"BREAKING THE ROLE OF ARCHITECTURE IN EDUCATION"

perceiving the building as the teacher...

Learning through a journey of physical, mental, and spatial experiences
PERCEIVING THE BUILDING AS THE TEACHER

Educational and Tournament facility for the: American Taekwondo Association

an urban educational complex for Indianapolis

Steve Ruszkai

Bachelor's of Architecture Degree Thesis Design

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outside advisor - Mark McCorkle

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PERCEIVING THE BUILDING AS THE TEACHER

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an urban educational complex for Indianapolis

Steve Ruszkai
May 1993
thank you for the many years of support
for helping me reach my goal

I dedicate this book to my loving parents:

Steve & Janet Ruzskai
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Introduction

The farther my education takes me in architecture, the more I come to see how much it is the role of the designer in forming society’s values and experiences. We all often take for granted the extent what we are living in has been directly, or indirectly designed. I have come more in tune with the notion that what we design is not for the designer as it is for its users.

Throughout the history of the building or space that we design, the architect behind it is directly involved for only a short amount of time compared to the life span of the final product. I am not saying that what we design is going to stand the test of time, but the interaction with the project is relatively finished after it is signed off for occupation. From that point of time, interaction is up to the user.

The user of the building has been handed the responsibility of the use of and intentions of the building. How does the user take advantage of the amenities the architect has provided for them?

Which takes the initiative of the interaction--the user or the building? If the architect truly designed for the intentions of the user, the space should facilitate the needs of the user. I believe the building should make that first gesture in creating the possibilities and forming the attitudes of the of the activities and users.

Therefore the main issue of this thesis is to understand how the idea of "the building shaping the attitudes and awareness of the user.” The building teaches the users of their own possibilities and thus influences the users, hopefully, in a positive way.
Acknowledgments

I wish to thank the following people and institutions:

- Andy Seager (studio professor)
- Kevin Ames (faculty advisor)
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- Paul Stout (map room curator at Ball State Bracken Library for his resources of the context)
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- Taekwood Club (for their inputs in what they would like/dislike in a school)
- Department of Metropolitan Development Division of Planning and Zoning of Indianapolis (for the future intention and maps of the site)
Thesis Premise

Purpose of the thesis

My thesis is an investigation of how people through social involvement and community learning can gain higher achievement of mind and body. I am researching the fundamentals of oriental physical and mental education. However, such as in the context of Urban America, my design solution shall employ the use of fundamental traditions of oriental culture, yet retain its own identity. My process for testing my thesis will involve research of both culture’s community and educational principles, Taekwondo, and the fundamentals of spatial awareness.

Initial belief

In today’s American society, there is a misconception of what martial arts truly represents. This typical American view point is far removed from the actual meaning of the martial arts. I am a student of Taekwondo for almost two years. I have come to learn that martial arts is actually a discipline of one’s control of mind and body. Television and movies have exploited the meaning of martial arts into a vehicle to only achieve fast paced violence that sells to our society. However, there is more than Bruce Lee, Jean Claude VanDamme, and Chuck Norris. There is a spirit and a kinship within the fellow students and instructors that facilitates a philosophy of body and mind. From this philosophy one can understand and master one’s own abilities.

Thesis Statement

The spatial experience through journey, view, orientation, and structure can re-inforce and heighten both the physical and mental awareness in an otherwise considered architecturally non-dependent field of competition and education. The building has as much responsibility as the instructor to teach the students.
Thesis Premise

The standpoint on the chosen thesis

The realm of martial arts has been so stereotyped by America's movies and suburban low-budget schools that many lays people have misconstrued images of martial arts and what it truly represents. Martial Arts is more than bad voice dubs fro foreign films and Teen Aged Mutant Ninja Turtles.

Martial Arts is actually a vehicle many of the ancient oriental nations developed as a discipline to control one's own state of mind and body. This control is arduously achieved by establishing proper attitudes of understanding your body's possibilities and sense of place through certain social aspects. Taekwondo is a fundamental balance of mind and body that focuses on achieving higher goals both physically and mentally. Taekwondo focuses on defense and a reverent code of conduct.

Thesis being a two part inquiry

1. Is there a way for Americans to really experience the unique attitudes, different points of view, and alternative methods of education and training of the traditional oriental culture, yet remain in the American vernacular to establish its own identity and respond to the differences of the American culture?

2. How can the premise of the martial arts, especially Taekwondo (e.g. body movements, logic, discipline, spiritual and physical conditioning) be embodied into three-dimensional spaces and an architectural vocabulary?

I have been a taekwondo student for over two years and currently a red belt. I found such a discipline extends far past learning just types of kicks and
Thesis Premise

punches—it is a new way of thinking. Practicing is a therapeutic conditioning that sharpens both mind and sense of place while improving attitudes and re-establishing a lost cultural and social aspect seldom found in our American culture.
Programme

Summary

To test my thesis I am proposing and educational and tournament facility for the city of Indianapolis. This facility will provide a focal point for the sport of martial arts for Central Indiana. The facility specializes on a holistically designed environment that will raise the level of achievement of mind and body.

