Intergenerational Interactions: Designing for the Young & Old

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To my incredibly supportive family, thank you for keeping me going with your imaginative pep talks and by listening to my incoherent ramblings.

To my friends and loved ones, who made my world a brighter place.

To my thesis committee, Glenn & Costis, for your ideas and your patience as I explained to you thesis topic #7826 and letting me run with it.

And lastly, to the little boy in Daycare 2, I’m very sorry I wasn’t able to save your tricycle for you. Forgive me. She was just too fast for me.
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The aging population often lives completely separated from the younger population, leaving them without the benefits of social contact between these two different groups. This graduate terminal project explores design elements necessary to create functional outdoor spaces that are not only accessible to both young and old age groups, but also encourages intergenerational interaction. Literature on topics including: dementia design, studies on existing intergenerational programs, outdoor spaces in long-term care facilities and the importance of outdoor play, has informed the creation of design considerations that detail an ideal outdoor environment for young and old alike. Three hypothetical sites were used to create an intergenerational outdoor space that each serve a different older adult population: those affected by dementia, those living in an independent living facility, and those who live outside of a retirement facility. Design considerations were developed from research and personal observation findings, which were then applied to design concepts of an intergenerational outdoor space for each site. The result demonstrated possible design applications while catering to intergenerational populations of different abilities and needs by using the proposed design considerations. These design considerations and resulting sample conceptual designs may then serve as a basis for the design of future intergenerational outdoor environments.
BACKGROUND

“Old people need old people, but they also need the young, and young people need contact with the old.”
- Christopher Alexander

Christopher Alexander’s words from A Pattern Language ring as true today as they did almost 40 years ago. It is human nature to seek people that are similar to ourselves. Unfortunately, it can be damaging to withdraw from a diverse group of people. Such is the case with separating the young and the old in our society. The more this separation occurs, the greater the rift becomes between age groups (Alexander 1977). In the 1970’s, exclusive senior communities that catered to residents 65 years and older were a novel idea, but they reflected the serious and sad state of an aging population (Alexander 1977). Living in large, isolated groups, the old “like anyone else, have pride; they would rather not be with younger people who do not appreciate them, and they feign satisfaction to justify their position” (Alexander, pg. 216).

Alexander quotes Leo W. Simmons to describe the loss of what used to be a common family relationship—young children and aging adults left at home while the rest of the household made a living (1977). At opposite ends of the aging spectrum, these two groups benefited each other both physically and emotionally. The old would pass down their wisdom and speak of their experience, while the young would facilitate the physical, daily tasks that an older person was no longer capable of (Alexander, 1977). In addition to having physical help, aging adults would benefit emotionally from the care they provided to the young, therefore creating a sense of purpose, vivid interest, and a feeling of responsibility (Alexander 1977).

WHO ARE THE YOUNG AND OLD?

How They Used to Live

There was a time when children, adults, and older adults, regardless of age and well beyond the age of 65, worked alongside each other in agriculture fields and in factories. There was no such thing as retirement, and very rarely, such a thing as a true childhood.

In the late 19th century to the early 20th century, children worked in textile mills, glass factories, coal mines, and various odd jobs throughout the streets which came at the cost of schooling and playtime (Whittaker, 2005). Over time, this led to a creation of goods that came at a cheaper cost than those created by their adult counterparts, causing direct competition with older workers (Whittaker, 2005). Overexerted and uneducated children were ill-prepared to enter adulthood, ultimately creating a perpetual cycle of poverty caused by their inability to fulfill their adult roles as parents and workers (Whittaker, 2005).

Older adults were not doing much better; it was clear that not all workers were equal in a post-industrial revolution era. Discussions in the early 1900’s questioned the productivity of older men (Costa, 1998). William Ostler, a professor at Johns Hopkins, made the argument for retirement at the age of sixty because an aging brain had reduced elasticity (Costa, 1998). Economist William Beveridge saw a lack of adaptability to new technology in the older population, and statistician Frederick Hoffman saw the inefficiencies of slower workers, claiming that productivity would increase if workers fell between the ages of fifteen and sixty-five (Costa. 1998). Factors such as poor health and increased unemployment also added to the phasing out of older adults
in the workforce. This was the beginning of finding themselves without jobs, and ultimately entering retirement by the 1940’s (Costa, 1996).

How They Live Now

Long gone are the working days of older adults and children, with each age group leading very different lives today.

Children live in their own world, moving through daycares, preschools, elementary schools, and so forth, spending their days among kids their own age. In the years preceding labor laws, the twentieth century saw a increase in the professions dealing children that provided expertise on schooling, parenting and child development (Hendricks, 2011). However, the importance of play has remained one of the lesser understood phenomenons, marked by unsuccessful attempts to scientifically define it (Hendricks, 2011).

Play was seen as an unproductive, almost useless activity, until it was discovered that playgrounds could be used as tools for development and outdoor education (Hendricks, 2011). Today, we realize that play offers spiritual, intellectual, emotional, and social growth (Hendricks, 2011). Despite the importance of play, today’s children have barely experienced unstructured, outdoor play in the natural world (Sobel, 2008; Louv, 2005) and are instead left with ultra-safe, plastic playgrounds and relatively little creative freedom. A fear of letting children close to strangers has amplified since the 1980’s, as outlined by Richard Louv’s Last Child in the Woods. “The damage that has been caused when you have families teaching their kids never to talk to another adult in a society where you desperately need more communication—what does that do to the kid?” (Louv, pg. 125).

Older adults past their working days live by themselves, or for reasons of physical or cognitive limitations, move in with family or live in senior long-term care facilities such as retirement homes, assisted living, memory care, or independent living. With the exception of family relations, the majority of these options isolate older adults from younger generations, leaving each age group without the benefit of the other.

In the 1970’s, observers began to connect the lack of interaction between generations and the onset of emotional turbulence such as loneliness, depression, insecurity, dependency, and fear of the future (Past, Present & Future, 1997). It was also around this time that age stereotypes began to appear, as the two age groups were now unfamiliar with each other (Past, Present & Future, 1997).

Children and older adults rarely participate in the lives of each other when going about their daily routines, unless they happen to live in the same household or share common relatives. Their day-to-day lives consist of responsibilities and activities that are mainly separated by age. Known as age segregation, sociologists Gunhild O. Hagestad and Peter Uhlenberg (2005) further define age segregation into three dimensions: Institutional, Spatial, and Cultural.

Institutional Age Segregation

No matter where a person may be in the life cycle, they will be spending the majority of their day in a particular institution. School and work places are the most common of these, and those are belong to neither are older adults who are expected to retire and enjoy leisure (Hagestad & Uhlenberg, 2005). State laws have ensured a regimented progression through life as children go to school, which exclude them from the adults of the workplace, who are separate from the old as they earn their pensions. Each institution segregates its age group from the rest, resulting in a limited and homogeneous group of peers and coworkers (Hagestad & Uhlenberg, 2005). This causes a lack of key social relationships between the age groups. The old are apart from the larger society, which may lead to a loss of emotional care by preventing nurturing, communication, and passing down knowledge to the younger generation (McCrea & Smith, 1997). Children need exposure to a variety of people and situations that will offer them rich and complex interactions, extending past the mundane school and playground life (Alexander, 1977). Children are also still developing and learn by imitation. They benefit by observing adults that are actively carrying out their respon-
Spatial Age Segregation

Spatial segregation occurs in the realm where designers and planners dwell. Occurring at the household, neighborhood and community level, this type of segregation happens when different age groups do not coexist in the same space and therefore cannot communicate face-to-face (Hagestad & Uhlenberg, 2005). The most obvious example of this is housing, whether it’s a nursing home or assisted living for older adults, or student dormitories for those attending college (Hagestad & Uhlenberg, 2005). This type of housing further limits any kind of contact from other age groups, and it is likely that it may encourage age stereotyping (Hagestad & Uhlenberg, 2005). Types of recreation activities are usually affected as well due to organizing events by age groups, as shown in youth orchestras, senior tour groups, senior center activities, etc. (Hagestad & Uhlenberg, 2005).

Cultural Age Segregation

The last of these dimensions is cultural segregation, and likely the one designers and planners have the least direct control over. When different age groups are labeled as an entire group such as “youth culture” or “elderly”, there is an automatic differentiation in language, dress, and a slew of other preferences (Hagestad & Uhlenberg, 2005). These differences are perpetuated in the hands of mass media and journalism, but they were also formed in the social formalities of past time periods (Hagestad & Uhlenberg, 2005).

The first step in addressing age segregation would have to come in the form of revamping our institutional structures (Hagestad & Uhlenberg, 2005; Braithwaite, 2004). While some of these social institutions are necessary in order to provide for their age group, such as a preschool teaching fundamental skills to young children or a retirement home providing physical and mental care for those who are incapable, it is an unfortunate consequence of history that these institutions have separated age groups to the point of accepting it as a social normality. There is a need for “the definition or creation of spaces where young, middle-aged, and elderly people from all walks of life can get to know each other enough to build mutual respect, develop cooperative relationships, and reignite the norm of human-heartedness” (Braithwaite, pg. 332).

The Bigger Picture

The ever-widening gap between generations will only grow larger if society continues to follow the same trajectories of institutional, spatial and cultural segregation as we have for decades. The population of adults 65 and older will soar in the coming years, outnumbering children under the age of 5 which is historically unprecedented (WHO, 2011). By 2056, those 65 and old will outnumber those who are 18 and under (Colby & Ortman, 2014).

The older adult population is not homogeneous. This paper will use the term “older adult” to refer to the generation cohorts of the Baby Boomers generation, born between 1946-1964, who will be between the ages of 51 and 70 by this year, followed by the Silent Generation (1925-1945) who are between the ages of 71-91, and the few who are from the G.I. Generation (1901-1924) from the age of 92 to a possible 115 years (Johnson, Butrica, & Mommaerts, 2010). A large range of physical and cognitive abilities exist among the older adult population. By 2050, one-fifth of the U.S. population will be 65 and older which will ultimately lead to an increase in the services for those who are functionally and cognitively impaired (CBO, 2013). Functional limitations are physical activities that are hard to perform in daily routines, such as eating, bathing, getting dressed, making meals and paying bills, while cognitive limitations are a loss in mental acuity that would inhibit the same daily activities (CBO, 2013). One-third of those 65 and older have functional limitations, and that percentage rises to two-thirds for those who are 85 and older (CBO, 2013).

Long-term care is offered to older adults in a number of different ways. About 80% of people receiving some type of care live in their communities, while 20% live in
institutions such as nursing homes, assisted living, independent living, with additional
types of institutions, as there is no accepted, clear definition to each model and their care offerings differ from place to place (CBO, 2013). Although the percentage of older adults living outside of a facility is very high, it is key to note that those with functional limitations have a much higher chance of living in facility, as shown in Figure 2 (U.S. Census, 2010).

