A study on the dynamic adjustment and optimization of kindergarten regional activity space

【Abstract】

 Based on the theoretical perspectives of spatial sociology, Reggio's view of the environment and Montessori's view of the environment, this paper discusses the dynamic adjustment and optimisation strategies of kindergarten area activity space in combination with cases observed in practice. The current kindergarten regional activity space has problems such as irrational planning and layout, low frequency of updating the environment and materials, and neglect of interpersonal relationships in the space. In response to these problems, this paper proposes an optimisation path centred on the ‘dynamic adjustment mechanism’, which includes changing spatial awareness, vertically upgrading the regional activity space, horizontally expanding the regional activity space, and using assessment tools to promote dynamic adjustment. Through these measures, we aim to create a more conducive regional activity space for young children's growth and development, and to enhance their social-emotional interactions, so as to promote their all-round development.

【Keywords】Regional, young children's, Educational, kindergarten

**I. Introduction**

Regional activity comes from the change of the 20th century of opening up the educational space, transforming the classroom into a place that accommodates different learning centres or play corners, prompting the occurrence of autonomous and spontaneous learning activities, while respecting children's interests and needs to give them the opportunity to make choices, and also with the purpose of constructing intimate and harmonious community relations. [[[1]](#endnote-1) ] Kindergarten area activities are a form of curriculum space organisation based on children's activities, a nesting and penetration between curriculum and space, [[[2]](#endnote-2) ] aiming at obtaining meaningful experiences through the creation of different learning areas for children to learn and explore in autonomous play. In general, these areas usually include theatre play areas, construction areas, science areas, art and craft areas, reading areas, puzzle areas, sand and water areas, music and rhythm areas, etc. Each area provides a wealth of materials and activity opportunities to support the holistic development of young children. Spatial sociology brings a different perspective to kindergarten education space. Kindergarten education space is not just a mere physical space, but a living and meaningful relational space. [[[3]](#endnote-3) ] Regional activity space is an important part of kindergarten education space, and in practice there are still problems such as irrational planning and relatively closed areas. In view of this, this paper is based on the theoretical perspective of spatial sociology, from the actual observation of the regional activity space problems, in-depth discussion of the optimisation of kindergarten regional space strategy.

**II. Theoretical foundations**

In kindergarten education, the adaptation and optimisation of regional activity spaces is of crucial importance, which can be strongly supported by theories such as spatial sociological theory, the Reggio view of the environment and the Montessori view of the environment.

(i) Spatial sociology

From the point of view of spatial sociological theory, space is not merely a container for physical existence, but a product of social relations and social activities; it is both natural and humanistic, contains power relations and is productive. [[[4]](#endnote-4) ] The dynamic adjustment of regional activity space needs to break the traditional 'teacher-dominated' mode of space allocation and shift to the 'child-empowering' logic of space generation, so as to reconstruct the order of power in space. It can be seen that people and space are a two-way interactive relationship. The regional activity space in kindergartens is an important place for young children's social communication and interaction, and young children play in the regional activity space. Looking at the regional activity space from a holistic and macro viewpoint is of great importance to our understanding of young children's play and the promotion of young children's development.

(ii) The environmental perspective of the Reggio educational philosophy

The Reggio educational philosophy emphasises the hidden educational function of the environment as the "third teacher", and advocates the deep coupling of environment and curriculum through dynamic environmental creation and adjustment. For example, the periodic updating of regional materials and the flexible design of spatial layout should be based on the changing interests of children, thus forming an interactive cycle of "environment-curriculum-children". Adjusting the kindergarten area activity space can provide children with a richer, more varied and inspiring learning environment. At the same time, the Reggio view of the environment focuses on the integration of the environment and the curriculum, and the adjustment of the regional activity space can make the content of the curriculum more vividly and imaginatively presented to the children, thus enhancing the attractiveness and effectiveness of the curriculum.

(iii) Environmental perspective of the Montessori educational philosophy

The Montessori view of the environment, on the other hand, emphasises the creation of an appropriate and prepared environment for young children in order to promote their independent learning and self-development. Adjusting the kindergarten area activity space can better meet the individual differences and learning needs of children. At the same time, the Montessori view of the environment focuses on the order and beauty of the environment. Adjusting the area activity space can make the layout of each area reasonable, neat and beautiful, providing a comfortable and orderly learning and living environment for children, and helping to cultivate children's aesthetic ability and sense of order.

