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Urban Design for Inclusive Learning Space: The Design of Urban Space for People with Special Needs in Bangkok Metropolis

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ABSTRACT

An inclusive society is crucial for sustainable development. Herein, the aim is to include people with diverse needs such that everyone has the right to freedom of expression, respects humanity, and has the potential for learning and self-development. This study is the second part of a research under the same title. The whole research used both quantitative method and qualitative method. The article is using qualitative methods to present guidelines for designing and improving the design of public learning spaces for people with special needs. Eighteen experts were recruited by purposive sampling. A snowball technique was also used whereby one-on-one in-depth interviews were held via an online platform to elicit data. Accordingly, a semi-structured interview was developed. Interview questions were related to each group of experts. Three specialists were skilled in special educational psychology and two psychiatrists. Five specialists were urban design and landscape architects. Three officers were attached to the social development department along with three parents and two people with special needs. After the interview, data were transcribed verbatim, then analyzed, using the content analysis technique. The findings were reread several times before proposing guidelines. The challenges that face Bangkok Metropolis to create public learning spaces that can support people with special needs are numerous. Demands are many, including the misconception of an inclusive city for all, lack of basic safety in accessing and using public spaces plus a lack of landscape architects who understand people with special needs. Guidelines are needed to design friendly spaces that support learning for people with special needs. Moreover, society has to understand and accept the differences in others. Changing the mindset of society from “social welfare” to “welfare state” drives the mechanism of “being part of the decision-making process” to “participatory decision making”. Besides, experts must be hired who are skilled in special education and can integrate social agencies to support the quality of life for people with special needs. It is vital that the Bangkok administration provide more independence to local sectors to carry out policies required in their neighborhoods.

Keywords: Bangkok, Inclusive, People with special needs, Urban design, Urban space

Introduction

Nowadays, Bangkok Metropolitan region faces many challenges: its diversity, its increase in multicultural expansion plus the changing trend of urban living lead to the demands for investment in the development of urban spaces. The challenges of designing public spaces to support the diversity of people, particularly marginalized and vulnerable groups as well as the general public, are problematic; everyone has the right to access public spaces (Public space & the right to the city, 2019).

People with special needs are persons who have difficulties or health problems, which limit their activities or persons with physical, mental and/or intellectual impairment. In 2022, a survey by the National Statistical Office of Thailand reported that the number of people with special needs increased slightly over the last five years. People with special needs who had health problems increased from 4.1 to 4.7%. The main difficulties were mobility problems. Those with disabilities aged 5 years and over had increased from 84.2% in 2017 to 85.9% in 2022. In contrast, those in employment aged 15 years totaled 21.2%. Of working age persons, 35.9% were in full-time employment. As for the elderly, only 13.4% were employed. Compared to a survey in 2017, these percentages were found to be lower. It is noted that 99.1% and 94.7% of people with special needs have access to government health insurance and health promotion services, respectively. As such, 37.2% had unmet public welfare needs, such as insufficient disability allowance, and difficulty accessing personal assistants. As for medical treatment, 4.1% were unmet, and just 9.2% received rehabilitation services. People also suffered from a lack of assistance to take them for treatment and found queues long and transportation inconvenient (Department of Empowerment of Person with Disabilities, 2022; UNICEF, 2022)

As for the concept of an inclusive city, the Bangkok government must make many changes. Such changes require the collaboration of all stakeholders, starting with the process of empathizing by deeply listening to the needs and problems of everyone. As a local government, Bangkok Metropolis should act as a mediator to connect every sector to gather opinions from both the public and private sectors to be able to respond to the true needs of each one (Musigakama, 2023). In this research, the “Inclusive learning spaces” are public areas that people with special needs may use, access, and participate in, gathering to engage with others in the community. Roads, walkways, streets, parks, and other features that improve people's quality of life, health, and awareness with the least restrictive environment are included.

The Center for Universal Design (Case, 2003) proposed seven principles of universal design suites in the field of architecture, product design, and education. These principles included: 1) Equitable use, which is designed to fit the needs of diversity, privacy, and equity of each individual, 2) Flexibility of use, which is designed for users with a wide range of needs and abilities, 3) Simple and intuitive, which is designed to be easily accessible by users with varying backgrounds and experience, 4) Perceptible information, which is the effectiveness of communicating design i.e. visual, words, and touch, 5) Tolerance for error, which is designed to prevent accidents or danger, 6) Low physical effort, which is related to comfort and effectiveness, and 7) Size and space for approach and use, which is designed to relate to the location of sites and accessibility. In 2017, Wang and Cai indicated five aspects of spatial qualities: ecological conditions, spatial conditions, connectivity, atmosphere, and occupancy.