The facility is arranged in a small urban campus setting such that it fits well into the surrounding environment. The site’s proximity to I.U.P.U.I. Campus, Y.M.C.A. of Indianapolis, Attucks Jr. High School, Wishard Memorial Hospital creates a strong urban fabric which the Martial Arts Educational and Tournament Facility must remain responsive.

Four major parts of the facility consists of 1.) student living cottages, 2.) student civic center, 3.) class rooms and testing areas for specifically of the American style of taekwondo, 4.) Public Tournament Arena open to all fields of martial arts exhibitions and competitions.

The users of the facility will include full time staff of 30 people that will contribute in the education and organization for training and competition of its students. Student attendance will vary from 10 to 100 students that will stay from one day to several years. However, on normal conditions, there shall be around 30 students that attend a prescribed two-week educational camp.

The facility is an important component in the rejuvenation of the canal area west of downtown Indianapolis called "Indianapolis Regional Center Plan 1990-2010." Also the facility shall generate revenue from the many mid-west regional martial arts activities it will host. These activities will include,
Programme

martial arts conventions, tournaments, specialized training, self-defense classes, and social programs for the youths of the neighboring residential area in order to benefit the community.

Facility Size: (approx "building square feet") 94,200 s.f.
Estimated Cost (Total Building Cost Budget *) $10,000,000
*Estimated November 1992 dollars (Calaculated in another program)

Background of users

The American Taekwondo Association (A.T.A.) was founded by its current Grand Master H.U. Lee in 1969. Grand Master Lee started with one school in Kansas and has grown into over 700 schools nationally, over 100,000 members and is now internationally established in Europe, Korea, and Central America. Recently, these international schools have been combined with the national A.T.A. into the World Traditional Taekwondo Union (W.T.T.U.). The A.T.A. is currently headquartered in Little Rock, Arkansas.

The actual art of taekwondo originated in Korea about 1400 years ago called "t'aekyon." (Kim 135) It originated from a need for better military strength in defending against rival kingdoms and countries around Korea. Since 1910, the introduction of empty-handed techniques has evolved t'aekyon into its adopted taekwondo art name in 1948. (Crmpton 168)

Purpose of the facility

The purpose of the facility is to give students an advanced level of experience in education and participation. The facility is intended as a
short-term educational experience for students to take back to their own local schools and share. The students attending this facility shall pass along the knowledge and the spirit gained here. Not only will this facility provide new and insightful knowledge for first comers but also keep the long time traditional student sharply honed in the ever changing and improving range of techniques and movements of taekwondo.

The ideal of this school is to immerse the student into a holistic environment that encompasses continual interaction with its users. This, in turn shall promote through the student a higher level of earning and achievement for both mind and body.
Programme

Organization

This is the prototype personnel structure for such an organization. All the offices are held by members of the American Taekwondo Association who are active in the practice of taekwondo. The hierarchy of the organization is based on understanding of business and educational attitudes. The members holding office shall periodically be reviewed by a representational selection of the members of the whole facility.

Although the head instructor as the figure head of the organization, that person does not necessarily have to be the highest rank. However, the head instructor is kept in check by the three branches: 1.) Facility superintendent, 2.) Administrative Secretary, and 3.) Facility CO-ordinator.

The structure is based upon an ascension of members rotating through the different offices. After an allotted time, the representative group will call for another office rotation.
Programme Requirements

Administration
This area will contain the basic office management necessities to run the whole facility efficiently. This space is where most formal business meetings take place. Therefore the space should have a professional atmosphere. Head instructors office should be private, thus farthest from the entry. Conference room is not private and should be close to the entry. Staff will display their trophies in this area.

Tournament Arena
Naturally this shall hold the competition activities which include: sparring, judging, demonstrations, changing area, and spectating. This is the culmination of all the education and training. A formal sense of discipline and tradition should be conveyed. The space requires the standard 12' diameter rings and adjacent areas for judging and awaiting competitors. The arena shall seat 1000 spectators. The arena will also supply changing and locker areas for the competitors. For the spectators, there shall be sales areas for food, and paraphernalia. This facility is intended for public use and should be accessible from many directions and easy to enter and exit.

Classrooms
This is the main heart of the facility. A variety of activities happening here will include: listening, watching, stretching, learning, practicing, and extensive body movement. Amenities like pads, stretching bars, wall mirrors, and punching/kicking pads. The space shall provide an ample sense of room for activities like exercising, practicing, and sparring and be zoned for such activities.
Programme

Civic Center
The civic center is provided for the relaxation and entertainment of the students when they are not sleeping, practicing, or competing. The center shall have amenities for dining (formal/informal), recreation (indoor/outdoor games), laundry room for washing uniforms, meeting areas (formal/informal), and quiet areas for reading, meditation, and lounging. There should also be a place for additional exercising if the student wants to work on certain aspects of his training off class time. All service and support areas will be integrated into this space (i.e. kitchens, mechanical, shipping and receiving).