Even though older adults reach a point when they must receive some kind of care in what will most likely be a facility, it is hard to ignore the 80% that choose to live in a community while they still have the ability to do so. This parallels studies that show while some older adults prefer to move, others wish to remain in their homes for reasons of attachment to their home and neighborhood, economical reasons, and a fear of losing continuity of habits and routines (Löfqvist et al. 2013). Those who wish to remain in the home, a concept known as aging in place, also have a variety of models available to them such as Village models and NORCs (naturally-occurring retirement communities) (Haitsma, 2011). Each of these models are similar in their grassroots approach to aging in place that provide older adults with community services such as transportation, housekeeping, companionship, and additional services without the need to relocate to a retirement facility (Haitsma, 2011). While this project will not delve further into the details of housing types for older adults, the numerous living options available are important to showcase how many older adult lifestyles really exist.

RESEARCH STATEMENT

This graduate terminal project seeks to create a set of design considerations for designers who wish to create outdoor spaces that will encourage intergenerational interactions between children and older adults with differing cognitive and physical limitations. The end result will be a series of site designs that follow the design considerations in order to demonstrate their use.

These considerations will be informed by literature review on the topics of dementia design, studies on existing intergenerational programs, outdoor spaces in long-term care facilities, the importance of outdoor play for children, contact theory, and the continuity theory of normal aging, along with examples of current multigenerational parks and informal observations in child care facilities.

Definition of Older Adults

The term older adult refers not only those that are 65 and older, but also those who are in the younger generation of Baby Boomers who were born between 1946-1964. The addition of the Baby Boomer generation was done intentionally for three reasons. Firstly, this generation is very much an active generation that requires a different lifestyle than the generations that preceded them, which offers an unique opportunity to explore design elements that may not be feasible for functionally or cognitively impaired older adults. Secondly, the hope is to provide a positive intergenerational experience in their formative years so they may seek them out in older age. Lastly, the baby boomers will be major contributors to the coming population boom of those who will be 65 and older, so the actions of this generation will carry some clout.

This paper will also address older adults with dementia by reviewing literature on outdoor spaces created for them. Dementia is a term to describe an observable decline in mental ability (Gustafson, 1996). This condition of decline in mental ability can be progressive or static (Gustafson, 1996). The term dementia is used as an umbrella
term to refer to multiple conditions, such as Alzheimer’s disease, Parkinson’s disease, Huntington’s disease, among many others (alz.org, 2016). Alzheimer’s disease is the most common type of dementia, characterized by difficulty remembering conversations, names or events, depression, impaired communication, disorientation, sudden behavior changes, and mobility issues (alz.org, 2016). For the purposes of the project, the term dementia will refer to any person with a decline in cognitive ability.
INTERGENERATIONAL PROGRAMS

Intergenerational programs developed from an attempt to bring increasingly divided young and old, non-biologically linked generations together once again, with hopes that frequent contact between the groups would help them to see each other more realistically as they developed mutual support (Past, Present and Future, 1997). The first documented program, Foster Grandparents Program, started in 1965 and provided the mentorship and services of older adults to disadvantaged children (Scannell & Roberts, 1994). Decades later, there are now thousands of intergenerational programs of all types and sizes (Scannell & Roberts, 1994).

Types of Programs & Benefits

Imagine a community where age-segregation as explained by Hagestad and Peter Uhlenberg (2005) was instead replaced by a high prioritization for intergenerational settings. Community places such as schools, community centers, hospitals and other facilities would be ‘elder-friendly’ and ‘child-friendly’ (Kuehne & Kaplan, 2001). The development of such a friendly-for-all-ages setting is known as an ‘intergenerational shared sites, or IGSS (Kuehne & Kaplan, 2001). These shared sites (IGSS) refer to sites that provide services for multiple generations on the same site, while providing planned or informal intergenerational activities (Kuehne & Kaplan, 2001). Realistically, many intergenerational programs and facilities are neither purely mono-generational nor purely-intergenerational, but rather created with a wide range of variability (Kuehne & Kaplan, 2001).

Intergenerational programs traditionally have each age group fill either the role of the recipient or the role of care giving, where each group provides a beneficial impact (Scannell & Roberts, 1994; Past, Present and Future, 1997). Each age group has needs that can be fulfilled by the other age group (see Figure 1).

<table>
<thead>
<tr>
<th>Older Adults’ Needs</th>
<th>Children’s Needs</th>
</tr>
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<tbody>
<tr>
<td>To nurture</td>
<td>To be nurtured</td>
</tr>
<tr>
<td>To teach</td>
<td>To be taught</td>
</tr>
<tr>
<td>To have a successful life review</td>
<td>To learn from and about the past</td>
</tr>
<tr>
<td>To share cultural mores</td>
<td>To have cultural identity</td>
</tr>
<tr>
<td>To communicate positive values</td>
<td>To have positive role models</td>
</tr>
<tr>
<td>To leave a legacy</td>
<td>To be connected to preceding generations</td>
</tr>
</tbody>
</table>

In addition to the needs of each age group as listed by Newman (1997), intergenerational programs have the ability to address the needs for safety and security, care, stability and the need to be productive (Newman, 1997).

Security

As older adults age, the chance of moving into a nursing home increases, which likely will lead to the loss of independence, a change in residence, and a relinquishing of all that was once safe and familiar (Newman, 1997). Feelings of insecurity also emerge.
from contributors such as: lack of contact with the outside, reliance on staff for daily activities such as bathing, recreational activities, and reliance on wheelchairs, canes and walkers (Newman, 1997).

In cities with high crime rates and poor living conditions, children and youth may feel a greater loss of security and safety. Their search for security may lead to destructive behavior and gang membership in a setting where poverty, hunger, poor housing are abundant (Newman, 1997). Apart from external stressors, the nuclear family also experiences drastic change with the migration of grandparents to warmer climates or the family moving away due to employment opportunities elsewhere (Newman, 1997).

Several types of intergenerational solutions exist to provide security. Part-time intergenerational programs maybe provide respite to families caring for older adults, while also providing the older adult with stimulation and interaction with younger generations outside of the family (Newman, 1997). For children and youth, providing visiting programs and light chore work for older adults can increase a level of trust and a reduction in fear of older adults (Newman, 1997). Programs that offer reassurance through telephone calls, whether it is an older adult checking in on children, or a child checking in on an older adult, can be beneficial to help each age group feel safe (Newman, 1997).

Providing Care
Intergenerational programs can also provide emotional and physical care for each age group. Physically-able older adults may be employed as staff in child-care centers or provide volunteer hours, while those who live in nursing homes or dementia facilities can be paired with children through visiting intergenerational programs, or in programs that share a physical site. Pairing younger children with older adults will result in shared activities appropriate for the abilities of the groups involved, while older children may provide heavier responsibilities such as light chore duty or going for a walk (Newman, 1997).

Providing Education
Intergenerational programs have the ability to use untapped resources by using the skills, knowledge, and wisdom of older adults, and also the enthusiasm of children to teach one another—children may teach older adults to use newer technology, while older adults can teach children about “lost” hobbies and interests such as bread baking (Newman, 1997).

A Note about Family Relationships
It may seem that intergenerational relationships that exist in families would carry into society as a whole, but this is not the case (qtd. in Jarrott, 2007). Specific descriptors of a known family member are not assumed to be true about an age group as a whole, as given by an example of a young child that thinks her grandma might be cool but only because she is different than other grandmas (Jarrott, 2007). Research shows that only frequent contact with unrelated older adults will increase positive attitudes about aging, and for this reason, we cannot rely on family relationships to create intergenerational interactions (Jarrott, 2007).

INTERGENERATIONAL ACTIVITIES

Even though intergenerational programming has multiple benefits for each age group, it is important to review the literature on existing programs to learn how they may be improved upon. This section will provide a short description on intergenerational programming studies and their key findings.

Kaplan, Liu, & Hannon (2006) studied an intergenerational program put into place for 13 months in an existing retirement community in Pennsylvania. Staff and residents were interviewed about their thoughts on the program and key findings were also made from observation. It was found that:

- Residents were interested in passing down information or professional skills they
had acquired in their previous careers (2006). One resident, a retired postmaster, expressed an interest in taking children on a field trip to teach them about the postal system while another resident who was a former college-level sports coach wanted to teach a children’s class on agility, balance, and focus (2006).

- Residents acknowledged some of the issues with the IG program, such as matching up the residents with activities that were suited to their skill levels (2006).
- Challenges included developing a system to maintain the partnerships between the schools and the retirement center. Organizing meetings were time intensive (2006).
- Most of the children from the initial study were still involved in the program 2 years later, showing that there is opportunity for deep and lasting relationships (2006).

Ezrol (2012) conducted a study to see why or why not seniors chose to participate in an existing intergenerational program located in California. Numbers showed that while the attendance in the senior center was high, involvement with the IG program was still relatively low (Ezrol, 2012). The adult day care and child care buildings were housed next door to each other, and each age group took turns visiting the other through 30-minute activities (Ezrol, 2012).

Some commonalities of the older adults who participated in the program included previous work experience with children, not being able to see their own grandchildren, or a general love for children (2012). Older adults who were non-participants gave reasons of disinterest, having no prior experience with children, health reasons, and feeling as if their help wasn’t needed (2012).

Jarrott & Bruno (2007) explain that although the field of intergenerational programs is growing, there is limited understanding of the needs of older participants with cognitive impairments (2007). Their own literature review found mixed reactions towards intergenerational programs (2007). Some found negative effects for children, while others have found the same for older participants. Other studies have found positive effects for both age groups (Jarrott & Bruno, 2007). Success of IG programs can be measured by wait lists for programs, minimal staff turnover, program accreditation, financial analysis and evaluation research (Jarrott & Bruno, 2007). Their study observed a shared site that served older participants with cognitive impairments (Jarrott & Bruno, 2007). This study, which documented the benefits and challenges of working with cognitively impaired older adults, serves as a resource for those who want to implement a similar IG program (Jarrott & Bruno, 2007). Caregivers, parents, and older adults were surveyed and interviewed (Jarrott & Bruno, 2007).

The idea of “personhood” - the basic needs for attachment, comfort, identity, occupation, and inclusion (qtd. in Kitwood, 1997). The use of contact theory helps to guide IG programming. IG programs often fail when it is assumed that meaningful relationships will flourish by simply bringing the two age groups together (2007). There is a high level of work with logistics, planning, and staffing of IG programs (2007).

- Challenges (as ranked by older participants):
  - Most common dislikes: noise, commotion, and children impoliteness.
  - Least common dislikes: doing things with children, interfering with the participant, feeling that the children did not like participant.

- Benefits (as stated by older participants):
  - Common likes: Positive affect on being, caring for children, watching children, children’s stimulating energy, children friendliness. Participants reported feeling happy, interested, loved, needed, and younger.

Kaplan, Wagner, & Larson (2011) observed three different IG programs over 17 months from 1998-1999, with a focus on documenting programming facilitation methods and their results. The results were six common themes, or lessons, that emerged (2011):

• Interaction does not happen by itself (2011).
• Facilitate activities instead of directing them (2011).
• Activities should have a flow, know when to end them, and have back up activities (2011).
• Relationships take time (2011).
• Emphasize capabilities rather than limitations of participants (2011).
• Staff should have a sense of “buy-in”, or opportunity for input (2011).

