Intergenerational Play Space Design Competition | Prosperous Garden

Discussion Summary from 8th August 2020 Workshop

Disclaimer: This summary is prepared for non-Cantonese competition participants. It is a direct, translated summary of the key messages presented by the speakers and interviewees in the 8th August 2020 Engagement Workshop. In the case of discrepancy in tone or message, that of the Cantonese recording shall prevail.

Panel with Dr Justina Liu and Mr Johnny Lam

1. Share with us the play equipment/play space experience that you loved most/ feel most excited about/ you remembered most from your childhood. Could we still find that play equipment or has it been removed?	Dr. Justina Liu: ● My favourite play equipment from my childhood is the seesaw. ● Choosing the right partner is very important for interacting with the seesaw. ● There are fewer seesaws in playgrounds now. ● I don't think see saws are suitable for elderly users. Mr. Johnny Lam: ● I have fond memories of the playground near my childhood home. ● The slides were very tall and children would slide down in different ways. ● The excitement level is different from those found in playgrounds today. ● We also find less integration with nature, like the slide that makes use of the small hill. ● Some other types of slides and play equipment are also less abundant nowadays. ● Compared to the past, playgrounds now lean more towards

	safety than excitement. This indirectly affects the user age group the play equipment appeals to. ● Playgrounds are less integrated with nature. This affects its attractiveness to some users. ● Play equipment is less varied and less interactive. We often see play equipment made for solo users.
2. With playgrounds less attractive now, how can play spaces change to complement/satisfy our needs on play, health management and community rehabilitation?	Mr Johnny Lam: ● The People-Environment-Occupation Performance (PEOP) model shows that it is important to balance the needs of a person (intrinsic) with the natural environment or design of the environment (extrinsic). ● It will be good to design software or hardware designs that can enable or stimulate those intrinsic needs. Dr Justina Liu: ● I think software is very important. Design teams can consider designing software involving collaboration with surrounding community organisations.
3. What is the benefit of “intergeneration”?	Dr Justina Liu: ● Humans need social interaction. Intergeneration is beneficial for everyone’s physical and mental health. ● Elderlies are not all less-abled than others. You will still find a range of abilities within the elderly demographic. Same for children, their abilities increase as they grow up. So it is

	important to not stereotype and create play equipment that caters to a range of abilities. Mr Johnny Lam ● For children, it is important for them to build relationships with adults. With working families, children often spend time with their grandparents. If the play equipment can allow both generations to play together, it will enable better relationship building. ● For elderly, this sort of interaction will help with their cognitive abilities and maintain good health. ● Intergenerational play space is an effective (and cost-effective) platform to benefit these two types of users.
4. It is observed that children enjoy playing with elderly exercise equipment, while some elderly are bored of the existing equipment and not using it enough to benefit their physical or mental health. Is there room for design teams to think about other/new types of play equipment?	Dr Justina Liu ● I am doing research on the concept of “due task”, which is when users are engaging in mental exercises while doing physical exercise. For example, elderlies have to recall their grocery shopping list while on exercise bikes. We have found this very effective in training their cognitive and physical abilities. Design teams can consider incorporating this concept into their play space design. Mr Johnny Lam ● “Parten’s stages of play” shows the type of play at different age ranges during a child’s development. There are equivalent examples in adolescents and adults too. Teams

	can incorporate play equipment or facilities that enable these different types of play. ● Teams should decide whether “intergeneration” means the two generations interacting together or simply occupying the same space. ● Children and elderly do have different needs that cannot be ignored. For children, these concepts are important: sensory, coordination, imagination, planning, organisation, sense of success, challenge, creativity. For elderly, the important concepts are: muscle, range of movement, cognitive ability, rest, habit, maintenance, repetition, stability and light challenge.
5. Tech is one of the important elements we wish to see from the design schemes to promote wellness and self-management. How can we integrate tech into play space design? How realistic is it for users to make use of tech in the play space? What about privacy issues?	Dr Justina Liu: ● Wearable sensors are a good way to track user behaviour and health monitoring. If IoT is incorporated, systems can be put in place to communicate with users to engage with the play space or equipment in a more varied way. E.g. remind users that they have not tried a certain play equipment or recommend different exercises based on their habit. ● Young-olds, recent retirees are quite accepting and capable with technology. Elderlies 70 to 80 may have more difficulty. We should consider simple, intuitive controls or passive tech use for this demographic. We can also have youths assist elderly with tech in the play space to further facilitate intergenerational interaction. ● In my experience, elderlies are usually keen to explore new things. If there is a good level of trust between users and the property management / data management. Then asking users to use technology may not be a big issue. Mr Johnny Lam: ● Children and elderly may approach tech differently. For