In our research, our aim is to answer how the guidelines of urban design can support learning for people with special needs in the Bangkok area. This group of population, so called marginalized group, is restricted to specific city areas. To live their lives and be part of society, these people need a great deal of support and guidance to overcome their imbalanced sensory perception or disfunction of sensory integration (Children with special needs, 2019). Designing urban areas in the Bangkok Metropolis is a challenging issue. There is still no widespread

integration of urban design science and learning for people with special needs. It is our aim, therefore, not only to fulfill the perception and learning potential of people with special needs but also to provide a guideline for urban design that has a positive impact on the equity and accessibility of services and spaces so that the Bangkok Metropolis can be an inclusive city.

Literature Review

Twelves senses

The human body is a sense organ. Therefore, we perceive the world using sensory perceptions i.e., eyes, ears, nose, tongue, and skin. All of those are physical doors to perception which our brain is the processor. The brain is a functioning system, the earliest processes include processing and interpreting signals which a healthy sensory integration leads to appropriate behaviors (Schaaf & Davies, 2010). In line with the notion of Anthroposophy—A spiritual science initiated by Rudolf Steiner an Austrian philosopher, artist, and social reformer. Moreover, it is the drive to foster the soul's vitality in both the individual and human society (May & Nordwall, 2014). For people with special needs, the three elements of the world perception are imbalanced: thinking, feeling, and willing, which physical development affects emotions and thoughts. It is crucial that the human being understanding lays the foundation to create a positive inclination (König, 2009; Waldorf publication, 2016).

According to Steiner, there is a continuum development of the twelve senses according to the ages. The first seven years, four lower senses are developed includes sense of touch, sense of life, sense of movement, and sense of balance. The age of 7-14, the middle senses are developed which related to the individual feelings or emotions includes sense of smell, sense of taste, sense of sight, and sense of warmth.

Steiner asserts that the twelve senses develop in a continuum over the ages. The four lower senses—sense of touch, sensation of life, sense of movement, and sense of balance—develop throughout the first seven years of life. Between the ages of 7 and 14, the middle senses—smell, taste, sight, and warmth—that are connected to personal experiences or emotions begin to emerge. The third phase, which lasts from 14 to 21, is when higher senses, or thinking development, such as hearing, speech, thought, and other ego senses, are formed. Because the higher senses are linked to the lower senses, if a child has poor or unhealthy lower senses including negative experiences early in life, their capacity to think as an adult will be disrupted (Sripakdee, 2018).

How we conduct our lives is influenced by the idea of sensory integration and the twelve senses. Developmental problems include motor skills, balance, communication, emotional expression, and social abilities when sensory integration is out of balance. In order to promote strong sensory integration and the healthy development of all senses, it is crucial to start providing high-quality care at very young ages.

Designing urban space for people with special needs

According to Pineda and Corburn (2020), since before the pandemic, persons with special needs have been impacted by health difficulties. Issues they deal with, such as limited access to services, joblessness, and physical barriers like roads or transit. The government must make changes to ensure that smart cities are inclusive and healthy for everyone, as the technology of smart cities is not currently accessible to people with special needs. Universal design, fair accessibility, and public participation in the planning process are necessary to attain urban health equity. The social model of disability policy, which views impairments as restrictions imposed by policies rather than by individuals, must serve as its foundation. Among the recommendations for creating an inclusive city during the pandemic are:

1) Arranging information in a way that makes it easily available to all. A range of readily comprehensible forms, including as audio, braille, and e-pub, must be used to convey

information regarding public health and wellness. 2) Inclusive decision-making by listening to organizations involved with people with special needs to ensure that they receive responses according to their needs, rights, and respect as individuals. Urban management should take a participatory approach when creating and enforcing rules, and the universal design concept is essential for implementing the rights of people with special needs. 3) Accessibility by ensuring continuity of care and social support by giving individuals with special needs access to services like health and assistance to help with everyday tasks. 4) Financial assistance for people with special needs to guarantee that living expenses, such as transportation, food, and other amenities, are not too expensive. 5) Non-discrimination, people with special needs are frequently have negative images which hinders their ability to receive care, work, and other forms of supports. Therefore, strict anti-discrimination and worker protection legislation should be put in place by the local administration. so that people with special needs can obtain employment and medical care.