To sum up, from the theories of spatial sociology theory, Reggio view of the environment and Montessori view of the environment, optimising kindergarten area activity space is of great significance in promoting young children's social interaction ability, stimulating young children's interest in learning and autonomy, and satisfying young children's individual differences and learning needs, and so on. Kindergartens should pay attention to the dynamic adjustment and optimisation of regional activity space to create an environment more conducive to the growth and development of young children.

**III. Problems**

(i) Spatial planning and layout

The planning and layout of regional activity space in kindergartens is a key issue, but there are many problems in reality. Specifically, it is manifested in the lack of flexibility and change in the planning layout, the relative closure of various areas, the lack of static and dynamic zoning, and the lack of children's private space and so on.

1. Lack of reasonable dynamic line design and static and dynamic zoning

Firstly, in the layout of regional activity spaces in kindergartens, the lack of reasonable dynamic line design and static and dynamic zoning is a prominent problem. Many kindergartens fail to give full consideration to the characteristics and needs of young children's activities when planning regional activity spaces, resulting in an irrational spatial layout. For example, some kindergartens set up quiet areas such as reading areas and construction areas next to more active areas such as performance areas and sports areas, making it easy for children to be disturbed during quiet activities. In addition, the design of moving lines between areas is not very reasonable. When children move between different areas, they often need to go around or through other areas, which not only affects the smoothness of the activities, but also increases the difficulty of management. This lack of design of moving lines and static and dynamic zones not only affects the children's experience of the activities, but also reduces the overall effect of the regional activities.

2. Relative closure between regions

Second, the areas are relatively independent of each other. In a comparative study of play spaces in kindergarten activity rooms in China and the United States, the researchers chose one college-affiliated kindergarten in China and the United States for comparison, and found that the boundaries of kindergarten activity rooms in college-affiliated kindergartens in China were clearer and showed relatively closed characteristics: areas were planned according to the insertion of cards and were strictly regulated by the rules on the number of people; materials were not permitted to cross borders between areas; and the children were required to "stay true to their duties" after they had chosen an area. "loyalty" and cannot be changed at will. [[[5]](#endnote-5) ] Similar problems exist in practice. Although teachers made use of cabinets and decorations for zoning, which to a certain extent was conducive to enhancing children's sense of spatial boundaries. However, too rigid zoning can also result in a lack of openness in the regional activity space. For example, in some kindergartens, the construction area is characterised by spatial fixation, such as being fixed in the corner of the classroom for a long period of time, which leads to limited cross-area interaction among children. This kind of layout not only severs the functional correlation between areas, but also inhibits children's opportunities for social development in cooperative play, which is a significant deviation from the concept of "relational space" advocated by spatial sociology.

3. Less attention to young children's psychological space

In addition, in the of kindergarten regional activity spacedesign , the lack of attention to children's private space is one of the manifestations of the psychological needs neglecting of young children. The psychological space of young children, as a perceivable, emotional and implicit psychological area in kindergarten activities, is another basic dimension that must be considered in the design of kindergarten space structure. [[[6]](#endnote-6) ] Many kindergartens tend to focus only on the physical attributes and functions of the space when planning the regional activity space, while neglecting the emotional experience and psychological needs of young children in the space. For example, when some kindergartens set up regional activity spaces, teachers basically have a panoramic open view for the safety of young children, so that they can see every move of young children. However, it is not difficult to observe that young children often engage in quiet conversations where teachers are not looking. Although young children are still developing, they also need private space. To put it another way, this fails to take into full consideration young childrenthe of emotional experience and psychological needs , and lacks consideration of their psychological space.

(ii) The low frequency of regional environmental creation and material updates

The low frequency of updating of regional activity spaces in kindergartens is a more general problem. It is mainly reflected in two aspects, namely, lagging themes and materials. First of all, many kindergartens tend to invest a large amount of resources at one time in arranging the regional activity space, but the subsequent updating is not timely, and the spatial environment remains unchanged for a long period of time, so it is unable to keep pace with the development of the curriculum and the growth of young children. This phenomenon is mainly manifested in such aspects as regional themes, activity materials and environmental layout. For example, in some kindergartens, the role-playing area has been set up for a long time with a fixed theme, such as "hospital" and "supermarket", which makes the children gradually lose their interest after participating in the area for many times. In addition, the updating of activity materials was not adjusted according to children's interests and needs as well as the curriculum, resulting in a gradual decrease in the attractiveness and educational value of the materials. For example, the curriculum of that month was focused on the Mid-Autumn Festival, but the materials in the area lacked materials related to the theme of "Mid-Autumn Festival" and even remained unchanged. Although the realization of children's in-depth learning in regional activities requires that the activity materials maintain a certain degree of stability, the stability of the activity materials for too long a period of time will easily cause children to lose interest in the materials, and it is difficult to stimulate children's internal motivation to carry out independent exploration, resulting in children's disinterest in the regional activities, [[[7]](#endnote-7) ] not only affecting children's sense of freshness and participation in the regional activities, but also restricting the exploration and learning opportunities of the children in the regional activities. and learning opportunities.