Cook & Bailey (2013) documented the views of residents across 16 facilities in the UK. Although this study was not in the US, there is still value in its findings which deal with human experience.

• Residents enjoyed school performances, but valued post-performance interactions with the children more (2013).
• Programming that allowed the residents to contribute something were preferred (either by helping or passing down knowledge) (2013).
• Other benefits mentioned included using old skills and acquiring new ones, meaningful social interactions, and staying connected with the community (2013).
• One resident enjoyed a mentor/confidant role for the younger children (2013).
• IG interactions should have a purpose, or plan of action to do something (2013).
• Sensory and mobility problems affected some of the residents, who worried that younger children would not understand how to cope with them (2013).
• Short-term visits were preferred over longer periods of nurturing relationships (2013). Residents described purposeful visits comprised of small, daily tasks that would encourage small talk with the children (2013).

Ruggiano (2012) studied two senior centers each co-located with child care centers within the context of intergenerational shared sites.

Setup
Center A – Consists of one auditorium, smaller rooms for programming, rooms for preschool programs, a large swimming pool and a gymnasium. No dedicated space for older adults.
Center B – Has a dedicated space for both the children AND the older adults. Small multi-purpose rooms, a cafeteria, indoor swimming pool, and a large gymnasium. More age-segregated than Center A.

Results:
• At both centers, the children’s program was prioritized. When there was a conflict of space, the children programming always won. In these cases, the older adults exhibited negative behavior and resentment (2012).
• Defeated/Avoidance behavior of older adults: When the older adults would lose a space, those affected most would avoid the center completely or leave. When asked to join the children programming, participants would respond that it was too crowded/too hectic (2012).
• Territorial behavior of adults: primarily occurred at Center A, where older adults did not have a designated space (2012). However, Center A was also more tolerant of sharing resources with children, since they normally don’t have much of a choice (2012). Older adults without designated spaces would take over and become territorial over other spaces not meant for programming, such as the lobby (2012).
• Older adults at Center B took on a more parental role with the children, which was not observed at Center A (2012).
• The level of sound was sometimes a stressor, especially at Center B, since the designated senior center was located next to the gymnasium (2012).

Key Findings
• Intergenerational interactions where older adults have the opportunity to engage are very different than those when they have to share a physical and social environment with the children on an on-going basis (2012).
• There is perceived inequality when space and resources are prioritized specifically for the children’s group (2012).
• Older adults may be uncomfortable sharing a space when the noise level becomes too high (2012).

Kuehne & Kaplan (2001) compile numerous research papers and studies on intergenerational programs. The essence of an “intergenerational perspective” is sought, which transcends the interests of any one group, but rather focuses on the range of ways young and old people can interact, support, and provide care for one another (2001).
• It’s important to look at how much control people have in exposure to other age groups (2001). Residents with more control were found to be happier, healthier, and more active (2001).
• The question is raised of who holds the “power” to plan activities and grant “access” to other groups (2001).
• The nursing home/child care model was the most common in the universe of shared site programs (2001).
• Some programmers may try to “do for” the seniors, rather than involving them in activities as individuals of worth (2001).
• “Family-style” activities – cooking, conservation, music, and reading – were among the most successful activities (2001).
• Options for different levels of activity involvement must exist (2001).
• The issue of providing adequate “escape space” is raised when there are findings of noisy and troublesome children (2001).

A final thought on IG programs: “The point that needs greater emphasis, however, is that the program-based interactions take place in multiple contexts: the developmental context of each individual participant’s life, a situational context, institutional context, environmental context (within and beyond the facility), and a societal context.” (2001, pg. 17)

Thang & Kaplan (2013) provide the following list of intergenerational settings recommendations:

• Environmental design cannot be independent of context
• Universal design principles should be used when possible to accommodate a wide range of physical and mental abilities
• Design should be responsive to the way users perceive and use space across a lifespan, such as a community park providing for children’s needs for creative play and multigenerational needs for safety.
• Provide opportunities for spontaneous meetings and informal interactions
• Provide cues that convey positive messages about other age groups
• Provide spaces for interaction without violating privacy
• Provide flexibility to accommodate changes in interests and abilities

EXISTING WORK ON INTERGENERATIONAL ENVIRONMENTS

Kaplan et al. (2007) suggests a similar conceptual framework for environments supporting intergenerational design. Kaplan et al. (2007) formats their concepts in the following 4-step linear progression going from general to specific:

• Begin with basic human needs that emerge from intergenerational contact, such as supporting social contact
• Translate these needs into a design goal, such as creating opportunities for interaction
• Translate this concept into an element, such as a structured space for creating interactions
• End with a specific response, such as a toy library in an adult facility

Each of these publications provide excellent design recommendations, but do not explore specific solutions to the issues they propose. For example, Thang & Kaplan (2013) acknowledge the difficulties in providing for children’s needs for creative play & also the multigenerational need for safety, but do not suggest how they may be resolved. Kaplan et al. (2007) suggests how to arrive to a specific design element, but does not address the abilities and interests of a diverse older population.
THEORY

Contact Theory

Contact Theory provides specific conditions in order for two disparate groups of people to foster positive intergroup relationship, and has been used in intergenerational studies (Jarrott & Bruno, 2007; Gigliotti et al., 2005). Quoted from Jarrott & Bruno (2007), the first four conditions were first introduced by Allport in 1954, and added to by Pettigrew in 1998, which are as follows:

- Support for contact by stakeholders
- Contact must have a common goal
- Cooperation between group members
- Equal status between groups (i.e., both groups are valued)
- Opportunity for friendship

Intergenerational programs that have failed in the past often assume that just bringing together the age groups will automatically generate interaction, which is incorrect (Jarrott & Bruno, 2007).

A Continuity Theory of Normal Aging

Atchley (1989) theorizes that middle age and older adults attempt to preserve life as they know it by applying familiar strategies to familiar situations, otherwise known as continuity. As life changes and situations arise, older adults will adapt, but will do so in the same manner they have done during their lifetime. This theory was used by Auh (2009) and further explained in the section describing the importance of appropriate activities.

IMPORTANCE OF APPROPRIATE ACTIVITIES

This section will cover a broad range of research on activities for the older adult population. Just as the background chapter discussed the vast differences of the people that make up the older adult group, so will this section define the importance of realizing that there is a range of appropriate activities to consider.

Auh (2009) explores activity participation in retirement using data from Americans’ Changing Lives, a national longitudinal panel survey that collected data through face-to-face interviews. The data collected on older adult activities was categorized into the eight categories of formal volunteer work, informal volunteer work, care giving, social contact, physical activity, maintenance/improvement work for a car or house, housework, and religious activity (Auh, 2009).

One of the frameworks used by Auh (2009) to guide the study was Atchley’s continuity theory of aging, which suggests there is continuity of adult’s skills, activities, roles and relationships as they go into old age. To elaborate, Atchley states that when faced with “making adaptive choices, middle-aged and older-aged adults attempt to preserve and maintain existing internal and external structures and that they prefer to accomplish this objective by using continuity (i.e., applying familiar strategies in familiar arenas of life)” (Atchley, 1989, pg. 183). The idea that activities carry through a lifetime is an opinion shared by Janke, Davey, & Kleiber (2006) who agree that leisure behavior patterns rarely change drastically. Continuity is not the absence of change, but rather a deep connection to an individual’s past during a time of change (Atchley, 1989). Auh (2009) classifies change factors into changes in environment (residence change) and changes in basic competence (health and cognition). The findings of the study aligned with continuity theory—activity patterns remained in old age (Auh, 2009).

Predney & Relf (2004) outline ten different horticultural therapy activities (HT) that could be adapted for young children, older adults of varying abilities, and intergen-
erational groups. Children’s activities allowed for freedom and exploration, older adults’ activities allowed for flexibility, and intergenerational activities allowed for group interaction (Predney & Relf, 2004). The goals for the individual age groups (children-only groups and older adult-only group) were to create physical and mental stimulation, creative expression, wonder and excitement, while the group activity goals were to increase social interaction and relationship development (Predney & Relf, 2004). Appropriate activities were chosen by learning about the interests of the users and their abilities (Predney & Relf, 2004). Not only does this create appealing activities, but also increases the feeling of importance and value of the users (Predney & Relf, 2004). During activities, assistance should be provided when needed, but limited as much as possible so that the groups will maintain a sense of motivation and independence (Predney & Relf, 2004). It is also important to choose activities that are challenging enough to engage the users, but not to the point of leading to frustration and defeat (Predney & Relf, 2004). Predney and Relf (2004) state that participation should never be forced but encouraged.

Older Adults with Dementia

Grant & Wineman (2007) created a model based on observation findings from five long-term care facilities and how dementia patients used the outdoor spaces. Each of the sites was selected based on the opinion of fifteen experts in research and design fields relating to outdoor environments designed for the elderly and cognitively impaired (2007). The factors analyzed in the study were: organizational policy, staff attitudes, visual access, physical access and garden design (2007).

Independent use of the garden was most influenced by physical and visual access. The model proposes that the greatest amount of usage will occur when (2007):

- Staff is supportive of outdoor recreation (encouraging residents)
- There is adequate visual access to the garden entry & a portion of the outdoor space
- Easy physical access (no locks, a manageable door, one level)
- The author suggests comfort, seating, and shade may be of greater importance than the overall design of the space (2007).

Brawley (2007) acknowledges that even though there are established institutionalized, beautiful, outdoor spaces, they often lack the use by the residents themselves. The study looks at design issues, barriers to use, the role of activity, staff involvement, and design recommendations in order to effectively design for older adults with Alzheimer’s disease (Brawley, 2007).

- Older adults prefer physical features that aid or compensate for physical impairments (2007).
- Gardens primarily fail because there’s nothing going on (2007). Activity means somewhere to go and something to do while encouraging socialization and inclusion (2007). Gardens may be beautiful, but they aren’t designed to support varied
and well-planned activity programs (2007).

- Residents at different dementia stages respond to different environments: some respond to more peaceful, calm environments, while others may prefer an active and stimulating environment (2007).
- Current design issues: the garden layout must be understood, safety and security, high visibility into the space, visible connections to destinations, the importance of walking, proper seating, transition spaces, among many more (2007).
- Gardens have to be more than just beautiful. They are ultimately about enjoyment, activity and interaction.

Heath & Gifford (2001) study eight therapeutic gardens located in one multi-level care facility in British Columbia in a post-occupancy evaluation with 190 participants. Reported users included volunteers, families of residents, and residents. Residents had varied degrees of cognitive impairments.

Key findings:
- Top three garden activities were walking, sitting, and talking with others. Users were permitted to work in the gardens, but this was rarely done because they were maintained by professional, and designed to be experienced rather than worked in (29).
- Wheelchair accessibility, handrails and safety features, and non-toxic plants all met the respondents’ safety needs. The lacking elements were trees for shade and evening lighting. Water features received mixed reviews.
- Respondents said that chairs, raised garden beds, and water features motivate them to use the space.
- The top requests were for more shade and a roof over the garden.
- Many respondents opted for a large, grassy open area to sit in and for picnics when asked how they would have spent the money for the garden project (38).
- Some safety features were seen as dangerous – such as handrails that the residents thought someone could get trapped or wedged between them (incidents have occurred).