The research framework was created using the notion that people are sense organs, with twelve senses that encompass comprised body senses, soul senses, and thinking and processing (Waldorf publication, 2016). The five principles of public design included 1) put people at the center of the design process; 2) recognize diversity and difference; 3) provide options when a single design solution cannot serve all users; 4) allow for flexibility in use; and 5) create environments and buildings that are easy and pleasurable for everyone to use (CABE, 2006). Plus Pupphachai's (2019) statement that it is necessary to identify the quality of urban spaces in terms of user and activity, direction, comfort and image, sociability, and access and connections. Additionally, Pineda and Corburn (2020) suggestions indicate that government activities should address the needs of all community members, including people with special needs. Adopting social models of disability—namely, 1) accessible information access, 2) inclusive decision making, 3) accessibility through social support and continuity of care, 4) economic assistance, and 5) non-discrimination—is also necessary to promote equality in urban health.

In this research, four domains were developed: 1) usage and activities, 2) access and linkage, 3) social interaction, and 4) perception, which included ten indicators of the conceptual framework (Thanapet et al., 2022).

Methodology

The first part of the research was conducted as a needs assessment survey using a single-response questionnaire. The second part of the research was brought-out from what have been found in the first part of the research, conducted with the questionnaire. This significant finding is that; 1) the people with special needs tend to use mass transits rather than walking to neighborhood services, 2) 31.5% of the sampling ‘never’ went to the museum and 36% ‘rarely’ went to the nature. 3) people with special needs and the guardian or family concern with different benefits when they went or planned to the public learning places, and 4) people with the special needs concerned about how they could become the part of the society and belonging to the activities.

To understand, to explain, and to give the suggestion to what has been found in the first part, the second part (this article) conducted using a qualitative method. The aim of this part of the study is to present guidelines for designing and improving the design of public learning spaces for people with special needs. To fulfill this part of the study, nine experts were recruited, applying one-on-one in-depth interviews via an online platform, employing a snowball sampling strategy after purposive sampling until the data is saturated. A semi-structured interview was developed. Interview questions were related to three groups of experts (including special educational psychology or psychologists, urban designers or landscape

architects, and parents of people with special needs who run institutes or organizations for the supportive quality of life of people with special needs). Purposive sampling defines the selection criteria for experts as having at least a bachelor's degree and at least five years of expertise in their specialty.

The experts assembled included three specialists in special educational psychology, two psychiatrists, five specialists in urban design or landscape architecture, three officers from the social development department, three parents and two people with special needs. An online interview conducted using the Zoom meeting platform lasts between sixty and ninety minutes for each person. Following the presentation of the need assessment findings, the researcher invited experts and informants to share their thoughts on how to design public learning spaces that are suitable for people with special needs. Content validity was judged by a panel of experts. The calculated item objective congruence (IOC) Index was found to be 1.00, which verified that the interview form was of a high quality.

After the interview, data were transcribed verbatim. Then, the findings were analyzed using the content analysis technique. Eight characteristics emerged from the interview. In order to employ thematic analysis, the researcher follows five steps 1) study and analyze the data; 2) code noteworthy aspects; 3) generate themes; 4) examine themes; and 5) define and name themes (Braun & Clarke, 2006). Before the findings were proposed, the data was scrutinized thoroughly and discussed among the researchers.

Findings

1. Challenges in term of changes

Both social interaction and place awareness lead to learning abilities. Lack of social interaction and spatial awareness will affect the learning process. It is acknowledged that people with special needs want to be independent and have freedom to live their lives. However, Thai parents are overly protective towards people with disabilities in their families to live independently. The perceptions of both groups i.e. people with special needs aged over 15 and their parents are different in accessing and using public spaces for learning in Bangkok Metropolis. Both groups lack the understanding of what public spaces for learning should be:

> *"...person who have difficulties by birth have difference perception, they didn't have the idea of normality..."*
>
> *(Lecture in architecture department, 2022, Oct. 25)*