Student Housing Cottages
This space is solely for the privacy of sleep, showering, changing clothing, and some personal practicing alone. The idea of the housing is to create a return destination after a hard day’s exercise, therefore the housing should stay rather spartanistic, so that there is encouragement to spend relaxation time with others in a community setting such as the civic center.

Summary

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<td>Tournament Arena</td>
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<td>Classrooms</td>
<td>10,000 s.f.</td>
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<tr>
<td>Civic Center</td>
<td>22,000 s.f.</td>
</tr>
<tr>
<td>Student Housing (26 units)</td>
<td>10,400 s.f.</td>
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<tr>
<td>Total</td>
<td>94,200 s.f.</td>
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Physical Context

I chose Indianapolis to test my thesis since there is a strong built characteristic environment to address, and that this city is a central hub for regional hosting for Indiana and its bordering mid-west states.

Another reason for choosing Indianapolis is for its population and density of its built environment. Indianapolis is designed as a central regional location with feeders coming in from all directions around the midwest and all focusing towards the downtown. Therefore, I want to continue with the urban fabric. The site is not too close to downtown in order to maintain some relative degree of accessibility without building a major parking structure (exactly what downtown Indy does not need another of).

The cultural context of the site is of variation in age, background, and ethnic diversity. To the west of my selected site is the college and hospital community (institutional atmosphere). To the north is a children's and young adult's recreation facility and Junior High School (Y.M.C.A. and Attuck's Jr. High). To the east is lower income residential homes that are organized in the ordinary city block grid with rows of houses hugging the edges of the block and an alley running through the middle. To the south is more residential, but to the immediate south is a retirement facility.

As one can see, the complexity of the varying culture is an initial issue I need to address in my thesis and is welcomed as a design challenge. The following pages are picture of the site and around the site.
Physical Context

Detail Map of Downtown

↑

North
Physical Context

View at the intersection of Indiana Ave. and 10th street. Looking northwest of my site. Bush Stadium one mile north in this direction. This is a very busy intersection for people coming into the downtown from the northwest.

This is a view of University Ave. that cuts through my site. In the background is the Indianapolis children's hospital. Behind the hospital lays the campus of I.U.P.U.I.
Physical Context

This view is standing on my site at the northwest side, looking west. In the foreground is an abandoned house (typical of almost all the structures on my site). In the background is a large open grass field with Wishard Hospital behind it.

This is the residential area that is to the north of my site. The Y.M.C.A. is in-between my site and these houses.
Physical Context

Standing from the Y.M.C.A. parking lot, looking east-southeast onto my site. In the left is the University Apartments, which is open to the public. In the center background is lower income single houses, which is adjacent to the east of my site. To the right is the skyscape of downtown, which is always visually present anywhere on my site.

Standing from the Y.M.C.A. parking lot, looking southwest. In the mid-ground is the very northwest tip of my site. In the background is Wishard Hospital. To the left is University Ave. which runs through my site.
Physical Context

Standing on Indiana Ave., looking northeast onto my site. Another view of the abandoned house on my site. Behind the house is 10th Ave, Y.M.C.A., and the University Apartments.

Standing in the Y.M.C.A. parking lot, looking directly east. The University Apts. use the notion of complex and neighborhood for the living plan lay-out.
Standing on the north side of my site, looking northeast. The close proximity of the Y.M.C.A. allows the possibilities of coordinating activities with my proposed facility.

Standing on the western edge of my site, looking southwest. University Ave. cuts through my site and continues to the heart of the I.U.P.U.I. campus. To the left is Lockfield Gardens Apts. To the right is Indianapolis's Children's Hospital.
Standing on the east side of Indiana Ave., looking south towards downtown. Indiana Ave. serves as a main artery connector from downtown to the whole northwest segment of Indianapolis. This provides my facility not only with accessibility also to take the opportunity to be the "gateway" to the downtown

Standing in the parking lot of the Y.M.C.A., looking southeast into my site. Just past the openness of my site is a retirement community. Sensitivity to their privacy is important, but also a connection to them would be desirable for community interaction.
Standing on the northwest part of my site, looking northwest. Again, the proximity to such an activity facility would compliment the activities of my facility.

Standing just west of my site, looking southeast. Here are a couple more abandoned buildings on the site. Back in the early 80's, the city tore down almost all the single residential houses once standing on my site. The gaps left, hopefully will be filled with the tournament arena.
Physical Context

Standing on Indiana Ave., looking at the retirement facility adjacent to the south of my site. Here re-emerges the urban wall that has started to disappear on the northern portion of Indiana Ave. Hopefully my facility could create an anchor at the end of Indiana Ave. that would promote further restructuring of this decaying urban wall.

