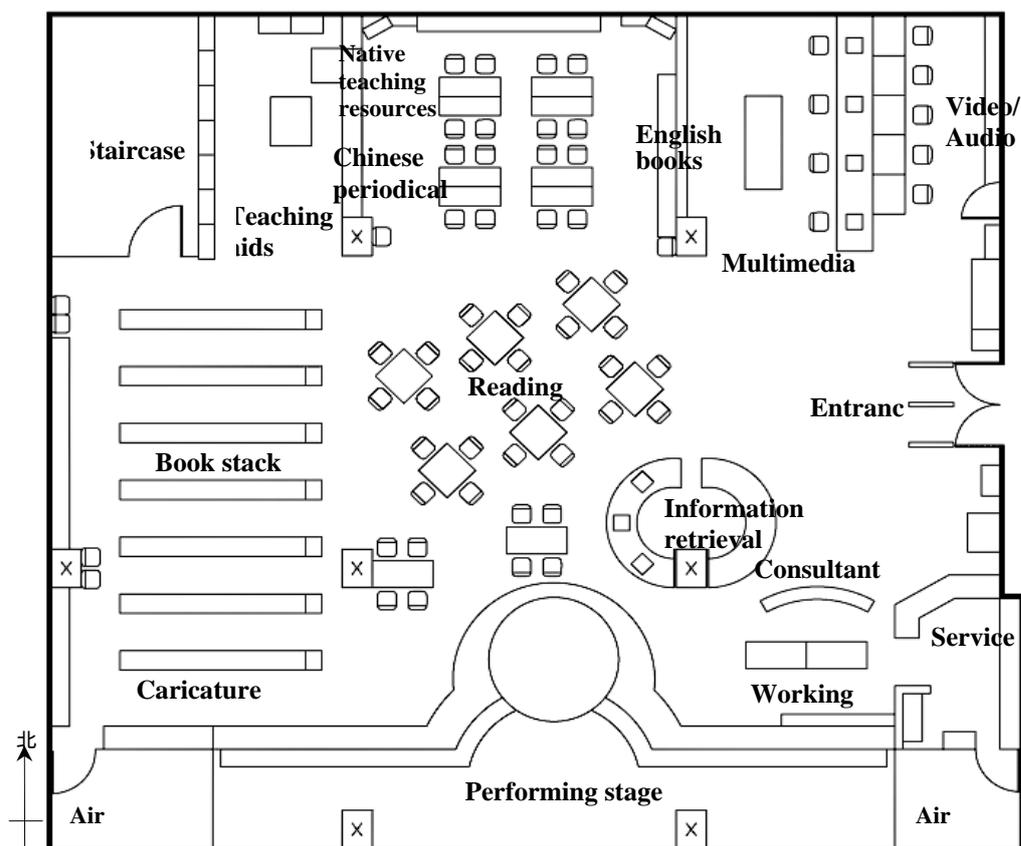
Figure 1 The sketch map of the library

In this research, we adopt observation, semi-structured interview and drawing content analysis methods to gather library usage facts from users' perspectives. Observation is implemented in three months. During this time period, we recorded users' behaviour and activities in the library. According to the data saturation, we interviewed with 14 pupils from different grades and 6 teachers. Painting is a kind of games for children. It is an important way and a vivid language to express children's thinking and emotion freely. In this research, we complement pupils' drawings to express their experience of usage in the elementary school library. Taking the school library as the theme, we had received 181 drawings of pupils from 6 grades. By analyzing the data we have gathered, we attempt to discuss the topics of: the activities that the elementary school library pupils and teachers are engaged in and their experience and reception of space usage in the elementary school library, and the roles and functions that the elementary school library acts.

Research Results and Discussions

The Activities in the Elementary School Library

The main purpose that school library sets up lies in supporting teachers' teaching, collecting multimedia materials to offer diverse resources to teachers and pupils, and improving pupils' capability of utilizing information and the library's resources. In the case school, every class is arranged a reading lesson to use the library weekly. There are two classes arranged to enter the library at the same time about half proportion of classes in one semester. This makes the library space be quite highly utilized.

Besides reading lessons, pupils use the library during the time between lessons mainly. They are engaged in looking for the books, borrowing or returning the books, leafing magazines or comic books, watching audiovisuals, reading newspapers, learning guidance and assistance, doing homework, etc. Teachers sometimes budget time for pupils to join library relevant activities such as the library anniversary celebration, telling stories, library week or month activities, book exhibitions, kinds of festivals activities, etc.

Most frequently, teachers utilize multimedia area of the library to make teaching aids, to prepare teaching materials, to make teaching achievement CD, and to use copying machines. Secondly, they look for books, audiovisuals or teaching aids for their class needs.

The Experience and Reception of Pupils in the Elementary School Library

Besides observing users' situations of using the library space, pupils' drawings can also reveal their understanding of the library space environment. Taking "The Library of My School" as the theme of drawing, we can understand the pupils' images about the space inside the library. The appearance rates of environmental key elements in their drawings, to a certain extent, reflect the degree of attention and experience of pupils. This research collects 181 drawings of describing what the school library is from 181 pupils among six grades. Some example drawings are illustrated in Figure 2.