> *"...The readiness of personnel who can promote emotional support is rated at about 1-2 out of 10, which is very low...there is still no effective emotional management curriculum...therefore, if there is no good curriculum, there is no point in discussing what to do next...we might work in small, specific areas, using a process to identify the specific needs of those areas and then design activities that are suitable for the children's needs in those areas...since this is abstract, we need to develop the personnel or facilitators first."*
>
> *(Director of the Rajanagarindra Institute of Child and Adolescent Mental Health, August 24, 2022)*

1.1 Lack of basic safety in accessing and using public spaces

Nowadays, Bangkok public spaces are lacking in maintenance and are not safe due to the lack of supervision. There are many agencies or organizations under the administration of Bangkok that are in charge but work separately from each other:

> *"…if people who live in Bangkok area feel not safe enough, this area is lack of basic safety for people with special needs for sure, there are limited public spaces where children can access, even footpath to get to the park is not easy for the trolley…"*
>
> *(Architect, 2022, Oct. 25)*

1.2 Lack of landscape architects who understand people with special needs

Bangkok still lacks job positions for landscape architects who specialize in physical design. In particular, administration officers who work with public facilities and services should have the knowledge and awareness related to inclusive education. People with special needs have difficulty in accessing public spaces. Public spaces are poorly maintained e.g. pavements need replacing. Pavements are in such a bad condition, they prove to be a hazard to pedestrians:

> *"…our city is designed for people with physical disabilities, but not for people with learning or behavioral disabilities…urban design should be aware of the different needs of users…"*
>
> *(Lecturer in architecture department, 2022, Oct. 25)*

> *"…Our agency currently lacks landscape architect positions. We are using architects to design parks, which lacks the necessary expertise...The short-term solution is to hire external landscape architects. The long-term solution is to create positions for landscape architects within the office..."*
> *"…The department managing and maintaining parks in Bangkok is trying to improve the physical areas and characteristics of the parks to align with universal design principles, such as ramps, accessible restrooms, and other amenities. However, wayfinding signage, symbols, zoning, and activity programming are still lacking. The Environmental Office primarily focuses on the physical aspects of park maintenance...except for the Butterfly and Insect Park, which has a unit under the Environmental Office's supervision responsible for educational activities...External or internal agencies coordinate educational activities on a case-by-case basis..."*
>
> *(Director of Parks Division, October 7, 2022)*

1.3 Overwhelming sensory stimuli environment

An environment that is overwhelmingly stimulating to the senses i.e. an environment that has light, sound, color, smell, images can be overwhelming to people with special needs, especially those who have delayed development or behavioral disabilities. As such, their sensory perception is too sensitive and they are bewildered by such stimuli:

> *"…air conditioning creates unpleasant noise, as well as an escalator. Parents have to be observers to find what triggers people with special*

needs...In nature, our children can stay for quite a long period of time…"

(Parent, 2022, Aug. 24)

2. Eight characteristics of a friendly community for people with special needs.

According to opinions from experts, parents, and representatives of people with special needs, it is found that a friendly community and a city for people with special needs is comprised of eight characteristics as follows:

2.1 Adjusting mindset and understanding towards people with special needs

"…Once they enter the system, their quality of life will improve, and they will receive better care... When we design learning spaces and environmental ecosystems, the information will become clearer, and no one will be left behind."

(Chairman of the Thai Autism Foundation, August 23, 2022)

People who have disabilities are not caused by karma, or beliefs: disabilities are innate. It is essential that people with special needs should shift their mindset from being passive or dependent to be more proactive or independent. People with special needs belong to society and have the right to be respected by society.

"…opportunities and challenges in developing a high-quality public learning spaces include the right attitude towards people with special needs of Thai society. Since they are viewed as the second class in society, moreover, special education in Thailand is centered on giving or donations…"

(Lecturer in the division of special education, 2022, Aug. 23)

2.2 Changing the perspective from "social welfare" to "welfare state"

"...The foundation of Thai society developed from a welfare system...Giving and donating have always resulted in individuals with special needs being marginalized...When people go to feed the needy at a foundation, the givers feel fulfilled...But regarding the sharing of space, there's a sense of disgust...Why don't they just go live somewhere proper...?"

(Professor, The Faculty of Education, Chulalongkorn University, August 23, 2022)

"…the essential needs of people with disabilities to achieve a standard living condition require more resources... and each type of disability requires the principle of equity, not equality... because the essential needs are not the same... assistance through public investment should be made available to everyone... however, special assistance is the part that the state must invest in to ensure access to learning... through the preparation of access needs assessments or welfare that responds to needs, not a welfare system that distributes equally to everyone."