Cohenmansfield (2007) studied wandering parks for older adults with dementia. A survey was sent to 672 long-term care facilities asking about the features of their outdoor environments (2007). Residents responded the parks offered great benefits, but overall spaces were found to be underused (2007). The five features considered most essential by the respondents were: lawn furniture (14% of the facilities); a gazebo (14%); trees (12%); picnic tables (12%); and flowers (12%) (41).

Cerruti & Shepley (2016) studied the effect of different types of spatial enclosures on social interaction with children and older adults with early stages of dementia. Methods included graphic representations of interior spaces that were open, semi-partitioned, or completely enclosed (Cerruti & Shepley, 2016). Findings showed that moderately open spaces were most beneficial, but likely facilitated by other features such as adequate personal space, movement in and out of the space, prospect/escape and appropriate stimulation given the environment (Cerruti & Shepley, 2016). Seating should be provided in such a way to foster communication and also provide protection (Cerruti & Shepley, 2016). Their background research found that familiar tasks and activities have a positive impact on the behavior and cognition of those with dementia (qtd. in Cerruti & Shepley, 2016).

Elderly in General

Kane & Cutler (2008) describe the availability of outdoor amenities in retirement homes and the residents’ perception of space across 40 nursing homes spread throughout 4 states. Data was collected from 1,988 residents (Kane & Cutler, 2008). Kane & Cutler address ecological theory, which states that the environment requires certain competencies, which become more and more strenuous as people continue to age (Kane & Cutler, 2008). An instrument was created to test quality of life, based on the factors of comfort, security, functional competence, relationships, meaningful activity, enjoyment, individuality, dignity, autonomy, privacy, and spiritual well-being (Kane & Cutler, 2008). Indoors and outdoor spaces were measured. The following list
are some of the key findings of Kane & Cutler (2008):

- Residents participate in planned exercise activities more than either social or outdoor activities (2008). Top three frequencies were daily, less than daily, and weekly (2008).

- Residents went outdoors:
  - Once a month (32.2%)
  - Less than once a week (13.4%)
  - Once a week (16.8%)
  - Several times a week (15.8%)
  - Every day (21.8%)

- Reasons for underused outdoor space:
  - Space was too far away (i.e. across a parking lot)
  - No proper path to get to the space for wheelchair users
  - Too time consuming to assist residents to get to a space

- Reasons for underused central patios:
  - Locked doors
  - Patio was too close to another resident’s window, so some felt as if they were invading someone else’s privacy
  - Too boring

- The most used outdoor spaces:
  - Provided a view or overlooked real life activity (residents expressed how much they enjoyed watching activity)
  - Included an indoor lounge with a large window overlooking a garden with rabbits

Fitzpatrick & McCabe (2008) describe the aging baby boomer population. They are often more active, younger, still in good health, and expect to carry a certain lifestyle (2008). By the year 2030, 1 out of 5 Americans will represent baby boomers (2008). In order to attract baby boomers, senior centers will need new and updated programming to maintain the work/life schedules of baby boomers and include activities that promote health and wellness (2008). Some centers have begun introducing new programming such as Tai Chi, Reiki, and Pilates, and encourage a mantra of youth, not aging (2008). According to previous research, “aging well” would include considerations for social, recreational, and lifestyle services (2008). Time would be filled with volunteering, travel, fitness, education, enjoying the outdoors, art and cultural activities (2008). Research shows that although senior centers should continue to provide traditional care, they will also need to innovate to bring new services (2008).
MULTIGENERATIONAL PARKS

Multigenerational parks have emerged in recent years as the answer to bringing the young and old together. These parks are designed to attract users of all ages, providing not only traditional children’s equipment but also fitness activities for adults and older users. Outdoor trails lined with exercise equipment wrap around children’s playground areas so that parents can keep an eye on their children (Lade, 2014). Equipment manufacturer Playworld has created LifeTrail®, a series of outdoor exercise stations specifically created for older adults (Playworld, 2016).

While it is beneficial to create parks with all users in mind, multigenerational parks should not be confused with intergenerational interaction. Multigenerational refers to the design of accommodating many age groups (Kaplan et al., 2007). This is not synonymous with an intergenerational program or physical space, which refers to a deeper exchange of mutual benefit between age groups. Multigenerational parks only facilitate two out of five principles outlined in contact theory, which are support for contact by stakeholders and equal group status. It’s clear that multigenerational parks are supported by their stakeholders, whether the users, the government body that funds them, or the manufacturers that create site amenities for them. They also value each group equally by accommodating all users. However, these parks do not encourage common goals of intergroup contact, cooperation, or opportunities for friendship, keeping in mind that intergenerational contact will not occur by simply putting two groups together.
CHILDREN’S SPACES

“When we think and plan for play opportunities, for all ages, we should never forget that play is not a passive occupation. For children and young people it is an expression of their desire to make their own discoveries in their own time and at their own pace” (Lady Allen of Hurtwood, 1974; pg. 11)

Most of the modern world and built environment interferes with the outdoor play of children (Lady Allen of Hurtwood, 1974). The child’s world for exploration, play, and hidden imaginary places has been replaced by webs of urban traffic and confinement to the safety of being indoors (Lady Allen of Hurtwood, 1974). Long gone are gardens where pets were kept, new hobbies explored, and where fathers were seen working with real tools (Lady Allen of Hurtwood, 1974). There has been a failure to “provide the environments in which they can do all the things they want to do: mend their bicycles, make models, meet their friends and family in seemly and cheerful surroundings” (Lady Allen of Hurtwood, 1974; pg. 15). While these words were written by Lady Allen of Hurtwood in the mid-70’s, they still hold truth in the sense that children do not have proper spaces to explore and learn from doing. Playgrounds are stagnant, dull, and overly safe (Lady Allen of Hurtwood, 1974). Playgrounds are often filled with play equipment that adults want to give to children, instead of the things they want to play with (Hendricks, 2011). Children are happiest when they can mold the world to their liking by building houses and forts, digging holes, looking after animals, making bonfires, and using nature to create imaginary worlds (Lady Allen of Hurtwood, 1974; Sobel, 2008).

Educator David Sobel (2008) has come up with seven play motifs on how children learn and interact with nature based on decades of observation around the world:

**Adventure**
Sobel (2008) suggested to children that they go for a walk, upon which they complained of boredom. Adventure, on the other hand, means that there is no plan and the unexpected could occur (Sobel, 2008). Opportunities for exploration allow children to move from experience to abstraction, as evidenced by anecdotes about teaching through adventures (Sobel, 2008). Sobel speaks of a teacher who had two groups of children walk from opposite ends of a forest to meet in the middle and exchange commodities as a school lesson about the Silk Route (2008). The children then figured out how long it would have taken to travel on the actual Silk Route (Sobel, 2008).

**Fantasy & Imagination**
Children often create and live in a paracosm—imaginary, detailed worlds created by individual children or in small groups (Sobel, 2008). This make-believe world can be short-lived or last for many years, and usually created by children around the ages of 7 or 8 and subside around the ages of 13 or 14 (Sobel, 2008).

**Animal Allies**
Children feel empathy and deep connections to animals, wanting to pick them up, hold them and care for them, or even wanting to become them (Sobel, 2008). Today, children are taught from a young age to save and care for the environment, but are rarely involved with enough with nature to love it (Sobel, 2008; Louv, 2005). It is not until children are allowed to nurture and interact with animals that they will develop a bond with the natural environment (Sobel, 2008).

**Maps & Paths**
On a field trip backpacking through the mountains, Sobel (2008) describes that a group of children came across a series of small caves and spent an hour exploring tunnel connections and shortcuts. Afterwards, they recollected their experience and drew maps on the ground of the network they had discovered (Sobel, 2008).

**Special Places**
Children have a unique desire to build their own private spaces in the form of forts and secret places (Sobel, 2008; Tuan, 1978). Small places are scaled to children’s size and they provide an area for the imagination to run wild (Tuan, 1978). Sobel (2008) reiterates Simon Nicholson’s theory of “loose parts”, which states children enjoy settings where there are many things to do and many “loose parts” to create what they please. Nicholson (1972) attributes the failure of schools, playgrounds, hospitals, day
care centers, airports and museums to having clean and static environments devoid of loose parts. Loose parts found for outside play can come in many forms, such as tree branches, rocks, leaves, scrap wood, or a number of other materials provided by nature or in man-made outdoor environments. Sobel (2008) observed that the following key elements were needed in order for the children to build forts: twenty or more children from the ages of 7 to 11, a wooded area that is not off-limits, loose parts to provide construction material, and open-minded adults who understand the value of creating special places and exploring. Elaborate fort villages evolved into a miniature society, where rules of conduct, trading posts for materials, property rights and consequences for breaking the law emerged from the complexities of fort play (Sobel, 2008).

Small Worlds
Models, tiny doll houses and small-scale worlds help children to understand the real, to-scale world by providing a simplified tool in which to understand it with (Sobel, 2008). Children were asked to make small 2-meter models of plant communities from a 200-meter landscape, then translate them onto paper (Sobel, 2008). These models furthered their spatial understanding and recognition of plant communities and their proper zones (Sobel, 2008).

Hunting & Gathering
Hunting and gathering are intrinsic behaviors, as seen by small collections of items gathered by children and predator/prey games such as capture the flag and hide-and-seek (Sobel, 2008). Creating fires and making bows and arrows also falls under this category. Sobel (2008) also relates hunting and gathering to the thrill of seeking lost treasure in scavenger hunts.

Sobel’s (2008) seven play motifs are also echoed in multiple works (Hendricks, 2011; Lady Allen of Hurtwood, 1974; Tuan, 1978)

Chawla (2015) compiles broad research that spans from the 1970’s to current day on children and their outdoor environments, with a focus on health and well-being. The two main areas of this review are the benefits of nature and play spaces. The following are some of the works that were summarized within this paper (2015):

Roger Hart’s Children’s Experience of Place (1979), a book with the goal of understanding how children perceive their outdoor spaces. Hart’s investigation showed:

- Natural features like lakes, woods, and hills were valued greatly by children, and that play equipment was hardly mentioned during the children’s recollections of their favorite places (pg. 436).
- Within natural spaces, children found peaceful areas and restful activities, such as playing quietly in sand or water (pg. 436).
- Children spent a considerable amount of time constructing things out of found parts.
- Patches of dirt were one of the most utilized areas, allowing the children to modify the landscape (pg. 436).
- Hart found that the children outgrew this nature play by the age of twelve, when they became more preoccupied with social lives (pg. 436).

R.C. Moore (1974)

- Argued that outdoor interaction allowed children to acquire a creative intelligence
- Concept of “range development” – children want to revisit places when there is constant change and something new to see every time (pg. 436).
- Observed children in urban lands—almost 1/3 of their activity could be described as adventure play where they altered their environment in some way (pg. 437).
- Some parents confined their children to mostly indoor play. 2/3 of the children said they watched at least 2 hours of television or more, and some answered “most of the day” (pg. 438).


