Design Development

Balance and Stability

To heighten the educational experience of the student, the qualities of the experience need to have the fundamentals of taekwondo inscribed with in the spatial experiences of the learning environment. Fundamental like balance, blocking, striking, and perception that leads to anticipation of your opponent’s next move.

The user’s building should have the ability to perceive things clearly. This perception improves the understanding and increases the quality and efficiency of learning. Having the ability to distinguish the contrast of white and black and diminish the "gray" areas, is necessary for clear thought. Therefore, the structure needs to be understandable. The student should be able to discern what is structure and what is filler, what is opening and what is shelter.

Therefore, fundamentals and perceptions are both need to be further imbedded into the learning environment through attention to visual details of structure, controlled views. Security and continuance can be achieved be a predictable anticipation. With the use of a set vocabulary of elements, one can gain this sense of security and continuance. This continuance is emphasized by a precession through the complex to its ultimate goal of the tournament arena.
Design Development

Synthesis of Organic and Linear Motion

Students and instructors rationalize the desired perfection in taekwondo as the ability to transform our organic non-linear moving body into a series of "machine-like" orthogonal qualities of motion. That is one reason why my design is developing into such a series of linear abstractions rotated about each other.

Even though our bodies are soft, organic, and irregular in shape (unlike the parts of an intricate piece of machinery), our bodies can demonstrate a more natural balance, a more exertive force, and a more effective blocking or striking force by imitating the machine.

So, throughout the building complexes of my site, every building, every walkway, and every railing is designed with the machine-like qualities. These elements are not to give a feeling of being uncomfortable, but to be experienced as a continuing reminder of achieving this machine-like state of action.
Design Development

Architectonic yin-yang

At one point in my design development, I came to a point where I was needing an overall design concept. I took a change of pace from dealing with the three dimensional spaces and started to look at two dimensional iconography.

Below is a series of images I created to help me re-evaluate my design development. The icons depict the duality of nurture and the vulnerability; machine and body; familiarity and detachment.

All of the icons have three main parts to them. One is the presence of two elements of the same shape that try to relate to each other spatially inside or outside of each other. Two is the use of contrasting colors of white and black. They represent the presence of security and the stark nakedness test for survival. The third part to the icon is the connector of two elements that are skewed from the bounding frame of reference. This skew has many reasons, but the most important is due to the nature of the "zen" view. From my research I learned how zen religion of the oriental culture always views their surroundings or objects in other frames of references at slight angles at the side. Views are seldom set up to be views perpendicularly head on.

The icons over all depict the tensions of movement between objects. Examples seen abstractly into the icons include: two students sparring, hand meeting board, foot meeting block of an arm, view and counter view.
Design Development

Spatial Precession of Journey

Journey is more than just walking from one building in the complex to another. The journey is a psychological journey of spatial awareness. Walking the path is just the superficial aspect of the journey. The journey must heighten one's awareness of transition from desire to learn to the ability to demonstrate.

Similar to classical oriental institutions of learning and religion (like Nikko in my research), there is a process of ascending, descending, change of orientation, transition from in a space and transition out of a place. This process emphasizes the quality of the journey and makes the traveler very aware of the position within the journey. This process can make a smaller space feel like they are longer in duration of travel by providing switch backs, deviations, and walking around instead of through an object.
Design Development

This process of transition must be done carefully and skillfully. If it is done not enough, the one or two instances it is done make seem silly and out of place. If done too often, the designer can frustrate the traveler of the journey by causing unnecessary and inconvenient detours. These transitions within the journey must be justified by some certain event or occurrence along the path of the journey. Special events like the civic center or the classrooms, or the gatehouse mark important stages along the student journey and are thus places of such transitions.

Creation of a set vocabulary of certain types of approaches, turnings, and vertical transitions are marked by the use of certain elements and reused in similar occasions throughout the journey.

An architectural vocabulary of colonnades, ground textures, lighting, spatial proportions, sizes relative to surroundings, and control views is what I employ within the transition spaces along the journey. All the pieces of this vocabulary are common throughout the journey but are given twist at the end at the tournament arena.
Design Development

Views and Participation

The ability to see happenings inside while passing by the different buildings in the complex, makes the students visually participate back and forth while taking their educational journey. While inside, students can reciprocally see other students passing by outside. This is a reminder to them of their ultimate goal of the journey-to compete in the tournament arena.