	children, we can consider thematic characters, integration with social media or Youtube, incorporate VR/AR, game apps that promote imagination and coordination skills. For elderly, apps can provide data, health or behavioral recommendations. ● IoT can be incorporated to control equipment on/off, difficulty level etc.
6. How can we design the space to be more inclusive to users with different physical and mental abilities?	Mr. Johnny Lam: ● Parks are increasingly inclusive to users with different physical abilities. There are hardware designs in Hong Kong and Taiwan parks that allow for wheelchair users. ● Instead of having the hardware designed for those with disabilities. We can make use of apps to suggest different ways for those with disability to engage with the same piece of equipment. ● For mental disabilities, it will usually affect the user's social and cognitive abilities. We can consider incorporating more images instead of text in the space. ● Medical professionals or therapists can become ambassadors that are regular present in the play space to guide or coach users. Dr Justina Liu: ● Elderlies are often visiting outdoors with a caretaker accompanying them. Designs can consider promoting interaction between the two. A fun and engaging play space will encourage both users and caretakers to use the equipment more frequently.
7. What main message/ final piece of advice would you give to	Dr Justina Liu: ● Important to keep in mind safety - both physically and data privacy.

our IG play space design teams?	Mr Johnny Lam: ● Thoughtful selection of used materials to ensure safety. Incorporate natural elements as that is often lacking in urban environments will be helpful in children's development.

Interview with PG Management - Ms Mable Cheng and Ms June Ng

Question	Answer
1. What do users typically do in the outdoor area of PG?	Ms June Ng: It's very varied. Elderlies and adults will exercise, jog, dance or do tai-chi in the morning. During after school hours, school children will come play in the playground or engage in their own games. Children are usually accompanied by elderlies, who will watch over them or use the elderly exercise zone.
2. What design elements were done during PG's redevelopment to complement the surrounding neighbourhood?	Ms Mable Cheng: Back then, Yau Ma Tei was mostly an old residential area. Children did not have a lot of space to play. PG was designed to be a public space for them to play. It was mostly nuclear families and less elderly back then, so PG had only play equipment early on. With the increase of ageing residents, PG incorporated more elderly exercise equipment. PG had also reserved space for community facilities, such as kindergarten, elderly centres, with the aim to provide services to the residents and the wider community.
3. How can play space design balance noise generated by users, resident privacy and facility improvement?	Mable Cheng: Balance is the most important. Property management may set some rules to prevent too much noise or users at one time. Elderly users tend to engage in more quiet activities.
4. What are some prohibited activities in the open space and why?	June Ng: We have some signage showing ball games, cycling and scooters as some of the prohibited activities. These are prohibited to prevent accidents. This is especially a concern for the elderly. However, if children are accompanied by their parents and not playing too "wildly", we will exercise some flexibility and understanding. We have a security guard monitoring the site.

	Mable Cheng: We are sometimes faced with tough questions from the residents. For example, residents would challenge why cycling is prohibited but a younger child on a tricycle is acceptable. So as property managers, we have to set some standards and draw some lines. We hope users can be understanding from our perspective.
5. From a property management perspective, what elements should design teams consider?	June Ng: Safety is the most important. Whether it is new equipment or not, we would not want any accidents to occur. Equipment maintenance is also important. It should be easy to clean. Mable Cheng: We have a lot of facilities here such as cinemas and schools. New equipment should be easily assembled. If too much work has to go into its assembly, it will create a lot of noise on site. If a play equipment is assembled using many parts, there may be some safety issues at the joints and connecting areas. A one piece equipment is often safer. Design teams should be more careful in this aspect.
6. What technology elements should be integrated into the space? Are there any concerns?	June Ng: We must be careful with privacy and the treatment of personal data. It should also be simple to use and maintain so as not to add unnecessary responsibility for frontline management staff. Mable Cheng: We welcome ideas in this aspect. Privacy and data management is important. Storage (cloud and data) is also an issue and should be considered.
7. What elements or concepts do you wish design teams keep in their new designs?	Mable Cheng: We hope to keep the existing user base, which are elderlies and families. New design should only add more functions or variety, but