- Educator David Sobel took 90 children (5-11 yrs.) in England, and 101 children (5-15 yrs.) in the West Indies, and asked them to draw a map or picture of the out-
door spaces in which they played (pg. 439). He asked a sample group to lead him to their play spaces.

- Over half of the children from each group (60-80%) spoke of structures like dens and fortresses (pg. 439).
- Sobel argues these spaces create a sense of self, and attribute to creativity later in life.

Roger Hart – Revisiting the children in 2004

- Hart returned to visit the now-grown children he had once observed. In 2014, a journalist by the name of Rosin, had read Hart’s work and the pair watched old footage of Hart’s early work from the 70s (pg. 440). The journalist published an article which correlated the loss of natural play to the increase of social and mental disorders and a decrease in creativity (pg. 440).

Chicago Public Housing (1990s)

- University of Illinois observed almost two identical housing structures with tenants that were randomly assigned to housing units as they became available. One building was landscaped with trees and shrubbery, while the other was surrounded by asphalt (pg. 440).
- Residents who were surrounded by greenery performed better on different measure than those who did not have landscape. Twice as many residents were found to use green spaces than those who used the barren asphalt (pg. 440).

Moore & Marcus (2008) focus on the benefits of nature for children in this chapter out of the book Biophilic Design: the Theory, the Science, and Practice of Bringing Buildings to Life. Children are “biophilic beings,” and therefore naturally inclined to explore their world without fear (Moore & Marcus, 2008). Those that heavily interacted with nature as children grow up to be adults with a strong sense of environmental stewardship (Moore & Marcus, 2008).

Acar (2013) argues that urban environments are important areas for play, since a significant number of users are children. Urban open spaces can be defined as plazas, gardens, daycare open spaces, playgrounds, streets, fields, and more (2013). Spaces are perceived differently between children and adults, and Acar (2013) summarizes lists from different sources of suggested design elements for children such as:

Elizabeth Jones (1997)
- Accessible/Inaccessible, Active/Passive, Challenge/Risk, Hard/Soft, Natural/Built, Open/Closed, Permanence/Change, Private/Public, Simple/Complex (pg. 304).

Tai et al. (2006)
- Five senses, scale, safety, retreat, play, active play, creative play, plants, wildlife, food, shelter, water, place to raise the young (to ensure that children will see wildlife) (pg. 305).

White and Stoecklin (1998)
- Water, vegetation, animals in ponds, natural colors that change, places to sit in, on, or under, hidden places, places with views, replaceable structures (pg. 310).

FEAR OF CHILDREN’S PLAY

There is still hesitancy to let children roam freely, play and build. Part of this issue lies in the cultural differences around the world, and what is deemed appropriate. For example, part of Denmark’s good play practices include small areas where children can escape from an adult’s view, whereas here in the U.S. that would be unacceptable (Hendricks, 2011).

Louv (2005) suggests many residential communities have restricted outdoor nature play because of the threat of lawsuits and an obsession with order. Children who attempt to construct the outdoor forts their parents once enjoyed face their parents getting fined, as one family was in Pennsylvania who constructed a playhouse in their own backyard without a building permit (Louv, 2005). In other areas, kite-flying has been banned and neighbors yell at children who are seen to be climbing trees (Louv,
Organized sports on manicured fields have become the only form of acceptable recreation, and it’s simply no substitute for unstructured play—children need exploration and imaginative play in nature (Louv, 2005).

Fear has also become a large part of why children cannot play outside anymore. Children can no longer traverse their neighborhoods to explore their surroundings due to the dangers of busy street networks, but also to what Richard Louv describes as the “Bogeyman Syndrome” (2005). News reports on child abductions and gun violence has lead to an epidemic of fearing strangers, despite numerous studies over the years disproving statistics or revealing that abductions occurred mostly from people the family knew (Louv, 2005). Louv describes a study done in 1995 that revealed 48% of respondents thought themselves as “shy” (2005). As children have fewer and fewer interactions with neighbors and outsiders, the greater the chance of never learning to build community or become self-reliant (Louv, 2005).

This fear of strangers leaves children with an inability to socialize with adults, deepening the divide between generations who never learned to interact with one another. It also leaves children without a proper place to explore, build or have unstructured play without repercussion. These issues present a need for a space where generations can get to know each other and a space that allows the kind of play children need.

CHILD DAYCARE OBSERVATIONAL VISITS

Two child care centers were visited to informally observe the behavior of groups of children and their environment. Daycare 1 consisted of a guided tour visit through a series of outdoor playgrounds where pictures were taken of the amenities. Daycare 2 was a scheduled visit during outdoor playtime that lasted roughly 45 minutes. A series of notes were recorded at this location. This section details both child day care visits.

DAYCARE 1

All of the following pictures were comprised of 4 playgrounds on site, all separated but connected by gates to control which ones are in use.
This area was used for growing vegetable plants, when in season. It also had a small fountain & pond, where children were encouraged to play with the rocks to affect water flow.

(Left): This was a small covered sandbox table with random pipes and objects purchased from a hardware store for creative play.

(Below): Planters provide a small butterfly garden so children can watch the butterfly life cycle. Bird houses were also constructed but were overtaken over by bats, which are still loved and appreciated.

The covered area (diagram at left) consisted of one very large traditional playground structure, which is not pictured. This was a rainy day, so this was the only playground open and filled with children.

Notable elements:
Pictured above, a rolling wall (on casters) houses small pets such as hermit crabs and frogs.

(Upper Left): This narrow planter (~6 in.) made of plexiglass allowed children to see plants, root systems, and soil structure. The children were able to grow miniature watermelons.

(Below): This structure is a water tower that was built by a local company for outdoor water play. It has knobs and valves where the children can control the water, and a long slide used for boat races in the summertime.
(Above): The side of the fence had two cutouts covered with plexiglass that overlooked the neighboring yard. The neighbor was affiliated with the center, so there were no privacy issues. The children enjoy watching ducks on the pond or horses walk by.

As a side note (not pictured), there were a series of push carts seating up to 4 children that are used to take them off-site on mini field trips to visit the neighboring farm. They go as a group and travel on the sidewalk.

(Below): The last playground consisted of a looped sidewalk where children could ride around on cycles. There was also a large, overgrown planter. The swing set is custom-made and capable of sustaining wheelchair-bound children.

DAYCARE 2

The children that were observed at Day Care 2 were a class of 3 year olds. Outside play time began with 7 children, but more were released in smaller groups over time. The group never grew over 20 children. No pictures were taken at this daycare visit--instead, notes were taken of the children’s play behavior.

Site amenities: 1 traditional playground structure, 2 swings, and small water table (2-3 children at a time could use it). There were also 3 tricycles available, and a row of small plastic child-sized chairs against the wall, below a narrow overhang leading to the classroom doors.

Personal Notes:

I sat on the ground against the wall leading to the classroom, and focused on taking notes and sketching. I made an effort to blend in as to not distract the children from their usual play. That plan worked with the first wave or two of children, but the third bunch immediately came up to me and started asking questions. Who are you? What are you doing? Why are you sitting on the ground? Can you save my tricycle for me? Look at this flower I found!

For the most part, children played on the equipment, because that’s what they had to use. More than a few, however, went exploring in the grass and found the smallest, weedy flowers to collect. These were valuable treasures, as they were in an area of mostly plain grass or some kind of rubberized ground. I saw small trinkets being collected over time--small plastic toys brought from inside and about 4-5 flowers from different children. A squirrel darted by at one point, and escaped through the chainlink fence. A large group of children chased after it, excited by the spontaneity. Even the teacher fed their excitement. Tricycles were very popular and ridden on the looped concrete path around the play structure.

The children interacted in small groups of 2 or 3, or in larger groups of up to 6 children. Some played alone. In every case, the children drifted from solo play to group play in rapid succession. Everyone played with each other equally, the children did not have preferences for each other.
RELEVANCE TO LANDSCAPE ARCHITECTURE

Landscape architecture has not always had consistent themes but rather evolved over time, as evidenced by the introduction of social aspects in design (Francis, 1982). Behavioral factors of people and their environments became an area of the landscape architecture profession in the 1960s, spanning topics such as housing, neighborhoods, playgrounds, parks, malls, plazas, gardens and streets (Francis, 1982). The emergence of behavioral research within landscape architecture led to the acquisition of several key skills used in practice today (Francis, 1982):

• Behavioral factors lead to the critical thinking of evaluating plans: How will the space be used? Who are the users of the space? What social assumptions are being made?
• Thinking ethically about future global issues
• Translating research methods into practice
• Learning to use community outreach and participation in design
• Using behavioral research to defend design decisions
• Behavioral factors encourage participation in new areas of practice (i.e., cultural research and solar design)
• Behavioral research promotes interdisciplinary collaboration

It is the opinion of the author that the field of landscape architecture has evolved over time and continues to evolve based on research, observation, learning lessons from past work, and willingness to delve into other professions that may or may not be prevalent in landscape architecture yet. If research uncovers a gap in current practice, it should be explored as landscape architecture has done for decades, not shied away from. While designing for intergenerational interaction is not a topic heavily discussed in this field, it should be noted that landscape architects have extensive experience in designing for children playgrounds, therapeutic gardens, public spaces, parks and recreation and institutional design as stewards of the natural and built environment (ASLA, 2016).

CONCLUSIONS

Based on the research of appropriate activities for the varied older adult population, intergenerational programs, benefits of intergenerational contact, children’s needs, the utilization of current therapeutic gardens, contact theory, and the theory of continuity of aging, there is an opportunity to explore how an outdoor space might be designed to facilitate intergenerational interaction. Each source presented in this chapter poses a need to be met or an issue that can be solved through design. Below are some of the key findings:

Intergenerational Activities:
• Some programs are in need of a well-designed space to solve issues of territoriality
• Older adults wish to connect with others, and have much to offer in terms of experience, skill, and wisdom.
• For positive interactions between two different groups of people to occur, there needs to be authority support, equal group status, cooperation, goal-directed contact, and opportunity for friendship.

Outdoor Spaces for Older Adults:
• Many gardens are underused for reasons of accessibility - too far, or too difficult to get to, or lack of activity
• The younger generation of older adults seeks to maintain a healthy and active lifestyle.

