

The Leadership of the Principals in Space Management: Principle and Pattern

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Introduction

The theory of educational leadership has been developing rapidly for over 110 years since 1900. Leadership had already become a research goal widely in the early twentieth century and it was proved that the empirical studies had exceeded three thousand cases (Lunenburg & Ornstein, 2008). After 1980s, more and more new theories of educational leadership have been published: Chin (2010) new book about educational leadership discussed fifty-five theories of educational leadership. Yeh (2011) analyzed 150 ideas of educational leadership and built the ideal system structure. The leadership of space management was one of the newest theories of educational leadership.

A teacher's attitude and behavior will be improved and influenced directly and indirectly by the space planning and facility quality of his/her school, in the same way a student's attitude, behavior, achievement, learning patterns, physical and mental health, value, thoughts, personality development, and educational quality and accomplishments are directly and indirectly influenced by school space planning (Chih-Min Tang, 1991, 2006a; Wen-Ching Liao, 2011; Al-Enezi, 2002; Earthman, Cash & Van Berkum, 1995; Hines, 1996; Lanham, 1999; Maxwell, 1999; O'Neill, 2000; Smith, 2008; Tanner & Langford, 2003; Yarbrough, 2001). Therefore, for the United States, over 297 billion U.S. dollars were spent on the campus building of middle and elementary schools in the span of seventeen years (from 1995 to 2012) (Moore, Enderle, Reedy and Abramson, (Eds.), 2012). In the United Kingdom, 6.4 billion pounds were invested in 2007/08 and then the investment was increased to 8.2 billion pounds in 2010/11 to make sure the students' learning environments meets the high standards of the twenty-first century (PricewaterhouseCoopers, 2008). Over the past twenty to thirty years, the Department of Education and the education bureaus of counties and cities in Taiwan have been investing at least 10 to 20 billion New Taiwan dollars each year on projects to improve and promote the school campuses and facilities of middle and elementary schools (Chih-Min Tang, 2010).

Due to these investments happening around the world, Chih-Min Tang (2008a, 2008b, 2008c, 2009a, 2009b, 2011a) initially brought the discussion of space leadership to the public to explain its meaning, methods for application, strategies, patterns, and structures. Both the research and practice of space leadership developed rapidly and they were emphasized and well-concerned day by day. To provide more input for the development of educational leadership, this paper focuses on the principles and patterns of principal space leadership.

The Principles of Space Leadership

The leadership of space management is a complex process. In order to meet the different needs of school faculty, students, parents and communities regarding school education, curriculum design, instruction methods, and school administration, it shall follow six principles: team cooperation, guiding by vision, overall planning, management of innovation, sustainable development, and participation in every stage.

Team Cooperation

The Principal space leadership shall be based on team cooperation, and cannot be done independently by a single person. School space planning and development involves curriculum and instruction design, administration and operating pattern, resource allocation and fund utilization, school image and community relation, and needs of faculty, students, parents and communities. It is necessary to form a leadership in space management team, select an architect, invite experts in school building architecture, representatives from school board, and representatives from community to integrate school vision, space conditions, user needs, funding and resources, school management strategy, so as to facilitate sustainable development of school education.

There is a stronger emphasis on team work in principal space leadership compared with other educational leadership styles. Three categories of principal space leadership exist: (a) team work with the principal taking the leading role, (b) team work with the principal taking a supporting role, (c) team work without participation from the principal. Team work also involves team learning. It is necessary for the team to visit newly established schools, excellent schools, benchmark schools, and featured schools frequently, to accumulate more common experience so as to focus team's consensus building, raise effectiveness of team cooperation, and promote agreeable or likable campus and democratic campus participation in space leadership.

Guiding by Vision

The leadership of Principal in space management shall be guided by vision. Vision is the grand objective and direction of school management. Vision is also the ideal future image of the school. School space is part of the overall soft and hard resources and environment of the school as well as the most important environmental infrastructure of school education. There are several ways or means of education: educating by (personal) example, educating by verbal instructions, educating by surrounding, and educating by system rules. Educating by surrounding as a means of education cannot be ignored, and shall be well utilized and guided by the vision of the school. This can promote education mood, curriculum, teaching instruction, student learning, school administration, and public relation with the community. This can guide a school in establishing its space features, and advance its education development.