(iii) Less attention to human relationships in space

When planning space for regional activities, most kindergartens tend to focus on physical space and neglect social space. From a sociological point of view, space is a system of relationships, determined by actors, groups or institutions. [[[8]](#endnote-8) ] For example, some kindergartens fail to give full consideration to the interaction and co-operation needs of young children when setting up regional activity spaces, resulting in strong segregation between regions, and a lack of opportunities for young children to communicate and interact with each other in different regions. In addition, the design of the regional activity space also failed to give full consideration to the interaction between children and teachers, and the teachers' participation and guiding role in the regional activities were not given full play. This neglect of the spatial dimension of relationships not only affects the development of children's social skills in regional activities, but also restricts children's opportunities for co-operation and communication in regional activities.

**IV. Improvement measures**

(i) Conceptual: changing spatial awareness to follow the child's orientation

Space does not only refer to the atmosphere or surroundings of the programme, but the programme itself, and there is not only material space, but also rule space, relationship space, psychological space and so on. Kindergartens and teachers should change the traditional spatial awareness, not only focusing on the transformation of the regional environment on the walls, cabinets, desktops, materials, etc., but also focusing on the transformation of the content of children's activities, methods, and relationships with peers and teachers. At the same time, the dynamic adjustment needs to be based on the core concept of child-oriented, teachers should abandon the "one-time design" thinking, the regional space as a continuous evolution of the "living organism", through high-frequency, small step-by-step incremental optimisation, in response to the mobility of young children's development needs. Teachers should fully understand the importance of regional activity spaces to children's development and establish a child-centred space design concept. For example, teachers should establish a dynamic adjustment mechanism for the regional activity space based on continuous observation and assessment. Specifically, they can synchronise the environment with children's development through thematic curricula and children's needs, so as to provide more opportunities for children to explore and learn. At the same time, teachers should also pay attention to children's autonomy and creativity in regional activities, encourage children to explore and experiment freely in regional activities, and cultivate children's independent thinking and problem-solving skills. For example, teachers can organise children to discuss the setting of the space for regional activities and the choice of materials, so that children can put forward their own ideas and suggestions according to their own interests and needs.

(ii) Vertical upgrading of regional activity spaces

1. Keeping up with the times and updating as needed

In the process of planning and arranging the area activity space, teachers should take into account the age characteristics, interests and developmental needs of the children and pay attention to the dynamic adjustment mechanism of the space. The content and materials of the area activity space should be updated in a timely manner according to the children's growth process and curriculum planning, so as to maintain the freshness and attractiveness of the space. However, it is also necessary to take into account the stability of the space, avoiding over-frequent updates and adjustments to ensure that the continuity and stability of children's activities are not affected. For example, kindergartens can make timely adjustments to the themes and materials of the regional activity space according to the change of seasons and holiday themes, so as to provide children with a rich variety of activity contents. At the same time, the frequency of dynamic updating should balance the stability and freshness, kindergartens should also maintain the stability of some basic areas, such as the reading area, the construction area, etc., to provide children with continuous and stable activity support.

2. Focus on relational spaces to enhance young children's interpersonal interactions

Kindergartens should focus on the design of relational spaces to provide children with more opportunities for interaction and communication and to enhance their emotional experience. Regional activity space should be open, and during regional activities, children should be allowed to manipulate materials and play across regions. When planning the regional activity space, kindergartens should give full consideration to the interaction and co-operation needs of young children, and set up areas that promote communication and co-operation among young children, such as co-operative play areas and group activity areas. At the same time, kindergartens should also pay attention to the interactive relationship between children and teachers. Teachers should actively participate in regional activities, interact and communicate with children, and provide timely guidance and support. For example, teachers can set up some co-operative tasks in regional activities and encourage children to work with their peers to complete them, so as to cultivate children's sense of co-operation and team spirit.