	not take away the functions that exist. Young children and elderly tend not to go to open spaces far away. So the space should cater more to these demographics than those that are able to travel out further.
8. Can we remove the walls and some existing structures?	Mable Cheng: It depends on your budget. We have set a 8M HKD budget for the ideas generated in this competition. You can certainly remove walls and existing structures, but you will have to take into account the extra cost of doing this, including the cost of a feasibility study by a structural engineer.
9. What new elements do you wish to see in the open space that will not add too much excess maintenance work for your management team?	June Ng: The wall behind the staircase in the central plaza could do with some colours. We also welcome adding more texture to the facilities in the open space. These would be new elements that will not add too much maintenance work. Mable Cheng: Colours are great for elderly. Not only for aesthetic reasons but also makes it easier for them to distinguish different zones. We can also consider zoning for those looking for active and/or passive ways to engage with the environment. Some teams also suggested hosting commercial activities in the space. We manage the open space on behalf of the government so any activities held in the space requires a permit. June Ng: Only HKHS, the surrounding four NGOs and PG resident organisations are able to host events here. Mable Ng: Events must also be free of charge and non-commercial. So design

	teams must understand this.
10. How is PG different in other seasons or without COVID-19?	June Ng: The four seasons in Hong Kong don't vary too much. In the summer, users might avoid times such as noon. Most users are morning elderly users and children who can only come after school, so user patterns remain similar throughout the year. Weekends are usually more busy and we see more families from the surrounding neighbourhood visiting. Under COVID-19, there are far less people than usual. As playgrounds and schools are closed under government regulation, we see people engaging in their own games more often too.

Interview with PG Residents

Question	Answer
Do you have a habit of using the PG outdoor space?	Mr Tse: 1-2 hours, mostly doing tai-chi Mr Lee: Pass by or bring children to the playground Mr Fong: 30-45 mins, seldom play in the park Ms Wong: Usually just pass by, only visited the park when large estate events were held Mr Choi: 1-2 times per week
From your observation, what type of users frequent the park more?	Elderly residents usually exercise in the morning.In the afternoon, school children accompanied by their parents or grandparents come and play in the park. They usually stay at the plaza that is more spacious for running and playing, while the residents usually use the space in the podium.
Do you think this is a popular play space?	The park is a landmark as it is one of the few green spaces in the district providing ample and decent space for play, relaxation and socialization. Hence the park is a popular destination not only for PG residents but also other non-residents in the district, including ethnic minorities, elderly and the disabled.
What is your opinion on the PG outdoor space?	There is a minimal amount of landscape and facilities provided in the park. The park is also not suitable for active recreations that require a large amount of space such as running. As the park is a public space, it also fails to provide sufficient space and facilities to accommodate both the needs of residents and non-residents.
Do you think the space caters to both active and passive users?	While active activities are more commonly observed than passive activities in the park, some activities would be a source of nuisance to residents. For example, mass dancing may produce noises and disturb residents nearby.