There is a stronger emphasis on the direction of principal space leadership compared with other educational leadership styles. Two categories exist: (a) space vision that is dominated the guiding vision of the school (b) space vision that is not dominated the guiding vision of the school. The vision is based on the constant principle, and has the ability to visualize the future; the spatial environment of the school may change quickly, adapting to changes in resource conditions, education policies, environmental policies. Vision may be properly adjusted at the right place and at the right time.

Overall Planning

Overall planning must be taken into the consideration in the leadership of principal in space management. Compared with other types of educational leadership, principal

space leadership puts more emphasis on resource utilization integration and overall planning. Two overall planning categories exist: (a) Overall planning that integrates resources that are both inside and outside the school, (b) Overall planning that integrates only the resources that are inside the school. Overall planning is resource integration and deployment, taking into consideration of the fairness, efficiency, and effectiveness of resource integration, distribution, and utilization. It shall be noted that the whole is not the sum of the parts. The advancement and operational effectiveness of leadership in space management can only be maximized by exerting the effect of $1+1>2$.

The Management of Innovation

The leadership of Principal in space management shall have an innovative spirit. The scope of innovative management of school includes the following areas: education environment, school administration, curriculum design, teaching methods, learning resources, and community relations. A school may use campus spatial planning, organization structure and its utilization to improve education mood, pull ahead curriculum design, lead education innovation, enrich learning resources, promote administration innovation, and expand community relations. This will create campus environmental features, enhance school image, and facilitate education development. There is a stronger emphasis on innovation management in the principal space leadership compared with other educational leadership styles. Two categories exist for innovation management: (a) innovation in administration orientation, (b) innovation in curriculum instructions. Innovation management is the energizer for raising the effectiveness of education. Innovation shall involve new mood and new image. It shall take advantage of school conditions and special characteristics of the school, and convert disadvantages. Innovation shall help form special features and unique characteristics for the school. Innovation shall put education vitality into campus buildings, and enable the space leadership to have more substantial influence.

Sustainable Development

The leadership of Principal in space management is not a fad. It puts emphasis on sustainable development. Education is a long term process and requires multi-decade long term commitment. There shall be a circulatory system which is designed based on a comprehensive and detailed plan that takes into consideration of education methods, curriculum instructions, funding budgeting, resource conditions, space infrastructure, and operational pattern. This system makes the campus space plan better integrated with school education ideals, and enables sustainable operation and development.

There is a stronger emphasis on sustainable development in principal space leadership compared with other educational leadership styles. Two categories exist for sustainable development: (a) sustainable development with green building as its core, (b) sustainable development with operational planning as its core. The key to sustainable development is recirculation. The funding or budget for sustainable development cannot be too small or too big. Too small a budget causes difficulty in spending. Too big a budget results in debt to be paid by future generations. There shall be a system pattern such that campus construction has inputs, process, outputs, and feedback support. This pattern shall enable recirculation of funding resources,

promote sustainable development of campus operations, and enable perpetual advancement and influence of space leadership.

Participation at Every Stage

The leadership of space management involves tasks at different stages. Campus planning is a complex process that involves planning, design, construction, operation, and evaluation after completion. Every stage has its own different expectations, tasks, participants, campus environment, and education policies. These factors joining together at different stages create a unique participation mechanism for space leadership. Special attention must be paid to the consistency and continuity of leadership participation across multiple stages so as to enable the implementation.

There two categories of stage participation for principal space leadership: (a) full participation, (b) semi-participation. The key to stage participation is continuity and connection. It requires core leadership team members to fully participate at all stages in order to effectively enforce and implement decision of space leadership.

The Methods of Space Leadership

School space has a close relationship with curriculum, teaching, learning, administration, and community. School curriculum, teacher's teaching, student's learning, school administration, and community relations all require support from school space and school equipment (Tang, Chih-Min, 2008). Furthermore, school spatial planning and infrastructure operations may facilitate curriculum design, enhance education and administration effectiveness, and improve community relations. According to the research of Tang, Chih-Min (2008a, 2008b, 2008c, 2009a, 2009b, 2011a, 2012), the methods of space leadership consist of the following: using space planning to promote education mood, pull ahead curriculum development, lead teaching innovation, enrich learning resources, improve administrative innovation, and expand community relations.