3. Creating private space and maintaining psychological space

Kindergartens should pay attention to the psycho-spatial needs of young children and create private spaces to provide a sense of security and belonging. In regional activity space planning, relatively independent small spaces can be set up, such as reading corners and quiet zones for children to carry out quiet activities and relax their minds and bodies. At the same time, kindergartens should pay attention to young children's emotional experience and provide rich activity content and materials to satisfy their emotional needs such as a sense of pleasure and achievement. For example, comfortable chairs and abundant books are set up in the reading corner so that children can feel pleasure and satisfaction in reading.

4. Reasonable planning of the dynamic line, to achieve static and dynamic zoning

Kindergartens should lay out the regional activity space scientifically, pay attention to functional zoning and path planning, and provide children with reasonable activity paths and an open spatial environment. When planning, quiet areas (e.g., reading area, construction area) and active areas (e.g., performance area, sports area) should be placed on different sides of the classroom to reduce mutual interference. At the same time, we focus on pathway planning to ensure that children can move smoothly between zones to improve space utilisation and ease of movement.

(iii) Horizontal expansion of space for regional activities

1. Spatial integration and rational use of corridors, hallways and functional rooms

Kindergartens should optimise the allocation of spatial resources and incorporate spaces such as corridors and hallways and function rooms into the regional activity space system, in order to expand the range of activities and opportunities for young children. For example, corridors and hallways can be made into small activity areas, such as nature observation areas and art display areas, so that children can carry out exploration and learning activities in these spaces. At the same time, the music room, art room and other functional rooms are fully utilised to carry out special regional activities, providing children with rich activity content and experience. Through the rational use of these spatial resources, kindergartens are able to create a more diverse and pluralistic activity environment for young children, thus promoting the comprehensive development of young children.

2. Building on the whole-park perspective and developing linked designs

Kindergartens can build up a theme-based regional activity system for the whole school, so that the regional activities of each class can be closely organised around the same theme. For example, taking the theme of "Four Seasons" as an example, each class creates corresponding areas according to the characteristics of the seasons, such as "garden" in spring, "beach" in summer, "orchard" in autumn, "snow" in winter, etc., so as to promote the children in different classes. The theme of "Four Seasons", for example, is based on the characteristics of the seasons. For example, "Garden" in spring, "Beach" in summer, "Orchard" in autumn, "Snow" in winter, and so on, so as to promote the exchange and interaction of children in different classes. In addition, specific regional corners can also be set up in different classes to carry out thematic activities. For example, a kindergarten has implemented the "five-nine" shift activity, i.e., each class is divided into a regional activity, and the children in the whole kindergarten can move freely between the different areas in different classes. Kindergartens can also implement the "whole school shift system" to achieve dynamic sharing of space. To a certain extent, this model expands the scope of regional activity space, making regional activities more rich and diverse.

(iv) Use of assessment tools for dynamic adjustment

Assessment tools play a key role in facilitating the dynamic adjustment of regional activity spaces in kindergartens. By selecting appropriate assessment tools, conducting regular assessments, analysing the results, formulating programmes, implementing adjustments and continuous monitoring, kindergartens can continuously optimise the area activity space and provide a richer and more appropriate learning and activity environment for children. These assessment tools can provide kindergartens with scientific and objective data support to help teachers and administrators make reasonable decisions. For example, observation records can be used to keep detailed records of children's activities in each area, such as activity time, content, points of interest and social interactions, helping teachers to understand children's activity patterns and needs. In addition, quantitative assessment of regional activity spaces can be conducted through standardised environmental assessment scales. The key lies in in-depth analysis of the assessment results, according to which practical adjustment plans can be formulated and gradually implemented, along with ongoing monitoring and optimisation, in order to achieve continuous improvement of regional activity spaces.

Conclusion

The dynamic adjustment and optimisation of kindergarten area activity space is a difficult problem in actual teaching, and effective adjustment and optimisation is of great significance in improving the quality of early childhood education. Based on the theoretical perspectives of spatial sociology, Reggio view of the environment and Montessori view of the environment, this study systematically analyses the core problems of the current kindergarten area activity space and proposes strategies to solve them. However, this study still has certain limitations. As a theoretical framework construction type study, the effectiveness of its strategies needs to be further verified through subsequent empirical studies. In conclusion, the optimisation of kindergarten regional activity space is a long-lasting and systematic process involving all aspects of kindergartens, which requires not only theoretical integration but also practical innovation.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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1. [↑](#endnote-ref-1)
2. [↑](#endnote-ref-2)
3. [↑](#endnote-ref-3)
4. [↑](#endnote-ref-4)
5. [↑](#endnote-ref-5)
6. [↑](#endnote-ref-6)
7. [↑](#endnote-ref-7)
8. **[Reference]**

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