Standing on the western edge of my site, looking west is the everly present dominance of Wishard Hospital. Its institutional feeling will compliment the public feeling of my tournament arena and will reinforce the idea of institution as an aspect of continuing education.
Physical Context

This is the very northwest tip of my site, looking southeast towards the downtown skyscrapers. My facility serving as a gateway to the downtown is visually reinforced by the long boulevard type view that first is seen at the beginning of my site.

Standing from the very northwest tip of the site, looking southwest. All orientations on my site (including site lines, boundary lines, and access roads are diagonal to the city grid. Actually my site is the transition from the residential grid on the east to the diagonal array of roads on the west on my site.
Physical Context

Driving north on Indiana Ave, away from downtown. The scenery dwindle as the farther you go north until you come upon Wishard Hospital and the Y.M.C.A. My building complex idea is not to dominate the site, but to refill the gaps left by the abandoned houses and small retail stores now gone from my site.

Standing in the intersection of Indiana Ave and 10th St., looking east. 10th street feeds back to Meridian St. which is the main feeder road to the north of downtown. On 10th St., between my site and Meridian St. lies residential, some small commercial, Chrispus Attuck’s Jr. High, and the access roads to 1-65 Interstate Loop around downtown.
Culture behind Taekwondo

The culture of my facility is the students themselves. The way they interact socially is geared towards helping each other physically and mentally.

Training with others
Taekwondo requires a great amount of commitment if one wants to be a good student. For training purposes, it is almost always beneficial to have a partners or many partners to train with and practice.

External Feedback
Training with others helps a great deal when trying to improve yourself. For instance, if you are doing a move of technique incorrectly, you may never really notice it. However, your partner has a different vantage point and can offer objective and helpful criticism to correct the problem.

Achieving Higher Levels
Like football or basketball, athletes always do better when they are encouraged to go that little extra. When learning or training by yourself, it is difficult to set a standard to gauge your performance. However, when learning, training, or competing, your peers can always give you that incentive to do better.
Culture behind Taekwondo

Experience as the best teacher
One can practice in front of mirrors and on pads all day, but real experience in sparring competition can only be developed by actual participation with others. Through this actual person to person interaction, each student can improve their reflexes to the unexpected moves from the opponent. Spontaneous and intuitive sense for sparring can only be sharpened through participation with others. (Nakayama, pg 102)

Learning as a Social Aspect
Due to this interaction with others to improve one’s self, he or she must understand that is necessary for social interaction promotes motivation, healthier attitudes, higher discipline, and a better respect for their peers with in your education (Stilson, pg 14)

School as a learning Community
Martial Arts, as with any arts, is developed through observation, practice, and application with help from other students and your instructors. A holistic view upon the phenomena of learning is best achieved when you respect others and the surrounding environment as your community.
Culture behind Taekwondo

A Taekwondo Camaraderie

Your community adds a deeper level of appreciation for your school and your friends. Camaraderie as a tool for learning is the desired attitude for improving one's self in martial arts. Taekwondo's more than just going to your school, doing your learning, and going home. You do not leave your work at the school and forget it. The spirit of Taekwondo remains with you for a lifetime. The people you meet at your school, at tournaments, and testings, are the people who know what you are going through. This shared understanding is a common denominator that creates friendships inside and outside of class. Being in a martial arts school that values the social aspect of community gives you the opportunity for developing a brotherhood/sisterhood that makes you friends for life.
Culture behind Taekwondo

The Spirit of Taekwondo

In essence, the cultural qualities of my users of the facility is having the "spirit" of wanting to teach and to learn--the ability to share experience and expertise with each other. The following creeds are said by instructors and students at each class meeting. It is called the "Songham Spirit of Taekwondo."

Songham Spirit of Taekwondo:
(before each class)
I shall practice in the Songham Spirit of Taekwondo, having courtesy for fellow students, loyalty for my instructors, and respect for my juniors and seniors.

(after each class)
I shall live in the perseverance of the Songham Spirit of Taekwondo, having honor with others, integrity with myself, and self-control of my actions.
Culture behind Taekwondo

The following two pages show one of the extra curricular activities my own teakwondo school participates with the community. Other extracurricular activies include, self-defense classes for women, car wash fund raisers, and food sales for spectators at testings.

BOARD MEETING: Carol Wiegand breaks one of 161 boards broken by the YMCA Tae Kwon Do Club Saturday at Muncie Mall.
Culture behind Taekwondo

The Muncie YMCA
Taekwondo Club

60 Second
Board Breaking
Blitz

350 schools and clubs across America will break 100,000 boards in 60 seconds.
The local club will attempt 300 boards in that period.