Using Space Management to Promote Education Mood

School is an environment for education. A school's education ideals, development vision, and organizational culture require the support from the school's space and equipment to promote overall education mood. Relatively speaking, the architecture style of school building, space allocation, and equipment installation may vary from school to school due to the differences in education visions and development ideals.

In general, schools with large space, new or innovative equipment, buildings with elegant architecture design may enhance staff and students characters, students learning motivation, mood, attitude, and accomplishment.

Using Space Management to Pull ahead Curriculum Development

School provides space for education. School equipment may change with curriculum or course. For example, the equipment standards for ordinary high schools of Taiwan, was modified and published in 2005, then was modified again in 2008 due to the implementation of the 2009 curriculum guideline. This shows the interdependency between class room (space) and curriculum/course. Consequently, one of the methods of space leadership is using space plan to pull ahead curriculum development.

Using Space Management to Lead Teaching Innovation

School provides a place for education. Education objectives, process implementation, the rise in education quality and education effectiveness are closely related to the newness/novelty, refinement, and diversity of educational space and equipment. In general, the size of the space and quantity of the equipment affects the headcount capacity. The shape of the space and the arrangement of the equipment affect the quality of instruction. Space preparation and equipment function affect efficacy of education. Consequently, using space to lead teaching innovation is one of the methods of space leadership.

Using Space Management to Enrich Learning Resources

School provides a location for education. The subjects of education are students. A school's space and equipment plan must have its core consideration focused on the student population which provides most of the users. It shall satisfy the physiological and psychological needs of the students during studying and relaxation. The need for learning resources can affect school space planning. School space planning could also affect student living and rest, and classmate interaction. Abundance in learning resources facilitates diversity in student activities, and a colorful student life. On the other hand, excessively simple and crude learning resources could slow down student learning and interaction. Consequently, using space to enrich learning resources is one of the methods of space leadership.

Using Space Management to Promote Administrative Innovation

A close relationship exists between the administration, management and operation of a school and the space and facilities of a school campus. For example, the mutual communication within each office of a school and the daily affairs of the teachers and students can have their influence on the pattern of the campus space management and the application of the facilities, so as when and how the campuses are allowed to be opened could be related to the application of the space and facilities of a school. Efficient administration needs to be supported by the space with efficient function. The maximum administrative efficiency can be produced with the minimum expense, labor, and resource operation if the architecture space and facilities of a school are well planned, managed and operated. This means that the space management and the operation of the school facilities can influence the administrative performance of a school. Therefore, using space management to promote administrative innovation is one of the patterns of the space leadership.

Using Space Management to Expand Community Relations

To have schools reach out to their surrounding community and to have the community function like a school, an organized school can become an important cultural and educational center in its surrounding community. The concept of directing a school into its surrounding community enforces the close connection, importance and value of combining the school and the community into one body. It is a necessary trend to build, plan and develop a school that will work closely together with its belonging community. Well-planned space can bring positive interaction and development to both the school and the community. They shall be living in the state of benefiting

each other and going into blossom and harvest together. Therefore, using space management to broaden the community is one of the patterns of space leadership.

Conclusion

Building the space into a learning environment can have substantial influence on the education of the surroundings. The ideal thinking and opinions related to education from a principal or leading personnel of a school can bring innovation and development to the school space and education by setting up a well-planned and well-designed learning environment. When applying to practice, space leadership should control the six principles which are team cooperation, guiding by vision, overall planning, innovation management, sustainable development, and participation at every stage. The six patterns of space leadership include using space management to promote education moods, pull ahead curriculum developments, lead teaching innovation, enrich learning resources, promote administrative innovation, and expand community relations.

To sum up, space leadership is one of the newly-developing theories of educational leadership. Related research of the theories and building of the structures are still needed to have more enthusiastic people to participate and make efforts to plant in this field so that high quality creative education, excellent leadership and learning environments can be seen in the near future while promoting school space innovation and school education development.