(Professor, Ratchasuda College, Mahidol University, August 30, 2022)

Collaboration between government agencies and private sectors must cooperate with stakeholders to create a mindset of social wellbeing. Social services must benefit all.

2.3 Shifting the mechanism of “being part of the decision-making process” to “participatory decision-making”

> *"...Currently, there are still limitations in using public spaces to promote learning, meaning they may not be accessible or, if accessible, may not be usable... Each type of disability has specific needs... Universal design must encompass everything that allows people with disabilities or those with various limitations to access it, and even within different age groups, needs may vary..."*
>
> *(Medical Doctor and Expert, Department of Mental Health, August 23, 2022)*

The voices of people with special needs must be heard. In solving problems, stakeholders are seen to be responsible for feedback. Without representatives to uphold the views of people with special needs, the opportunity to be heard is limited.

2.4 Hiring experts who are qualified in special-need design

> *"...Bangkok does not have experts in designing public spaces for learning. There are only areas, land, and budget, but a lack of knowledge and expertise in design... due to overwhelming responsibilities... it is not possible to learn in this area... it is necessary to find a network... educational institutions and organizations with specialized expertise to collaborate in the form of a working group or team..."*
>
> *(Director of the Public Parks Division, October 7, 2022)*

In the Bangkok administration, there is a lack of urban and landscape architects who have an understanding and awareness of people with special needs. In this respect, Bangkok administration is most ineffective. Lack of manpower and ignorance of providing positions for urban architects are pushing the cost of public services onto the private sectors.

2.5 Organization of living well in the city

> *"...Being a member of the community, being accepted by the community... the neighborhood, in daily life...but if traveling outside the community, it's a matter of societal understanding...the state must enable individuals with special needs to plug into their neighborhood communities...but if they go outside their neighborhood, they need assistance..."*
>
> *(Professor, Faculty of Architecture, Chulalongkorn University, October 25, 2022)*

In cities, good urban layout design should be emphasized as well as community relationships. Basic notions of urban design include knowledge and understanding of architecture, both landscape architecture and urban design. Urban design for people with special needs have to start with organizations, such as schools, public spaces, and neighborhoods. It is vital that the right connections and areas accessible for people with special

needs be set up so that they can live a full life. As for public spaces, recreation areas, quiet areas, nature resource centers etc. management must focus on making sure that such places are safe and well maintained. Well-lit areas with smooth pathways are essential necessities so that people can enjoy life that is stress free.

2.6 Creating healthy interaction among social agencies to support quality of life for people with special needs

> *"... The policy to promote structural changes or areas requires collaborative design...considering people with disabilities or those with various limitations across all age groups, especially in areas that promote learning related to development at every stage of life due to specific essential needs...the creation of participatory spaces is still limited...every time there is an invitation for the disability sector to participate, not all groups of people with disabilities are included...there should be a standard defined for public spaces in Bangkok... Bangkok needs this knowledge set."*
>
> *(Medical Doctor and Expert, Department of Mental Health, August 23, 2022)*

When redesigning social mechanisms and institutions for urban communities, such as schools, and temples, city units need to be good quality. Members of the community must promote the advantages of well-designed public areas.

2.7 Decentralizing administration to the local sector or neighborhood

> *"…working with Bangkok is very difficult...public policy has not yet been implemented...we see some implementation in certain areas, such as Klong Toey, but it is not yet a comprehensive picture for all of Bangkok...the friendly city policy has not been effectively implemented; there is no tangible change or empirical evidence...there are many stakeholders involved...but being a government agency, progress is slow...there are agencies trying to connect various types of people with disabilities to state mechanisms...creating links to facilitate collaborative work and gradually move forward."*
>
> *(Medical Doctor and Expert, Department of Mental Health, August 23, 2022)*

> *"…The governor is the sole authority of Bangkok. He has the power to command as a legal entity... Anything that is not routine, if the governor does not agree, it will not be done. It is a clear top-down command system..."*
>
> *(Director of the Rajanagarindra Institute of Child and Adolescent Mental Health, August 24, 2022)*

In order to create satisfactory social services, decentralization of policies and practices of central government must be implemented. There must be collaboration among

agencies and institutions. The direction of local development must ensure that residents living in the area benefit from such services.