Outdoor Spaces for Children:
• Children need exploration, the ability to create their own worlds, and mold their environments.
• Current traditional playgrounds allow little to none of this kind of exploration
• Children are expected not to socialize with strangers, making it more difficult to bridge the generations without a program to encourage initial contact

These findings have set the stage for the creation of an intergenerational space that does not exist yet. The following chapter will introduce three conceptual sites that will later serve to illustrate the design considerations an intergenerational space should follow.
THREE SITES

Three conceptual site plans provide a design for older adults who have dementia, older adults who live in an independent living facility and older adults who are actively living outside of a facility, and will be organized as follows:

Site 1 - Intergenerational Space within a Dementia Facility
Site 2 - Intergenerational Space within an Independent Living Facility
Site 3 - Conceptual Intergenerational Makerspace

These three sites were chosen for several reasons:

<table>
<thead>
<tr>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within a Dementia Facility</td>
<td>Within an Independent Living Facility</td>
<td>Intergenerational Makerspace (Not within a facility)</td>
</tr>
<tr>
<td>Older adult users reside here most of the time</td>
<td>Older adult users reside here most of the time</td>
<td>For use by active older adults who do not live in a facility</td>
</tr>
<tr>
<td>Cannot explore traditional outdoor spaces off-site</td>
<td>Staff assistance may be needed</td>
<td></td>
</tr>
<tr>
<td>Staff assistance needed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: Reasons for 3 Sites
Source: Sarah Reyes

In additional to the reasons listed in Figure 2, all three sites need activities and activity facilitators to align with the principles of contact theory. Interaction will not occur by simply having the different age groups in the same space; they need equal group status, cooperation, and goal-directed contact which can all be achieved through activities. For this reason, a traditional park plan cannot work because it will not encourage interaction between groups who do not know each other.
THREE INTERGENERATIONAL GROUPS

Three intergenerational groups with age-specific children were chosen to be the hypothetical users of each site:

<table>
<thead>
<tr>
<th>Site</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia Facility</td>
<td>Older adults (with dementia)</td>
</tr>
<tr>
<td></td>
<td>Young children (pre-K)</td>
</tr>
<tr>
<td>Independent Living Facility</td>
<td>Older adults (no dementia)</td>
</tr>
<tr>
<td></td>
<td>Young children (pre-K to age 6)</td>
</tr>
<tr>
<td>Intergenerational Makerspace</td>
<td>Active older adults</td>
</tr>
<tr>
<td></td>
<td>Young &amp; older children (age 6 to teenagers)</td>
</tr>
</tbody>
</table>

These age groups were matched intentionally to provide the most equal footing on ability level across the older adults and children. This is in line with the second principle of contact theory, where members of two disparate groups should share equal group status (Gigliotti et al., 2005). To encourage more intergenerational activity, environments should be created that have interest to both children and older adults (qtd. In Ruggiano, 2012). In order to have activities that are able to be completed together by the older adults and children, the groups must have similar capabilities. This is why the active older adult group should interact with older children, who can engage in more complex activities, and the older adults with dementia should share activities with younger children to complete simpler tasks. In some cases, those with mild to moderate cases of dementia are able to serve as mentors to preschool age children (Jarrott & Bruno, 2003).

Assumptions:

Assumption 1:
Users of the hypothetical independent living are assumed to have little to no cognitive disorders. This is in order to give an example of an environment that might differ from the hypothetical site created for older adults with dementia. The third group, active older adults, refer to those who do not live in any type of facility and have means of transportation.

Assumption 2:
The design considerations will not detail universal safety principles or best design practices for any age group. Please refer to Chapter 2 to review the literature for specific groups. It is assumed that these will be implemented in the final design.
Based on: Alois Alzheimer Center Cincinnati, OH

This hypothetical site was based on an existing site, but does not imply a need for a redesign. The only purpose is to explore what an intergenerational outdoor space might look like under realistic conditions.

The entryway is well situated with a patio that overlooks the space. Plenty of seating is available in the patio, with a bench or two along the looped pathway. There is also a fire pit, a gazebo, and a small bird bath. Some surrounding buildings have heavy glazing, while others offer a bare wall.
SITE ANALYSIS

Winter Shade
These areas will be underused in the winter time.

Summer Shade
The building provides little shade throughout the day in the summer.
Based on: Friendship Village Continuing Care
Schaumburg, IL
This hypothetical site was based on an existing site, but does not imply a need for a redesign. The only purpose is to explore what an intergenerational outdoor space might look like under realistic conditions.

This facility offers several pockets of open space as afforded by the natural grid-like shape of the buildings. There are ample walking paths and plenty of opportunities for socialization. Residents can also take part in exercise classes that are held outside.
SITE ANALYSIS

Winter Shade
These areas will be underused in the winter time.

Summer Shade
The building provides some shade throughout the day in the summer.
This hypothetical site was based on a vacant parcel of land that would be accessible to young and old age groups. This site is conveniently located within one mile of a local retirement community and a school, but is not limited to exclusive use by these entities.

Located right off of I-75 and west of the University of Florida, this site is located in close proximity to:

- The Village at Santa Fe (< 1 mi.)
  - Independent Living
  - Assisted Living
  - Memory Support
  - ~700 residents, 4th largest in FL

- Millhopper Montessori School (1 mi.)
  - 235 children, 2 years through 8th grade
The parcel is accessible by an unpaved road and adjacent to residential homes.
WHAT IS A MAKERSPACE?

“My favorite question to ask at any makerspace is, ‘What are you making?’ People open up like flowers when asked that question and given any kind of positive encouragement. In this regard, we are all still five years old.”

-Mark Hatch, The Maker Movement Manifesto

Makerspaces are collective, fully-equipped workshops that come from a grassroots movement to share ideas, tinker on technical or manual projects, and foster community (Richard, 2014). The idea of a makerspace was preceded by a similar concept for the tech-savvy, known as a hackerspace, where people could collaborate on software, digital arts, and technology. This idea has now expanded into makerspaces, which vary in their offerings from technology and machining to manual crafts such as sewing, blacksmithing, and carpentry.

Makerspaces are fluid in their form. The chart below demonstrates the variations in what constitutes a makerspace:

<table>
<thead>
<tr>
<th>Active-Play</th>
<th>After-School Program</th>
<th>Arts Camp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Center</td>
<td>Audio Studio</td>
<td>Children’s Creativity Museum</td>
</tr>
<tr>
<td>Club Home</td>
<td>Community Space</td>
<td>Creativity Lab</td>
</tr>
<tr>
<td>Design-Lab</td>
<td>DJ Studio</td>
<td>Drop-in Space</td>
</tr>
<tr>
<td>FabLab</td>
<td>Gallery Space</td>
<td>Makerspace</td>
</tr>
<tr>
<td>Hands-on Learning Space</td>
<td>Idea Lab</td>
<td>Informal Learning Environment</td>
</tr>
<tr>
<td>Innovation Lab</td>
<td>Lab</td>
<td>Learning Lab</td>
</tr>
<tr>
<td>Make Space</td>
<td>Maker Art</td>
<td>Maker Lab</td>
</tr>
<tr>
<td>Makerery</td>
<td>Media Lab</td>
<td>Museum as Play</td>
</tr>
<tr>
<td>Place for Collaboration &amp; Creation</td>
<td>Production Studio</td>
<td>Robotics Learning Lab</td>
</tr>
<tr>
<td>Sandbox</td>
<td>Science Lab</td>
<td>Studio</td>
</tr>
<tr>
<td>Tech Center</td>
<td>Teen/Youth Center</td>
<td>Teen Media Lab</td>
</tr>
<tr>
<td>Teen Tech Studio</td>
<td>Tinkering Space</td>
<td>Workshop</td>
</tr>
</tbody>
</table>

Figure 4: Makerspace Variations
Source: Davee, Regalla & Chang, 2015; pg. 4

Their locations and types of programs can vastly differ--museums, schools, libraries and community organizations are all places where a makerspace can be found (Davee, Regalla & Chang, 2015). Their users can also range from young children, to young adults pursuing a start-up business, to anyone wanting to learn a new skill or hobby by taking a class or learning from others. In addition to technical skills, makerspaces offer benefits such as cognitive skills, social-emotional development and empowerment, regardless of age (Davee, Regalla & Chang, 2015).
WHY AN INTERGENERATIONAL MAKERSPACE?

The idea of a makerspace is a turnkey solution for creating an intergenerational space that is located outside of a retirement facility. Two unique issues arise when an intergenerational space is proposed outside of a controlled environment:

- Lack of facilitators to guide activities
- Activities proposed in a retirement facility can be overly simplistic for the older adult population that is more active.

A makerspace, by its nature, fosters a give-and-take environment where anyone can learn and anyone can teach. Activities proposed for an intergenerational makerspace would have to originate from the needs of its users, but the possibilities are endless. While this concept is currently untested, the validity of the idea is further backed by contact theory (qtd. In Jarrott & Bruno, 2007) and Atchley’s (1989) continuity theory of aging as presented by Auh (2009) (See Figure 5).

<table>
<thead>
<tr>
<th>Needs:</th>
<th>Older Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>To nurture</td>
<td>To be nurtured</td>
<td>To learn from and about the past</td>
</tr>
<tr>
<td>To teach</td>
<td>To be taught</td>
<td>To have cultural identity</td>
</tr>
<tr>
<td>To have a successful life review</td>
<td>To have positive role models</td>
<td></td>
</tr>
<tr>
<td>To share cultural mores</td>
<td>To be connected to preceding generations</td>
<td></td>
</tr>
<tr>
<td>To communicate positive values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To leave a legacy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity Interests:</th>
<th>Older Adults</th>
<th>Children (Sobel, 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer work,</td>
<td></td>
<td>Adventure</td>
</tr>
<tr>
<td>Caregiving</td>
<td></td>
<td>Fantasy &amp; Imagination</td>
</tr>
<tr>
<td>Social contact</td>
<td></td>
<td>Animal Allies</td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
<td>Maps &amp; Paths</td>
</tr>
<tr>
<td>Maintenance/improvement work</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Benefits of a makerspace:
- Learning new skills
- Teaching known skills
- Collaboration
- Socialization & Community Empowerment

As Supported By:

  - Middle age and older adults attempt to preserve life as they know it by applying familiar strategies to familiar situations, otherwise known as continuity. As life changes and situations arise, older adults will adapt, but will do so in the same manner they have done during their lifetime.
- Contact Theory (qtd. in Jarrott & Bruno, 2007)
  - Support for contact by stakeholders
  - Contact must have a common goal
  - Cooperation between group members
  - Equal status between groups (i.e., both groups are valued)
  - Opportunity for friendship

Figure 5: Reasons for an Intergenerational Makerspace
Source: Sarah Reyes
The following chapter will outline the design considerations that emerged from the research chapter, which will then be applied to the three conceptual sites to illustrate their use.
The following issues were found to be problematic in intergenerational programs. While there is no guaranteed solution to remedy disputes among users, keeping these issues in mind during design would take a step towards alleviating some of these pain points.

**Noise**
Based on the observations of Nicole Ruggiano (2012), the loudness from children’s programming became an issue in environments with poor acoustics. While studying Center A, it was noted that an older gentleman left an outdoor pool area when children came and entered it (Ruggiano, 2012). His response for leaving the pool was “I can’t lie, as you get older you lose patience for them” (Ruggiano, 2012).

At Center B, the senior center was next to the gymnasium which would allow the seniors to hear the children’s’ games in the gymnasium (Ruggiano, 2012). High sound levels caused stress among the older adults, as seen when they put their hands to their heads, furrowed their brows, or put their heads down to rest (Ruggiano, 2012). A separate study asked one participant why she did not participate with children who responded that when there’s a lot of noise, she gets nervous, trembles, and fears the children will get scared of her (Ezrol, 2012).

**Dedicated Space**
Center A did not have a dedicated space for older adults, who found themselves using other areas for their activities and displayed territoriality when other users tried to access the space (Ruggiano, 2012). Having a dedicated space for each age group will also offer relief if the participant, whether young or old, chooses to take a break from the intergenerational space.