Saturday, January 23
11:45 AM
Muncie Mall

Help Support the
American Taekwondo Association
College Scholarship Fund
Objectives & Methodology

What I want to achieve in this thesis

I want to gain a better understanding of the aspect of architecture and its implications on molding our society. One can think of this Taekwondo Educational and Tournament facility as an experimentation in a laboratory. However, unlike a true science experimentation I can not feasibly gain empirical data and evidence unless it was actually installed and used.

Therefore, my investigation is one more of a subjective/objective nature. I will continuously re-evaluate my progress throughout the thesis project. I will use small vignettes to study aspects of view, light/shadow, orientation, and structure at several different scales.

Issues that I want to explore to generate my thesis

I want the fundamentals of martial arts (control, discipline, inner body harmony of awareness of surroundings) embodied within the atmosphere of the building construct. I want the facility to promote a desire—a desire for higher achievement of both mind and body for all that experience the place. The design wants to have a character with resemblance to American Culture but also imbued the more abstract tradition (earth/nature, positive/negative space, peaceful yet stable peace of mind, emphasis on environmental contextuality, expressive architectural vocabulary of its community, and attention to articulation of details) of the oriental culture.
Research

Based on my initial thesis and assumptions, the following is the information I wish to gather and to formulate:

- **Interviews**
  I wish to interview my instructor, fellow classmates, and instructors and student outside of school in order to gain different perspectives. Hopefully these interviews will determine attitudes, stereotypes, and biases association with the typical martial arts instruction places. This way I will learn what to avoid. The interview will also pose alternative approaches and perspectives developed by me. Hopefully my interviewees will provide feedback to guide my testing of the thesis.

- **Library Research**
  I will want to learn more about particular aspects that deal with my thesis including:
  - The variety of body movements of martial arts.
  - General History of Martial Arts.
  - Cultural aspects concerning eastern civilizations.
  - Attitudes of discipline, wellness and communal lifestyles.
  - Contemporary and historic examples of building complexes
  - Studies of campus type institutional facilities and how they integrate into the socio-communal aspect of "learning."

- **Site Investigation**
  The need for site analysis will be focused on the future of the site and its possibilities. I will use present-day information, however my intentions are to rejuvenate the area with new alternatives compared to the abandoned nature of the site. My site information gathering will include:
  - Personally taken photos are the site and its surroundings.
  - Platt maps, aerial maps, urban development maps
  - Circulation studies of pedestrians, buses, and automobiles
  - Investigation of surrounding facilities
    - I.U.P.U.I. Campus
    - Wishard Hospital
    - Y.M.C.A.
    - Residential Neighborhood
    - Retirement Center

- **Climate**
  Knowing the climate of Indianapolis (harsh winters, and blistering summers) and my intentions of it being partly an outdoor facility, intended use of the classroom parts will be from after the shower season of mid-Spring and up till the end of Fall. However, some commuter classrooms and the actual tournament arena will be open year round, artificially climatic controlled. Since all the students wear lightweight uniforms and will be perspiring frequently, I wish to eliminate contrasts of hot cold climate, and therefore choose only the warmer season of the year.
The Art of Zen

To appreciate the oriental culture and their methods of meditation and focus I examined the aspect of "Zen Buddhism." Zen is a psychosomatic Technique developed in China in the mid 6th century A.D. The purpose of zen is to transcend from your unconsciousness to a conscious level. Once this transcension is achieved, one can called this the conception of "enlightenment." (Huard, pg. 175)

Zen influences a wide range of mental and physical manifestations including language arts, physical culture, flower arrangement, landscaping, tea ceremonies, etc. The meditation technique, called ch'an, is from the Bhuddist teachings started in the Sui and Tang Dynasties. The objective of meditation is to bring one's mind into peace. The term "za-zen" is the term for the posture one site when in ch'an.

The zen view is also giving inanimate objects the sense of living forms. One example is of the landscaping "cultivation of rocks." Here the rocks are raked into an arrangement that suggests a natural arrangement by wind of sea currents.

There are two ways of seeing. One is according to the western culture. The western civilization strives for a central vision. If the view is skewed. The eye tries in great effort to accommodate a perceived view of perceiving it from the center. The second way, the zen way, makes no effort to focus on the center. If the view is skewed, this is appreciated. Their humbleness and understanding--their non-central existence in the universe conditions them to enjoy and even strive for such views.
Research
The living conditions of the student housing adopts this humble, yet
spartanistic, atmosphere that is conducive to privacy of practice,
meditation, sleep, and personal hygiene. Although personal time is valued,
the cottages I wish to design encourage students to seek lounging,
socializing, and recreation with other people in a more socially oriented
space.