2.8 Implementing urban design consideration for the good of all

> *"...there must be someone to facilitate, organize activities, and provide guidance—someone who brings the space to life... to think of activities or methods to make it enjoyable... this is a limitation in know-how that needs to be integrated into the space... for children with learning disabilities, we need to find ways to make learning fun."*
>
> *(Director of the Rajanagarindra Institute of Child and Adolescent Mental Health, August 24, 2022)*

> *" . . . designers of learning must understand the feelings of others (empathy) and be able to adapt or modify the design to suit the context...they must have an understanding of accessibility and reasonable accommodation...there is no expectation to create a special learning space for children with special needs, but rather to encourage them to learn in public spaces alongside others...so that all children can learn about differences...and foster mutual support from an early age..."*
>
> *(Professor, Ratchasuda College, Mahidol University, August 30, 2022)*

Bangkok city should provide basic standards of a high standard. Pavements must be smooth and wide. Green open spaces in the city center must be provided to maintain a healthy environment for its citizens to enjoy. Public spaces, such as a front yard, courtyard of department stores or museums can be designed to improve the environment. It is necessary to be aware of the basic needs of users who suffer from dysfunction of sensory integration. People with special needs must have access to spaces where the atmosphere is pleasant, less crowded and one can feel safe.

Urban design needs to evolve according to the needs of its citizens, by integrating all knowledge that supports a better quality of life for the people. The development of public spaces is the key to urban design in Thailand. The physical environment is of great concern. Yet, public spaces in Thailand are quite complex since land is not only held by the government but land is also owned by royalty.

Discussion

Based-line discussion starts from data, conducted as the quantitative part of the research. The experts' interviewing and opinions gave based-line discussion that because people with special needs was concerned as disability, the parental supervision is based on avoiding public participant. These made people with special needs become the stranger in Thai society. Choosing public transportation as the major method to travel to the public place means that there is no proper learning space around their neighborhoods. Middle-class guardians and upper decided to depend on themselves rather than waiting the be support by the state of the city. With these based line finding and the experts' opinions about what was happened in the settlement system included planning and design of the public spaces, there are four aspects for discussion: 1) related laws, 2) roles and limitation of settlement, 3) practices of primary sectors, and 4) adaptability of parents and people with special needs.

1. Related laws and acts

There are five laws and acts related to the universal design for people with special needs. However, such laws and acts focus only on the physical environment. Many public spaces are not including in the laws or acts. Public transportation, for instance, is not under any obligation or law to provide for people with special needs. Transportation by canal, minibus, motorbike, taxi etc. play an important role for travelling around Bangkok and surrounding areas.

2. Roles and limitation of settlement

It is a fact that neighborhoods in Bangkok still lack public spaces for learning. Moreover, there is a misconception about public spaces that need to be accessible by mass transportation. In line with the Institute for Transportation & Development Policy [ITDP] (2022), its first priority is pedestrians, followed by bicycles, public transportation and private cars, respectively. Most people with special needs use cars or public transportation to get to their respective learning resource centers. Some centers may be quite far from their neighborhood. Thus, the first mile from home and the last mile from home depend on private cars or taxis. Travelling in Bangkok and other cities in Thailand is found to be inconvenient and difficult. In some places, there is a lack of public transportation systems. Cars are a necessity, leading to traffic congestion problems.

In city centers, green spaces are lacking. Quality parks are much needed. Responsibility lies in district-level agencies that have the potential to provide a variety of public spaces and parks under the Bangkok administration. Moreover, in collaboration with government agencies, the private sector could help to create more green spaces in all areas of Bangkok, thereby providing a good atmosphere and environment. Parks and recreation spaces in the city can support sustainable learning for all. Designing public learning spaces for all groups of people requires the experience and cooperation of experts from different fields and actual users. Learning spaces for people with special needs have to be carefully designed, according to the concept of sensory integration in the neighborhood area. Urban design has to be directly linked with local agencies, who in charge with public administration must find a new approach to urban design. Agencies have to be more proactive and collaborate more enthusiastically with other sectors and stakeholders.

3. Practices of the primary sectors

It is seen that the Bangkok administration and local agencies such as municipalities are in charge of public health systems, basic education, and the cleanliness of the city. Each agency is responsible for tasks such as travelling policy, urban safety, distribution of jobs plus housing. Agencies also deal with health and wellbeing, which comprise four departments: namely, Social Development Department, Department of Education, Department of Health, and Medical Service Department. All are under Bangkok Metropolitan Administration. People can directly access each department. As for the management of learning spaces, in particular, this comes under City planning and Public Works Development as well as the Department of Public Parks, and Culture Sports & Tourism Department.