What colours do you wish to see in the outdoor space?	Residents generally prefer colours with a pastel and natural tone over bright colours. Some of them also favour a variety of colors and patterns that can add vibrancy to the place.
Do you prefer an outdoor or indoor space?	Residents prefer a combination of indoor and outdoor space as they serve different recreation needs. To enhance resident's convenience, a covered walkway can be provided to connect the building blocks, parks and streets.
Do you think the play space is safe?	It is observed that some children were not accompanied by their parents in the park and accidents often occurred. It also poses danger as elderly may be hit by balls or children.
Is there a need to add more handrails?	It is suggested that ramps should be added to the staircases at the plaza as well as the play and fitness equipment for safety considerations.
Do you think the space is barrier free?	While residents generally agree that universal design has been implemented in the park, some routes for wheelchair users cannot directly access the park.
Is the space suited to community or commercial events?	Cultural and community events, such as carnivals, interest classes, plantation and recycling activities can be held during weekends and holidays. Festival celebrations are also important and should be organized to enhance family and neighborhood bondings. However residents do not support commercial activities as they may obstruct the park users.
Is there enough equipment in the play space?	Elderly fitness equipment is generally inadequate. Play equipment is insufficient during the weekends as children often need to queue to play.

Do you think health tech should be implemented into the space?	Residents show support to the application of health technologies as it will greatly benefit the elderly residents suffering from different health problems.
What elements or functions would you like to see included in the new design?	More landscape and sheltered space should be provided for the elderly to rest and relax. The park should also primarily serve PG residents with family-oriented design that can satisfy the needs of different age groups. While some residents suggest an integrated mode of children and elderly area to facilitate intergenerational play, others express their concern over incompatible activities and potential safety problems. Given a limited amount of space, designers should also consider how to accommodate different users within the same space while facilitating integration of the wider community.

Q&A Session with IG Panel - Prof. Kenneth Fong, Dr Lau Hin-chung, Dr Brian Lee, Prof. Esther Yung

Question	
Prof. Esther Yung – Associate Professor, Department of Building and Real Estate **Research area: Ageing and the Urban environment, Public space interventions** Q: From your research on elderly and urban space what do you think are key attributes that could be applied to the Prosperous Garden site to support IG play and encourage residents to develop a regular habit of exercising?	With investigation on 30+ parks in Hong Kong, the research shares 4 design elements that the elderlies are more fond of: 1. **Diversity** - is there a variety of size and type of space present to cater for different needs and activities. - Could we further break down the site into several small zones/areas, so to cater the needs for elderly, the young and the intergenerational combination? eg planting zone. - Physical exercise is one of elderly's favourite activities in the park. The quality and maintenance of park equipment (eg. fitness trails) thus has to be carefully considered and maintained, as this would directly affect elderly incentives for park visit, as well as forming their habit of exercising. - Crowd control within the park to regulate the flow of people, so as not to aggregate users all in the same spot and enhance user experience. 2. **Flexibility** - could users, with a certain degree of freedom and flexibility, to modify/adjust the park environment for their needs? Eg adjusting the table 3. **Uniqueness** - a park that could reflect/represent the unique culture/ symbol/theme of the district are more favourable and attract seniors than a generic park. 4. **Social Network** - how play space could enable/enhance

	social interaction.

Prof. Kenneth Fong – Professor, Department of Rehabilitation Science
 	
Research Area: Environmental issues and Assistive technology for people with disabilities
 	
Q: How can we train our ageing residents to be more open and accepting of technologies when we try to reshape our urban environment and promote community rehabilitation e.g. for frail elderly and people with stroke patients? Can you provide us with any tips?
	• **Elderly age group** - note that "elderly" could further break down into subcategories : young-old (65-75); old-old (75-85); oldest-old (85+).
	
	• **Technology acceptance**
	
	- Smartphone penetration rate of elderly, especially the young-old group, is relatively high in Hong Kong.
	
	- If an appropriate level of technology could be complemented with exercising, it could:
	  - **Motivate users** - raise users' interest in exercising.
	  - **Provide feedback** - Ideal to provide progress tracking and ability checking for elderly groups
	- Don't see a big problem for young-old or old-old to adopt technologies.
	
	• For frail elderly or people with long-term health needs
	
	- Not all play space equipment is suitable for such groups. Even for equipment with universal design, it might not fit well for people with physical disability, as it would cause potential danger.
	
	- Keeping the equipment design simple might be better than a complex design. For instance, the stepping board used in a rehab center.
	