While the effects of noise levels in intergenerational programs have not been heavily cited, it is nonetheless an important factor in any space. High-energy children activities will no doubt elicit some piercing loud noises, and it’s important to note that this cannot always be tolerated, especially by older adults. This obvious but crucial fact, coupled with the need for shared and individual spaces, led to the creation of a matrix (Figure 6) that categorizes spaces by noise levels and by occupants into six kinds of spaces:

<table>
<thead>
<tr>
<th>Loud (L)</th>
<th>Children (C)</th>
<th>Older Adult (A)</th>
<th>Shared (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC</td>
<td>LA</td>
<td>LS</td>
<td></td>
</tr>
<tr>
<td>Quiet (Q)</td>
<td>QC</td>
<td>QA</td>
<td>QS</td>
</tr>
</tbody>
</table>

*Figure 6: Six Kinds of Spaces*
Source: Sarah Reyes
BENEFITS OF CATEGORIZING SPACES

By categorizing and labeling these areas, designers are able to ensure that each age group will have sufficient space to share activities with other age groups, but also have individual areas to seek refuge from the other age group if needed.

The following matrix of images will show a sample of some intergenerational and individual activities for the purposes of demonstrating how to classify them into the categories of LC (Loud Children), LA (Loud Older Adult), LS (Loud Shared), QC (Quiet Children), QA (Quiet Older Adult) and QS (Quiet Shared).

Creating these six categories of LC, LA, LS, QC, QA and QS allows for the spatial organization of shared and individual spaces on any given site, while maintaining a consideration for noise level.
These six kinds of spaces will inevitably occur side-by-side on any given site.

Shown on the following pages, there are a total of fifteen possible, unique side-by-side combinations of the six kinds of spaces, but not all of these combinations can coexist. Incompatible combinations are shown with a red border. These are combinations that should not occur, such as LC (Loud Child) and QA (Quiet Adult), as evidenced by the study of Ruggiano (2012). Those with a yellow border are compatible, as long as each kind of space is sufficiently large enough to provide refuge from the neighboring space. For example, LA (Loud Adult) and QA (Quiet Adult) may coexist side-by-side, but only if a stressed older adult is able to seek refuge in the quiet space without disturbance from the loud space. Those with a green border represent compatible combinations, since their activity noise levels are similar.
Six kinds of spaces in 15 combinations
There are also instances where older adults may not want to participate in intergenerational activities, whether temporarily or long-term. Participants in a case study offered several reasons for their choices. Long-term reasons for non-participation included lack of experience with children, not being needed to help with children, disinterest, and health reasons (Ezrol, 2012). Another participant said she had never participated with children, and would rather be with adults (Ezrol, 2012). A temporary reason may be due to mood, as offered by this participant:

“It’s not a matter of not wanting to participate it’s just that sometimes you don’t, like, feel like it and rather than go and be gloomy it’s best not to go at all but it isn’t a matter of not wanting to be with the kids, they’re great” (Ezrol, pg. 35).

While some may choose not to participate at all, some older adults and children may prefer to observe rather than working directly with each other (Jarrott & Bruno, 2007). This tendency of observing activity is also shared in Kane & Cutler (2008), where the most frequently used spaces in a retirement home were those where residents could watch activities and socialize. This was even true for those who wished to remain indoors, but enjoyed watching activities from the window (Kane & Cutler, 2008).

While individual kinds of spaces such as QC, QA, LC and LA offer opportunities to be alone or rest from intergenerational activities, shared spaces should provide an area for observation as a way of providing additional comfort without the need to leave the intergenerational shared space entirely.
In the urban realm there are always public and private spaces—the most private being the home, followed by a semi-private front yard, and finally a public sidewalk and street. This public-private gradient is key to designing a comfortable social space (Dec, 2011). This idea is also championed by Alexander (1977) who explains that people adopt a “street behavior” while walking on the street, which changes as they move into a private space. This cannot happen without a gradient of a semi-private space (Alexander, 1977).

This idea of having public versus private behavior can be translated into smaller, individualized settings as well. Alexander (1977) notes a report made from an exhibition fair in 1962: many exhibits could not keep people for long periods of time, except for one particular exhibit in which people crossed a large orange carpet to get to. People stayed in this exhibit, leading the authors of the report to believe the strong contrast of the carpet wiped the “outside behavior” of the people as they transitioned into a private space (Alexander, 1977).

As seen from a simple exhibition space, a public space can benefit from providing transitional spaces. In the case of intergenerational spaces, areas of higher traffic and activity can be translated into “public” spaces, while more individual, intimate areas can be translated into “private” spaces.

The benefit of providing transitional spaces is to create perceived distance away from a high activity space. By doing so, users can experience a gradual transition into high activity space to help them from feeling overwhelmed. High activity spaces depend on the activity, but can generally refer to LC (Loud Children) or LS (Loud Shared) spaces.

Variable Spaces
While a series of six kinds of spaces was introduced earlier, it should be noted that some spaces due to their nature may be used in a number of different ways and therefore cannot be assigned as one of the six kinds of spaces. Spaces such as open lawn areas, gazebos, pavilions fall under this category. These variable spaces provide flexibility for all age groups and can serve as areas for observation and transition between the six types of spaces.
Figure 7: Intergenerational Public & Private Gradient
Source: Sarah Reyes

Examples of variable spaces

Gazebos  Open Lawns  Pavilions
what do the users want?

As shown in the literature review, activities vary in complexity among the older adult group. Activities should be selected accordingly by the stakeholders of the intended space and with consideration for the cognitive and physical abilities of the users. The same can be said for children. Young children will have different activities that they are capable of completing, while older children will have developed interests and skills beyond what a young child can handle. Not all intergenerational activities will be outlined here because they fall outside of the scope of this project, but some activities can be suggested since they require a dedicated outdoor space.

Stakeholders
Examples of activities provided in this project stem from research studies and existing programs, but it is important not to assume that all activities suggested will be welcomed by users. Before designing any outdoor space, input should be provided from users and stakeholders. People affected by the impending project will want to voice their opinions and concerns about the decisions being made on their space (Kaplan & Kaplan, 1998). Providing an early opportunity for input will increase the likelihood of a greater impact on the space (Kaplan & Kaplan, 1998).

A retirement home in Wales asked its residents what they wanted to see in their space, upon which some responded that they missed vacationing at the beach. The resulting design was a miniature beach with an area to lounge in. Residents enjoy the area and allows them to reminisce about old times.
While user input is very important, various stakeholders must also be considered. In the example given by Kaplan & Kaplan (1998), city officials, neighbors, children, parents and taxpayers are just a few of examples of possible stakeholders for a new park (see Figure 8).

Facilitators
In a retirement community setting, especially one for dementia, staff support is needed to assist users or facilitate activities in the space. The training of staff is key for intergenerational programming, so that staff members familiarize themselves with the expected behavior of the children and the older adults (Griff et al., 1996). The staff must also keep in mind the safety of the residents. For these reasons, staff input is an important part of the stakeholder web.
An intergenerational space should be able to provide an environment that meets the conditions of Contact Theory in order to foster intergenerational contact between the age groups.

To review, Contact Theory presents these five conditions in order to have successful interactions between two different groups:

- Support for contact by stakeholders
- Contact must have a common goal
- Cooperation between group members
- Equal status between groups (i.e., both groups are valued)
- Opportunity for friendship (occurs over consistent contact)

Contact Theory not only provides the conditions that should be met in order to encourage successful group contact, but also provides constraints as to where an intergenerational space can exist.

Support for contact by stakeholders
Many older adults users cannot leave their facilities without assistance, or for safety reasons. For example, those with dementia cannot access a park off-site. In order to provide safety and assistance to use a space, the space itself needs to be located within a facility for these users.

Contact Must Have a Common Goal
A traditional park will not fulfill this condition. A traditional park that provides amenities will only turn out to be a multigenerational park—one that does not encourage interaction between people who have never met each other. Strangers will not interact unless a space creates that expectation.

Cooperation between group members
This condition can be met by providing shared activities, which need to be facilitated by an authority figure. This is supported by research that shows interaction will not occur by simply putting two groups together. There must be clear direction and a common goal.

Equal status between groups (i.e., both groups are valued)
An intergenerational space must provide equally for the needs of each age group, not favor one over the other.

Opportunity for friendship (occurs over consistent contact)
This is created by a space that the age groups can visit repeatedly over time.

Contact Theory will not be demonstrated for each of the three sites, because it is not something that is designed into a site, but rather the reason for choosing the sites as listed above.
This chapter will introduce three conceptual site plans for the sites that were selected earlier. Each site will have a brief narrative explaining the site, then shown with the design considerations as explained in the previous chapters.
The first activity is a raised garden bed area, which can be used by older adults or as a shared intergenerational activity. The beds can be tiered in height to be accessible by those who prefer to stand, to sit, or by small children.

The raised garden bed area, considered to be a quiet shared activity, is also surrounded by places in which to observe the activity.

As the users walk along the main pathway, they will come across a smaller, secondary walkway in a contrasting paver color, signaling to those with dementia that they may choose an alternate route and that they are leaving the main walkway. This intersection is also signaled by a change in vegetation that is unique to this spot, serving as a vivid marker to aid in recollection over time.

If the secondary path is taken, it will lead the user to along a meandering path beneath the shade of two trees and a sense of passage underneath a trellis that will be covered in a vining plant. This is a way to offer an alternative route that quickly lets a user escape the loud shared area of the chicken coop, if someone feels the need to separate themselves from this high energy activity. The end of the secondary path leaves user at the scent garden and wildflower patch, both quieter activities that can be observed from the gazebo. The gazebo can be for small group activities, or as a place of refuge from loud areas.

The main patio area serves as a place to sit and observe activity, or can also double as a functional space for larger intergenerational group activities.

The main walkway is a looped path that guides users full-circle throughout the space, preventing residents from getting lost.

Bird feeders offer a familiar activity for those with dementia.

A scent garden can provide a trigger for past memories or experiences.

This scent garden and wildflower patch were located along the east side of the site so they may serve as views through the heavily windowed east side of the building.

Open lawn areas are provided for activities such as games or quiet picnics.

If the main pathway is taken, it will lead users to the chicken coop and run area, where residents can take care of their chickens, or invite children to see and learn about them. For those just curious to observe, a semi-circle seating area is provided, half under shade and half under sun to offer a comfortable microclimate regardless of the seasons. This seating area is surrounded by dwarf fountain grass, which provides a sense of enclosure and protection from the secondary sidewalk. It is important to make sure this vegetation provides a sense of security, while still short enough to see over so that residents may always have visual access to the main entrance.
This site has four kinds of spaces:
- QS (Quiet Shared) - Raised Garden Beds
- QA (Quiet Adult) - Scent Garden
- QC (Quiet Children) - Wildflower Patch
- LS (Loud Shared) - Chicken Coop and Run

These spaces have been arranged according to the 15 combinations of compatible spaces. Areas that are similar in energy level are compatible and therefore can be close in proximity, while spaces that are not compatible are placed much farther apart.
These areas provide seating that overlook shared spaces, so those who wish to observe may do so without being completely separated from the shared space. Allowing this seating also gives refuge to those wanting to take a break from the activity.