Under the Bangkok Metropolitan Administration, there are 158 schools which are located in 50 districts. Altogether, there are 359 Special Education teachers. As such, they have 4,000 students with disabilities in their charge. In terms of student per teacher ratio, the students are well catered for. Why, however, are only 4,000 students enrolled in the schools? More than this number have been diagnosed in need of special education. Enrollment in schools, it is noted, is not so simple. Students in such schools have to have a Disabled Person Identification Card, which must first be obtained by a doctor. The procedure of enrollment, therefore, for inclusive schools is quite laborious and complicated. Students have to pass a test to be able to attend these inclusive schools. Students also need to show they have the intelligence and ability

to learn. However, to gain skills and compete in the labour market and find a job is not the main educational goal. Those with special needs, first and foremost, have to learn to be socially competent and be able to interact freely with others. Social interaction is important. Therefore, it is evident that the mainstream view of education does not meet the basic needs of people with special needs. Those with special needs can learn best through perception and sense of belonging.

4. Adaptability of parents and people with special needs

People with special needs and parents have to be able to adapt themselves to a number of dimensions to live satisfactorily in the city. Many obstacles have to be overcome: travelling and learning to relate to others takes time. Access to basic services or public spaces need to be negotiated; punctuality is vital. For people with emotional or behavioral problems, the overload of noise and sensory stimuli encountered in the environment i.e. visual, temperature, smells etc. can be overwhelming. The noise from large air conditions can affect one's emotions and behavior. Optimum learning spaces can support the learning of people with special needs, such as green and open spaces, natural outdoor spaces with shading, and good air ventilation.

In public spaces in Thailand, frequent use is made of amplified speakers. In the daily environment, out and about, one encounters a noisy environment. Wherever one goes, music is loud. Billboards, too, are many and their bright and colorful displays can be distracting. People with special needs can protect themselves by wearing headphones. School settings are seen as places to counteract such a bewildering cosmos. Understanding friends and teachers are able to soothe the hysteria of the outside world. Presiding over a calm, pleasant and organized atmosphere wherein one can settle down and get on with learning is crucial.

Conclusion

The results of this study reveal that Bangkok Metropolis still lacks the suitability of being a learning space for all, even though there are many educational institutions and resource centers available. Appropriate urban planning by the government is limited. People with special needs, therefore, lack the resources of public spaces and learning centers. Such centres are located far away from where they live and the cost of getting there is excessive. The mechanism and mindset of urban design process must be changed to create public spaces that facilitate optimum learning for everyone. Two important considerations need to be mentioned:

1. Promoting courage, familiarity, and experiential platform of change

People with special needs as well as family members and parents need to have greater courage. Courage is very necessary for the delivery of learning experiences for people with special needs. Homes for people with special needs can become obstacles for them to live with others in society. Some families with children with special needs like to protect their children and keep them too much at home. Too often they are spoiled by their parents who hinder their progress in mixing with others. Parents worry about their loved ones not being socially accepted. Furthermore, a feeling of pitiness can prohibit people with special needs from doing anything by themselves. In contrast, however, some families choose to send their children with special needs to schools with the mindset that the school's responsibility is to educate them.

In the case of parents who have children with hearing disorder and need to use sign language to communicate in their daily life, parents do not bother to learn sign language. As a result, there is very little communication within the family. In terms of socialization, or mentoring their children, parents are not fulfilling their tasks. However, it is observed that people with special needs from birth are quite capable of self-adjustment. Such people have the courage to explore the world when compared to people with disabilities who suffer from accidents or

illness when growing up. People with special needs in this group are the ones who dare to go out and make friends.

Society must recognize and accept that people with special needs belong to the community. Yet, pushing these heroes directly out into society is not an easy matter. This is because the city's social and physical environment is not yet ready to allow people with special needs to live like others. Creating mechanisms and areas for experiential adaptation is therefore very necessary to prepare and build courage for people with special needs to be able to go out and face life as normal. Preparing and building courage in parents to allow their children to go out and lead their own lives is important.