1st Grade

2nd Grade

3rd Grade
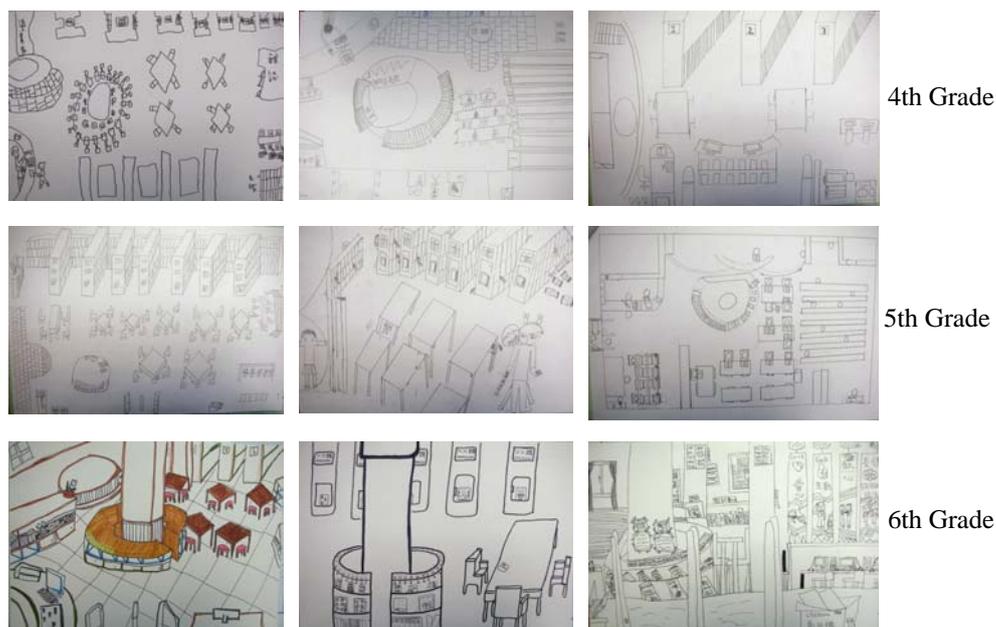
4th Grade

5th Grade

6th Grade

Figure 2 Drawings from six grades

According to the contents of these drawings, we can classify them into two categories: space environment related elements and activity related elements inside the library. The space environment related elements are such as lighting, deployment design, furniture facility, library equipment facility, etc. The activity related elements are those pupils are engaged in. What give the deepest impression to pupils are high book cases (with 85% appearance rate). Next, in sequence, are reading tables (75%), reading chairs (59%), performing stage (56%), the servicing desk (45%) and comic book cases (33%).

Described in pupils' drawings, the activities are mainly related to pupils themselves and library workers, such librarian or volunteers. It is very few activities about teachers. Pupils' have expressed the situations of the activities inside the library. Most of them are the experience of pupils themselves, and the observation of happenings on classmates. The appearance rate of pupils reading is 24% with highest proportion. Finding books in book stacks area is with 23%, and pupils' books lending and returning takes 19%.

About activities of the library workers, most pupils have carefully described the process of borrowing and returning books in the service desk, its appearing rate is 30%. They give profound impression on librarian and volunteers.

Functions and Roles that the Elementary School Library Acts

The elementary school is given the function of the basic education. The meaning, goal and actual function that elementary school libraries set up are different from other types of libraries. The elementary school libraries mainly are to be cooperating with the educational development of schools and supporting teachers' instruction. Thus, these circumstances influence the roles and functions that the library acts inside its space.

Using the elementary school library, teachers mainly conduct pupils to reading lessons, to participating library use instruction and library related promotional activities. However, pupils utilize the library to read, borrow and return books, to join library

exhibitions and activities. Some pupils utilize the library space to write homework, to study lessons, to chat with classmates, and to while away their time. So, the elementary school library acts roles as places for practicing library use instruction, promoting reading activities, assisting learning, supporting instructions, holding exhibitions, providing entertainments, and offering after-school tutorials and individualized instructional supports.

Conclusions

The elementary school libraries have the most appropriate reading environments for pupils and teachers. They are the primary users in the libraries. For library management, it is much important to investigate the library space usage from users' point of views. Adopting the post occupancy evaluation in this research, we record and analyze users' activities in libraries by observation, interviews and painting. We clearly disclose what activities users do, what space usage experience users have and what roles elementary school libraries act. The research results give critical references for elementary school library management in space utilization and maintenance.

Finally, we give some suggestions on the spatial plan and design of the elementary school library to managers for reference in their current or future demand. First, we should establish a concise development plan and identify the roles of this library and design appropriate library furniture for children. It is necessary to regularly examine and evaluate library environment. As utilizing library space, we should reduce interruptions between the classes. Well-allocated sections are critical to promote library usage and can increase library functional effectiveness. It is most important that interior design should be respected to and accepted by children. To plan recreation section for children will be welcome. The library should add some children's interesting elements but not interfere with nice reading atmosphere. Certainly, we need to acquire more materials and facilities that meet the needs of children. And we continue to enhance the usage activities at different library sections.

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Statement of Originality