These areas serve as intermediate spaces between quieter and louder spaces. They create perceived distance away from a louder space by introducing an in-between space that changes in use or provides a visual barrier.
**CHOOSING APPROPRIATE ACTIVITIES**

**WILDFLOWER PATCH**

From personal observation and the observations of Sobel (2008), children like to collect small items found outside. A wildflower patch provides an ever-changing sea of colorful flowers waiting to be plucked for safekeeping.

**RAISED GARDEN BEDS**

**SCENT GARDEN**

Dementia gardens should be designed to elicit positive emotions and provide a sensory experience. This can include sounds of trickling water, scented plants such as gardenia or jasmine, colorful plantings, and soft plants to touch. Fragrance in particular can trigger memories. Any plants that are sharp or poisonous in any way should be avoided.

**CHICKEN COOP & RUN**

**Resthaven Paradise, South Australia**

This dementia facility offers garden beds that are semi-planted with dwarf fruit trees, vegetables and herbs.

**HenPower, Gateshead, England**

A program in over 40 care homes, HenPower promotes hen-keeping, activities, and education programs for people with dementia. Residents care for hens, attend hen shows, and travel to local schools to teach children about their care. Not only has this program helped older adults relive past experiences of caring for animals, but the program has proven to battle depression and reduce medication intake.
The main entrance leads to an open patio area with a small fire pit area to the side.

Users can take a small informal path that leads to a wooded area that can be used for intergenerational activities such as scavenger hunts or exploring.

This path ends at a shared space where a water tower is located, which serves as an activity where children and older adults can construct small boats for racing.

This covered pavilion is a variable space that provides shelter from the sun. Small or large group activities can take place here, especially those that need tables and chairs.

This raised garden bed area provides a place to garden for both old and young alike as a quiet shared activity.

The path leads to a garden area, which serves as a refuge from shared activities or as an area to be alone.

The covered pavilion overlooks a large outdoor stage, where larger activities can take place such as group exercise classes or large group games.
This site has three kinds of spaces:

- QS (Quiet Shared) - Raised Garden Beds & Wooded Area
- QA (Quiet Adult) - Garden
- LS (Loud Shared) - Water Tower

- Compatible spaces (Quiet Adult & Quiet Shared) are permitted to be adjacent to each other without any buffer space. The activities in these areas are similar in noise and energy level, so users won’t disturb one another.
- The Quiet Shared and Loud Shared spaces can be placed next to each other, but with some distance in between. An open lawn space is provided to create perceived distance away from each other. The Loud Shared space is also very small, so chances are that any shared loud activities at the water tower won’t be overpowering because a large group can’t use it all at once.
- Incompatible spaces (Loud Shared & Quiet Adult) are placed far apart and are buffered by the covered pavilion and outdoor stage expanse.
These areas provide seating that overlook shared spaces, so those who wish to observe may do so without being completely separated from the shared space. Allowing this seating also gives refuge to those wanting to take a break from the activity.

These areas serve as intermediate spaces between quieter and louder spaces. They create perceived distance away from a louder space by introducing an in-between space that changes in use or provides a visual barrier.
This forested area can provide good shade in the summertime, and serve as an area for exploration, scavenger hunts, and nature walks.

A raised garden bed with a handrail provides walking support and the opportunity to garden as it wrap around a walking path. An opening is provided for wheelchair accessibility.

A beautifully planted garden with meandering paths can offer a tranquil space to be alone or converse quietly with friends.

This variable space can serve as a location for large intergenerational group activities, or older adults group activities such as exercise classes.

As personally observed in a day care center, a water tower could be a great activity. This design can be transferred into an intergenerational activity, where older adults can help children build and race boats. A rubberized non-slip flooring material should be used for safety in this area.
This children’s area consists of a small wooded forest where children can build and play in nature as they see fit. Stage seating is provided to encourage children to use the space for setting up plays, or to hold meetings amongst themselves.

A small stream extends from the stage seating area to a makerspace building, where children can play in the water as they please. A swing set is tucked away under some trees behind the stream, which is only accessible by crossing the stream or climbing the rocks at the beginning or end of the stream.

Gazebos are placed throughout the open lawn area, serving as variable spaces that can be used by anyone for a number of small group activities.

The construction yard is intentionally placed between the garage and children’s forest. This area can be used by anyone who wishes to construct something, whether it’s children building something for their play forts in the forest, or adults teaching others small construction projects.

This back road is provided as a way for vehicles to access the garages and the additional parking acts as a loading/unloading area for the garden plots and large pavilion.

This garden area serves as a quiet area to stroll through or reflect upon. It is adjacent to garden plots that can be worked in by older adults and children alike.

This makerspace is arranged in way to have activities along the perimeter of the site with a long, interior open lawn area for recreational use and also provides a buffer area between the louder activities proposed in the north part of the site (children’s forest, construction yard, garage, and sport courts) and the quieter activities located in the south portion of the site (quiet children’s
This site has five kinds of spaces:
- QS (Quiet Shared) - Garden Plots
- QA (Quiet Adult) - Garden
- QC (Quiet Children) - Children’s Stream & Swing Set
- LS (Loud Shared) - Construction Yard, Garages, Tennis & Basketball Courts
- LC (Loud Children) - Children’s Forest

• Compatible spaces (Loud Children/ Loud Shared and Quiet Adult/Quiet Shared) are permitted to be adjacent to each other without any buffer space. The activities in these areas are similar in noise and energy level, so users won’t disturb one another.
• Those relationships that are yellow signify spaces that can be placed next to each other, but with some distance in between.
• Incompatible spaces (Loud Children/ Quiet Adult & Loud Shared/Quiet Adult) are placed far apart and are buffered by a large open lawn area.
These areas provide seating that overlook shared spaces, so those who wish to observe may do so without being completely separated from the shared space. Allowing this seating also gives refuge to those wanting to take a break from the activity.

These open lawn area and gazebos serve as intermediate spaces between quieter and louder spaces. In this case, distance is used as a buffer between the kinds of spaces. The gazebos and large pavilion create variable spaces that can change in use, allowing activities to be of any noise and energy level that is desired.
These two buildings are to provide an intergenerational space that needs to be held indoors. This is also where any tools, equipment, or materials can be stored for activities.

This forest is a dedicated space where children can build forts from found objects and let their imaginations run wild. They can make adventures and play games.

Basketball and tennis courts are provided for anyone who enjoys participating in sports, such as this intergenerational tennis match where an older adult pairs with a younger person in a team.

Garden plots are available for long-term use by those who wish to garden. This is a great intergenerational activity in which to gain knowledge and share expertise.

As used in the independent space, a garden can offer a place of rest, alone time, or private areas for quiet conversation.

This area consists of two garages, a small construction yard, and a paved lot. Older adults can teach the young how to fix up cars and demonstrate small building projects. These two garages store equipment for these larger projects.
CONCLUSION

Exploring the proposed set of design considerations through the three sites validated expectations. Looking back, the only change to would be to the idea of six kinds of spaces. While successful in its implementation by providing plenty of spaces for all users and activities, it was found that labeling a space as a specific type is not as black and white as it seems. For example, Site 2 has a heavily forested area that is proposed to be QS, or a Quiet Shared space, used for scavenger hunts, nature walks, or exploring. That same forested area is also provided in Site 3, but labeled as LC, or Loud Children’s space, used for fort building and making adventures. It is the exact same site element, used in two different ways. Elements that have multiple purposes were labeled as variable spaces, so does that mean that a forested area should also be considered a variable space? In the same train of thought, gardens were generally proposed to be QA, or quiet older adult spaces. But realistically, this does not mean a group of children is forbidden from using the space.

These findings pose questions that have not been answered yet through the exploration of this project. What makes a forest a children’s space, or a shared space? At what point do the created spaces become multi-purpose, and at what point are they reserved for a particular age group? Research showed that it was important to give each age group dedicated space, aside from a shared space. The question is how to make this separation distinct, especially in an outdoor space with no rooms or doors to close off a space. For now, the proposed six types of spaces successfully demonstrated their intention of ensuring each age group received spaces with varying degrees of privacy and activity. That result, even with questions raised on the labeling system, is preferred over a scenario where the age groups do not have enough proper space assigned to each of them.

Intergenerational interactions are not new. But designing a space to foster these relationships in still in its infancy. The landscape architecture profession prides itself as stewarding the land and also keeping the best interests of society at heart. Intergenerational spaces should become a specialized topic within landscape architecture, just as institutional design already is. Landscape architects are vested in areas such as playground design for children, therapeutic garden design, and designing for an elderly population with various physical and cognitive limitations. With all of these areas, the profession is best suited to look at these areas of expertise and combine them in such a way to foster intergenerational interactions in the public realm. While this project looked at a list of considerations that a site should follow in order to create such a space, there is still work to be done in terms of detailed design that goes beyond a spatial layout and activity categories. Are there additional elements or issues to consider when creating an environment for these two age groups? What do these spaces look like in certain situations, such as play areas that are safe for those with dementia, but are still fun and engaging for children? Issues like these still need to be resolved, and would be great starting point for continued research.

The information and literature for this project was relatively abundant, it was just a matter of stitching the information together by reviewing work across disciplines. I believe with more time on this project, many more topics could be explored in greater...
depth such as: the role of environmental gerontology, the psychology of how children learn, successful adventure playgrounds, and emerging studies on makerspaces, particularly in the field of education. Additional goals would include further detailing the activities proposed on each site, providing specific plant material, and imagining what the site furnishings might look like for an intergenerational space. It would also be of great benefit to get input from older adults and children on the ideas proposed in the project to gauge if the activities pique their interest in the way research has suggested. This could be achieved through community workshops where both old and young participants can contribute activity recommendations and explore ideas that could ultimately be encompassed within the ideal intergenerational outdoor space.


**IMAGE SOURCES**

Page 41: Multigenerational Parks

Pages 49-53: Child Daycare Visits
1. All images taken by author

Pages 86-87: 6 Kinds of Spaces - Example Activities

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Page 96: Variable Spaces
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3. https://upload.wikimedia.org/wikipedia/commons/0/0c/View_of_Manners_Hill_Park_from_the_pavilion_in_Peppermint_Grove__Western_Australia..JPG

Page 99: Choosing Appropriate Activities

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Page 73: ArcGIS Maps
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Page 74: Site 3
1. Images taken by author

Page 75: Aerial Photo
1. Google Maps

Page 77: Makerspaces
4. https://familab.org/

Page 114-115: Choosing Appropriate Activities - Site 1
2. https://horticulturetalk.files.wordpress.com/2013/04/cambridgescentedgarden.jpg?w=726&h=544

Page 124-125: Choosing Appropriate Activities - Site 2
3. http://adultlivingsolutions.com/sites/default/files/images/1/6/1%20mile%20outside%20field%20trip.jpg

Page 134-135: Choosing Appropriate Activities - Site 3