What is an experiential transitional space? Originally, it was to take the form of a school-type social facility. This can be a boarding school or a day school to educate people with special needs. The basic goal of the school is to provide education for people with special needs to gain greater knowledge and can find a job. However, a learning space to develop courage and life skills is different from mainstream schools and classrooms. On the basis of adaptation, it must be a collaboration between home and school, or other types of social facilities. Collaboration between home and community helps in the self-adjustment of people with special needs. People with special needs have to build up confidence in facing obstacles and gradually learn from their experiences in the world outside. Homes and neighborhoods become important mechanisms for this reason.

Not everyone with special needs has the opportunity to live in an understanding and potential home and neighborhood that support self-adjustment. Underpinning this are factors of economics and problems in society. It is the distorted perception of society towards people with special needs that has to be worked on. It is not an easy problem to solve. It is different from solving a problem that requires good understanding and management. People with special needs need to be accepted and need a steppingstone for adaptation, according to their needs. Many of them have no opportunity to live in a loving family or understanding community so that they can experience emotional problems apart from their disabilities. Mechanisms, therefore, for creating space or activities to provide upskills and build up courage to live life on their own are very necessary for people with special needs. Problems can be reduced and overcome. Limited resources can be used to the maximum.

2. Creating urban spaces as learning spaces

Unesco’s city of learning principles lay emphasis on the opportunity of quality learning and life long learning for all (UNESCO, 2022). Though Bangkok has a number of learning resources in many places, their location may not be easy to reach and may not be the most suitable learning spaces. Moreover, travel costs have to be considered and may prove a hindrance for learning to occur. Nowadays, traffic problems are a major problem in Bangkok that are difficult to solve. Due to the limitation of expanding traffic lanes, it is not so easy to solve the problems of city traffic.

Bangkok should be promoted to be a city that has a number of learning spaces. However, spaces that have potential need developing plus good management to meet the requirement of its people. Namutebi (2022) reported that an important factor in transforming and managing cities is the creation for collaborative partnerships between the public and private sectors. Local government and the community should work together under the guidance of city experts and urban architects to achieve integration of the various projects initiated by the government or private sector. According to Kennet (1993), urban management is a multidisciplinary that includes public policy, policy determination, planning, management of the urban environment and infrastructure accessibility etc. To build urban learning spaces for all, the Bangkok administration should be proactive and collaborate with private sectors.

Managing small learning resources for people with special needs where they can learn, requires costs and "Know-how". Learning resources for people with special needs necessitates changes of content and presentation of knowledge. To meet these requirements, it is the responsibility of the local government. Prunamasari et al. (2022) noted that the satisfaction of people with disabilities was at a moderate level and the state must be responsible for quality improvement of public facilities. However, improvement of urban spaces needs an appropriate budget. Tax reductions are the key here. Private companies or entrepreneurs could take advantage of tax benefits to provide such learning resources. Hence, the government should drive the tax reduction policy to create learning centers.

Another form of government tax or financial measures is land and building taxes. Such taxes are collected directly as local revenue. The rate of taxation is according to the use of land and building. A higher rate of tax is collected on abandoned land and buildings. The purpose of this type of tax is to encourage people to put the accumulated land to beneficial use. Increasing tax reduction measures for putting land and buildings to beneficial use should be implemented in urban planning and urban development measures to create more accessible public learning spaces around Bangkok Metropolitan area. This is the best way to distribute the budget and support potential spaces.

It is of major concern that urban planning in Thailand does not, as yet, have a plan to develop specific areas in the city center for learning resources. Such a policy should be implemented to determine the direction and use of resources in appropriate areas. Government agencies at a local level can be of assistance here. Nevertheless, specific town planning ministerial regulations need to be enacted and given support by royal decree to enforce specific urban plans. Such processes take a long time.

As far as local government is concerned, creating learning spaces as resources is seen to be second priority. It is significant that only the butterfly garden at Chatuchak park, Bangkok, represents a learning space outside the classroom. A park area is regarded as most suitable for creating natural learning spaces.

Public property is built by the government and needs budgets for maintenance. It is noted that the local community refuses to take responsibility for any installation on its land. That is why building spaces for learning is limited. Such resource centers are not easy to get built or approved. Challenges remain. Many studies highlight the different needs of people with disabilities: physical disabilities, the elderly etc. Such people are very vulnerable and require assistance. Experts in the field of psychology, special education, and urban architecture, no less, are greatly needed to help support a viable future.

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