	- The teams should note that the play space equipment could not completely replace the function of a rehab equipment

	and center. It would be great if users could enjoy additional rehab benefits through play, yet need not to worry if rehab could not be achieved in a play space setting as it is not meant to be. - Rather, the team could re-focus more on the elements of "play" in their design, as well as how play could enable users to maintain their health on a daily basis.
Dr Lau Hin-chung – Teaching Fellow, Department of Biomedical Engineering **Research Area: Mobile medical apps and Wearable sensors** Q: Dementia and fall prevention are some of the health issues identified by the teams. What sort of technology, wearable sensors etc can be paired up with the play space design to increase the elderly's willingness to exercise, and to give their family and carers confidence for them to go out on their own? E.g. trigger carer's device dementia patients leave the 10 mins radar? Sensors to be embedded underneath the soft padding for fall detection	● Agree with Prof. Kenneth Fong that keeping the design simple is good enough. ● **Fall detection, prevention and triggering system** - Currently there are available technologies for **fall detection.** For instance, a sensor-embedded padding to calculate the attachment area; a PolyU BME invention to scan users' standing position from ceiling/camera so to detect fall - **Fall prevention** is a big scientific research topic, various factors could lead to fall under different contexts. - If fall prevention fails and fall is inevitable, what else could we do to assist the falling elderly inside the park? For instance, would the equipment and park design help to minimize danger it has on the falling elderly? Or would it be able to generate a signal to notify surrounding park users and the elderly carer when elderly falls. - Points for consideration:

	- 1) How to attract users to visit the park? (esp elderly who fall easily)
	- 2) In an unfortunate case where accidents happen, for instance, elderly falling on the ground, would a detection and notification system be able to operate and notify relevant stakeholders?
	  - 1) Carer - family and friends
	  - 2) Surrounding park users and other health professionals.
	- *Although a notification system is not necessarily the scope of this competition, the team could review how to incorporate this idea into their design, or to take this system further.
	
	● **Wearable device - a potential user experience for patients with Dementia**
	
	- In order to address dementia, not only do we have to think about design within park areas, but also the user's journey experience to play space.
	
	- For instance, wearable technical devices would not be effective if dementia patients forget to put it on before visiting the park.
	
	● These **designs and considerations that go beyond park areas** are not necessarily the main scope of the design competition, yet it has an important role in affecting users' motivation for park visit. Apart from the in-park design, the teams could consider whether to explore these user experience further and integrate it to their play space design

	● **Motivation** - What kind of play and people would be available in the park?.
Dr Brian Lee – Associate Professor, School of Design **Research area: Ageing and Healthcare product design and Interaction design** Q: Technology can shed light on innovative IG experience. However, monitoring the user's patterns and health condition does not directly connect with the real user's needs/expectations. Could you share how we can approach this design challenge?	● As a designer, not only do we provide visual and tangible experience from user groups, we also integrate ideas by pulling expertises from different disciplines into the design. ● Agrees that play space design with technology could be a complex scenario that touches on **design within park** as well as **design beyond park area** (see Dr Hin Chung's example of a user experience of a patient with Dementia) The team would have to balance whether they should handle any out-of-park situations encountered by the users on their way to the park? ● **Tech-integrated play space** - Hong Kong lacks examples for tech-integrated play space. Although budget for a tech-park would be of concern, with the growing knowledge on tech, the technical aspect could be developed along the way, it is possible to create one in HK. - Examples from China: Football field with IT elements - It is important to think about what would be the goal for such play space.

	• "Product-Service System" (PSS) - an integrated system that considers not only the product, but also the service system that works jointly with the product for a holistic approach. • **Play space and Rehab** - Hong Kong could have done on more community-driven rehab training in HK. For instance, an outdoor rehab center could serve as a lite version of rehabilitation center. With technology as monitoring and feedback, tracking and play. - An open-end interaction where users could interpret and reinvent how to play. • **Creative citizenship through park** - a park that would stimulate creative mind and creativity for users, so to engage them in the long run. • The **concept of Intergenerational play space** - Not necessary just about elderly and young, but also for cross- generation interaction from a design perspective - what new interactions could be provided - To approach “intergenerational play”, it is also about approaching the **intergenerational relationship** from within the intergenerational play. • **4Rs for intergenerational play space** - Research from America on 1999 reveals that 60% with age 60+ lady still parent(s)

	- 4 IG characteristics
	  - Respect (could design respect users and vice versa)
	  - Responsibility
	  - Reciprocity
	  - Resilience
	- These 4R concepts could serve to judge different kinds of IG interaction, and to foster cross-generational bonding.
	- In the future, it might be common for a young-old to take an old-old to the park, but not just elderlies bringing his/her grandson.
	