The zen attitude fosters a self-understanding that we are a part of a
bigger and deeper importance. Zen may de-emphasize the self but it
emphasizes the surroundings and its importance by bringing it alive through
a spiritual existence in poetry, craft, landscaping, and physical exercise like
martial arts.
Research

The Edo Architecture of Nikko

The architecture of the Toshogu has been directly associated to the "zen style" due to its abundant use in Zen monasteries. (Okawa, 61) The Edo period, the early 1600's A.D., is an assemblage of a variety of earlier period of the Momoyama. Nikko is a shrine complex nestled in the mountains of Nikko in Japan. Nikko was designed from the scan (thatched hut) style of the teahouse which was established in the Momoyama period. (Okawa, 131)

Nikko is a compact and pleasing building complex design that was influenced by the ceremonial tearoom philosophy. This philosophy puts importance on the juxtaposition of different architectural idioms but the realization of a fresh and unified design for a shrine compound even though it displays an unrestrained freedom in design. (Okawa 131)

What brings so much attention to Nikko is its extensive scope of the undertaking. A number of buildings of different styles and functions are combined to create a whole world of architecture of intense detail. From the sculpture, to the room layouts, and event to the stepping stone arrangements are thoroughly designed. Every detail expresses a kind of conscious aesthetic judgment.

Nikko is situated at the foothills of the Nikko mountains and the area has very little flat land to build. However, the designer, Kora Munehiro, created a series of turns, switch backs, and sets of stairs to give an impression of duration of spatial experiences to accentuate its journey. (Okawa, 112)
Research

Ground Plan of Nikko Tosho-gu
Research

The Edo Architecture of Nikko

125. View of inner courtyard; left to right:
Yomei-mon gate, Shin'yo-sha (Portable-Shrine Storehouse), and Karu-mon gate. Nikko Toshogu.

143. Sectional view of Reliquary, Engaku-ji, Kanagawa, Kanagawa Prefecture, exemplifying kara-yo construction.
Research

Principles of Physical Education

The concept of physical education involves an interrelationship of mental, social, spiritual, and physical aspects. Educators should understand that all of these parts are unequivocally symbiotic in nature and the of the physical education experience. (Barrow, 15)

Physical education is not a new concept. The earliest recorded instance of physical education was by Plato over 2000 years ago. The ancient Greeks saw an association of mind and body in the education of their people. Life and living for them was a whole that integrated a harmonious balance of art, intellect, and physical conditioning (Barrow, 16).

The architecture of LeCorbusier was one of the modern architects that have brought back to life the notion of physical education amenities in the architecture. His building promoted the health of its occupants.

Barrow quotes a saying of ex-President Kennedy, "The relationship between the soundness of body and the activities of the mind is subtle and complex. Much is not yet understood." (16)

Barrow also suggests that students should understand that movement with its games, sport, dance, and exercise is not just a means of fun, sweat, and weight reduction, but is basic to all types of learning, intellectual as well as physical. Therefore, the parameter of learning encompass far more than traditional education implies. No learning is purely
Research

physical or intellectual. Learning is a continuum along a linear scale (Barrow 16)

Barrow quotes Professor Lawther as saying, "The difference between mental and physical learning is one of degree rather than kind. The spectrum of learning has many shades, but they are all related. Hypothetically, no part of the whole reaches zero activity when other parts are engaged in learning. The living, holistic mind-body system is an entity—an integrated entity—and can be fragmented only for convenience." (16)

In addition to having an impact on the social individual, sport and games have an influence on the sociocultural processes themselves. They no only reflect sociocultural patterns, they also have been instrumental in extending and shaping those patterns. (Barrow, 34)

The discipline of physical education, which studies the whole person in human movement, is by its very nature also inseparable entity of reality. The holistic concept is philosophically acknowledged in the inextricable relationship of the objectives of education in the three domains of the cognitive, psycho-motor, and the affective.

As a result of social interaction, the values of students, including their attitudes, appreciations, and ideals, can be markedly influenced by some type of education. The learning climate of the environment, the type of society in which interaction takes place, and the leadership are highly significant. (Barrow, 110)
Research

Institutions of Higher Learning

Three primary designs provide an organizational strategy for the distinct sectors of the campus setting. Each relates to both the found condition of the site and to a reinterpretation of different historical models associated with university planning. (Davis, 45)

The first model is a contiguous organization of building along an edge of a linear megastructure. Second is the bulk of the program that is deployed in a formation of gridded courtyard blocks, providing a new center of gravity for the campus, analogous to the traditional European urban university. Third is a clarification and completion of latent existing campus spaces recalls the American collegiate campus tradition of quadrangles. (Davis, 46)

University as Megastructure:

This is an example of a competition for a Master Plan for an expansion to Miami University, in Florida, along Highway One. It is designed as a continuous megastructure. Precedents for this model also include Alberta by Diamond and Myers, and Berlin Free University by Shadrach Woods. The megastructure proposal is based on the idea of the building as a social and intellectual “condenser,” in which circulation and infrastructure are organizational constants supporting programmatic change. It is not however, a pursuit of mechanistic imagery, but rather a tool for programmatic spatial zoning.
Research

The European Urban University

This proposed organization is based on the traditional conception of that the students live and attend classes in a district of the city. In this tradition, the city and university begin to merge their identities as one. The Universities of Cambridge and Oxford, with their individual colleges formed around courtyards, exemplify this model. This tradition also includes the historic, small, exclusively pedestrian city has schools, residential colleges, married student housing, and administrative facilities in the courtyard blocks. This urban district also advances the objective of integrating various departments and functions. (Davis, 47)

The Quadrangle Campus

These types involve the clarification and reinforcement of existing spaces which loosely form campus quadrangles. These quadrangles are comprised by disparate architecture, spatial ambiguity, and the intrusive presence of the automobile. Thomas Jefferson's design for the "academic village" at the University of Virginia set an American tradition for campuses to come. Originally, the term campus meant 'field,' an is used today for "strategically positioned freestanding buildings separated by trees, walks and colonnades taking the form of a quadrangle. These elements that comprise the quadrangle reinforce spatial readings and pedestrian movement. Spatial richness is achieved by the integration and overlapping of man-made and natural elements. (Davis, 48)
Research

The Public Plazas of Isamu Noguchi: Riverside Parks

Noguchi is well known for his public plazas of the 50's thru the 70's. He worked closely with the firm of S.O.M. in New York City and has created his own abstract organic plazas of objects, sunken plazas, and without the use of vegetation. In the 50's Noguchi joined forced with Louis Kahn for the proposal of a series of public parks for the Riverside housing plan in New York City. In these series of parks he combined the use of organic and geometric forms as he previously proposed for a playground for the United Nations. The major difference between the two however, is the scale. The Riverside parks are to extend fro several city block (like the scale of my thesis site), and all his versions of the design feature low buildings for indoor recreational activity, a small amphitheater, and shallow pools. The earliest version included a structure whose cup shaped roof formed a sun trap to illuminate its spaces. (Friedman, 49-50)
Research

The Public Plazas of Isamu Noguchi: Bienecke Gardens

Noguchi's purest, most restrained gardens is for the Bienecke Library at Yale. It is a sunken plaza with three primary geometric forms on a scored grid that with some imagination alludes to a oriental garden. The three elements are a pyramid, a ring, and a cube balance on a point. In this geometric, almost Pythagorean relationship, symbolism is up to the observer. Overall impression is of a highly geometric fashion. But the reward to the close observer is quite a subtle surprise. On the ring, the circles vertical axis of the opening is off axis with the ground. The side of the pyramid is not equal, thus not a pyramid. And on the cube, although the edges are orthogonal, the surfaces are sculpturally scooped out. It might sound kind of stupid, but the genius of Noguchi is his interrelationship of spatial perception and how their relationship change depending on the viewer's viewpoint. (Friedman, 69)

Noguchi says himself:
"I prefer to work with a relationship because then you are not working with a single thing but you are working with several things which accumulate energy between them—they call to each other. And pretty soon, there is a kind of hum because of this vibration that is occurring between objects and between the spaces and presently there is a kind of magnetic gyration into which you are then caught...You see, three is a very convenient, elemental number. After all, one is a unit, you don't have any place to go. With two, you have a choice, but with three, you have an asymmetrical situation. With triangulation you can go into trigonometry and all sorts of relationships of viewpoint. It's the minimum you can have." (Friedman, 69)

Even in taekwondo the use of three is important in the amount of moves one can use in a combination of moves to be fast but effective.
Research

Junior Jim Hicks meditates with other members of the Judo Club after an intense practice Monday night.

By LISA COOK/Chief Photographer
Design Development

My design started with a list of studies and inquiries that I wanted to explore.

- What can the architectonic features of such a facility do to promote an elevated sense of achievement for mind and body?
- In what way does design lend itself to my thesis? Is the quality of design the basic solution to my thesis, or is the solution more of an intellectual intention for quality design that goes deeper into theory than is visual aesthetics?
- How can I do more than just build "the better mouse trap?" I do not want to merely just improve on the typical existing ideals of martial arts schools. I want to start anew, with fresh attitudes, different points of view, and alternative methods of education.
- How can the premise of martial arts, especially taekwondo (e.g. body movements, logic, discipline, spiritual and physical conditioning) be translated into three-dimensional space and architectonic qualities?
- Since the nature of martial arts deals with simplicity in methodologies and a total openness of mind and body, I wish to maintain an architectural honesty that reflects the character of taekwondo. I do not wan a design that tries to be something it is not. My design shall be a projection of the clear and insightful mind of a experienced martial arts instructor who is in focus with not only their thoughts, but in tune with their student's needs and desires.