	● **Design tools** to tackle enhance user experience different scenarios.
	- **1) Use of Persona** - a fictional user (group) created based on their behaviour and needs.
	  - Persona type 1 - Adult with children
	  - Persona type 2 - Elderly with adult
	  - Persona type 3 - Elderly, adult and children
	  - and more
	
	- **2) User journey experience** (See Prof Lau's example of patients with Dementia
	- To map out various concepts/ themes/challenges throughout their journey
	- Design teams are advised to highlight/tackle certain themes/concepts instead of addressing all in a single park, as it would seem to be not feasible.
	
	● **Visualize from the user's eyes** - what would users first see when they arrive at the park, the signpost? Would users realize different zones within a park?

	- Key point is to enhance the park from user experience, and to balance safety concern while playing.
How to balance safety concerns and play? Would there be any material choice that could promote a safe environment?	Dr. Brian Lee: ● **Colour** - High colour contrast could assist users, esp for seniors ● **Eye level** - From my personal experience in PG gardens - when I walked from elderly center to 711 with my neck bent, my eye level remained low, in which Information located higher than the eye level is hard to reach. This could also apply to the elderlies who usually walk in a similar way. ● **Tiredness** - Although providing handles and chairs would be a quick solution, the key is to consider the whole journey experience, from where the users enter, where they would walk along, so to design the best place for resting. Prof Kenneth Fong: ● consider safety from 2 points - Risk - Low colour vision from elderly - Elevation at different level - Shape edges - Consequences: - How the ground floor should be designed so to minimize the damage. Materials to be considered: Vinyl floor, soft yet anti-slippery.

	Commonly used in the hospital, could minimize the chance of bone fracture when fall. ● Take a balance so the materials won't be too hard when users get fall, and not too soft that could easily fall. ● A common material found in play space: EPDM rubber Prof Esther Yung: ● **Alternative sensory** - Agree that elderlies tend to suffer from poor eyesight, would audio signals be possible apart from sight signals? ● **Conflict of use** - for instance, children bumping into elderlies. Could management work to resolve such issues? Dr Lau Hin Chung: ● To move from zone 1 to zone 2, would adding some handle in-between possible? .
How to tackle privacy issues with IOT?	Dr Lau Hin Chung: ● Privacy is inevitable for IT. ● Could try to address privacy through **IT software design** - Instead of collecting data from users, could park equipment provide information to users' devices, rather than sending data to a server? For example: Beaming data into users' devices after they have completed a fitness training.

	Prof Kenneth Fong: ● **Instant feedback** - Adopt technology that does not require data storage while generating feedback, for instance sensors. Dr Brian Lee: ● **As an academic experiment** - data would be stored inside PolyU server for academic purpose, keeping data confidential and anonymous.
How can place-making, identity and heritage elements be included in the park design?	Prof Esther Yung: ● YMT district has a great number of heritages, for instance the fruit market, YMT police station ● Suggest putting some heritage photos inside the park area. This could initiate conversation between generations, as well as recalling culture memories of the residents. Dr Brian Lee: ● Apart from hardware and applications, software is vital to maintain sustainability. Noticed that there are several NGOs near PG gardens, worth exploring how the play space could enable these organisations to carry out various activities.

Reference:

PG Design Competition - Engagement Workshop Video Recording: https://www.youtube.com/watch?v=Agk4qRRspS8&feature=youtu.be

PG Design Competition - Engagement Workshop Audio Recording (Includes Resident Interviews): https://www.youtube.com/watch?v=l6-ypDqi2U&feature=youtu.be