The following pages will be my investigation into these questions and an application of what I learned through my research.
Design Development

**Nurture to Independence**

One way in which I wish to design this atmosphere of achievement of mind and body is to create an entity to carry out this achievement. When one thinks of achievement, there usually precedes it a series of smaller steps in order to reach the final goal. These series of steps need to start easy and progressively become harder. One must learn how to site, then to stand, then to walk, and finally learn to run. These evolutionary stages, I call "Nurture to Independence.

Schematically, I wish to accomplish this by a transition from protection to independence. I see the beginning of the protection as the safety of your own little home. These clusters of humanly-scaled personal spaces protect and nurture you with a feeling of home and also by a canopy of trees.

From this area of nurture, one is gradually weaned to the final climax of accomplishment. This final stage of your accomplishment will be the independent application of all you learned and will take the form of sparring competition. This competition will take place in a construct that desires to stand alone, austere, elegant in posture. It shall stand bold and erect. In order to heighten one's accomplishment on their part, they will be confronted by the building. The building shall have a feeling of intimidation—a sublime nature of existence. Only till the student can make the jump from nurture to independent confrontation of intimidation, will he or she gain that feeling of achievement and sense of accomplishment.
Design Development

Sense of Journey

Accomplishment is achieved over a set of smaller steps. These steps can be considered a "journey." From my research I have developed an educational theory, "Confidence breeds competence." Confidence, to be lasting and not just a temporary high, must be developed by a sequence of staggered and overlapping stages of development. Here is the sequence I wish to design into my "journey."

The journey begins, like everything in life, from the protection of the womb. This is a period of gestation and understanding. There is a sense of protection and familiarity. This stage of development is characterized by the small scaled, and personal spaces that the students live in during their stay.

The comes birth. Suddenly, one makes probably their biggest contrasting and violent transition of their existence. One second you are comfortable, warm, and secure in the darkness of your womb. BAM! All of a sudden your popped out into a shower of light, and of coldness. You for the first time feel your self not as the only thing in the universe, but as part of something bigger. This is your first presence---a type of spatial experience. This stage of development would be the students emergence from the canopy protection of trees into the plaza of the civic center.

Since your presence in the real world has occurred, there are certain primal need and desires to be fulfilled. These are the desires and needs of food and caring. There becomes the need to be with other people. Learning is continued from nurture by the need of exploration. We all find different people, different cultures, and new scenery educational if not enlightening. The civic center will be the stage for this scene of personal interaction. This personal interaction is propagated by a source of food and recreation. I have purposely designed the curriculum so that one leads a rather nurturing yet spartanistic existence in their housing units. When the students reach this need of hunger and loneliness will the civic center become a spectacle for the rituals of breakfast, lunch, and dinner dining tradition. These meals mixed with conversation and relaxation provide the catalyst for community interaction.
Design Development

Once the student feed his or her primal necessities of food and talk, they can move on to a more higher level of existence. This is an existence of a higher goal. The students come to grips with the reason they are here. They are all hear to learn. From the civic center one is first given then glimpses of the classrooms. This sense of a higher goal is the spring board for the next stage of development.

One starts to gain the desire to step out and move forward to find their goal. This goal takes the shape of instruction in learning. We find our mentor (our instructor). They help us with the fundamental of learning and achieving our goal. This stage is solidified into the classroom facility. Here is where all the formal education of the facility takes place.

Once we are learning, listening, and understanding, we start to practice what we learn. Once we practice the individual moves, we assimilate the information into a whole. From this whole we gain an understanding of ourselves and what we know. Depending upon the individuals ability and skills, they can either venture forth or remain to hone their skills. Some leave early, only needing to come back. Some stay on too long. This classroom complex need to be accepting of coming and going and of trial and error. At this point, there is leeway in direction and accomplishment.
Design Development

When one feels ready to move on the student heads to the higher symbol of education. I call this the "gate house." This area contains the experienced, the wise, and the respected. They are the leaders of the facility. At this stage you come humbly and modestly to their presence. You show your respect by transcending below them (almost as if you are kneeling.) You state your intentions of knowing, practicing, and improvement of you skills. You ask for the opportunity to apply what you know. However, you get your answer from within yourself. It is your choice to take that next step. This step is marked as an important stage of transition. At this moment you can passe through the gate. Remember, once you are through you have set things into motion and can not turn back. Your decision is made, and it is a decision of great sincerity, thus it is physically marked. My marker is an abstraction of a traditional oriental "tori" (a simple trabeated structure whose only purpose is to denote sense of passage.

From here one must take that "leap of faith" to reach their hard earned accomplishment. The opportunity of sparring competition, lets you apply what all you have learned and practiced. Once here, you depend only on yourself. There is no longer the nurturing of the cottage, no longer the food and talk and recreations, and most of all there is no opportunity to stand behind your instructor and perform when only you are ready. You stand for yourself and one is always ready--if they fell like it or not. This is the spirit of competition I want to be carried into my tournament arena.