Interaction between the performer and the observer is reinforced by their closeness of visual contact. Easy access to these places one can look in promotes need to participate and also a higher self-identification to the space. That is why the path is elevated higher the classroom areas so that the passerby is inclined to look down into the space. Since going down is physically and psychologically easier to achieve, I put the passerby higher in order to coerce them down into the area. On the other hand, while the student is in the lower space and looking up at the path to their ultimate goal, they feel an aspiration of ascension.
Design Development

Structural Emphasis

Structure, in its direct meaning, is to hold up the walls and the roof so one is not crushed by the weight of the roof. However, structure can indirectly serve many other functions. Repetition in structural elements provide a sense of continuity and security. The use of rows of columns and trabeated forms offer a higher sense of "institutional" learning which reflects the nature of the purpose of being here-to be educated.

Ways in which I emphasized the structure is with oversized bases, punching the rafters through the surface of the roof, and overlapping beams that extend farther than necessary. With the use of emphasizing structure, I bring focus upon understanding of tradition martial arts fundamentals like strong stance foundations, wide sweeping blocks, use of arms and legs as tools to divert the other's force, and focusing your power past the object you want to strike to improve your speed and power.
Design Development

Variety of Heights

The spatial proportions of space is inherently important to the psychology of movement. Having the ample freedom to move, jump and spin around without having the worry of coming close to an edge or boundary is important in fostering the ability to move. Certain events desire different proportions. Height of an enclosure depicts activity within the space. The lower is more personal and the higher is more public.

Lower ceilings make the student feel more constricted in their movements. Even though the student may have ample room to move or jump, he or she will not have the convenience to try new movements without the fear of losing control and hitting something in proximity.
Design Development

Orientation and Direction

The classroom complex are marks a major step in one's journey and should be marked with new understanding that in-turn steers your direction to your ultimate goal.

The idea of "special event" (your newly found educator) changes your ideas and perception of what you truly want from your journey and head you in new direction. The idea come from a "chaos" theory by John Gieleke, who with his chaos theory of random movements, can predict the movement of a negative electron passing through a space of positively charged particles. Like a charged particle, I can control through the design the interest of the next point of interest, especially its distance away and its intensity. From this manipulation of spatial interests, I have achieved the ability to control (or educate) the student through his journey with architectural conventions.
Design Development

Views and Conveniences

To help the student focus on their ultimate goal, the facility should reinforce this focus by eliminating certain distractions and inconveniences. For example, the elimination of distracting sight lines directly at eye level during practice. The wall should have opening not at these sight lines if the student is standing in the center of the room looking perpendicular at the wall around you. This is the typical position a student would situate themselves in the room prior to practicing some movement. This typical positioning oneself in the room like this is because the student uses the walls as frames of reference to develop a sense of orientation while turning and pivoting in 90 or 180 degree rotations.

In the student cottages for example, I created an angled side light that emits a higher amount of light from floor to ceiling while reducing external views while standing in the middle perpendicular position of the room. The windows are still easily viewed out at other positions other than from the center of the room.

Another convenience for the student is the use of adjustable railshelves on the wall to help in stretching and for storage. The central part of the cottage room can be easily used for private practicing and is encourage by the use of fold-up beds and freeing the middle of the room up from circulation paths, doors, and furniture.
Study model investigating the presence of the arena upon the site. I was looking at the scale of the arena as compared to the surrounding complex.

Study model of the interior of the arena with the roof removed. Initially I had the idea of a double roofing system that was rotated to the axis of the road and the journey axis.
Design Development

Study model of the classroom complex along the journey axis. I was studying the importance of the bend of the path which marked a changing point of the journey. I was concernign myself with the placement and the orientation of the complex of buildings and how they helped bend the path. At this point I was not thinking of touching the path.

This is a later development study model of the classroom complex. I started to look at the ground plane and how I could push it in and pull it up to help create spaces that hugged the path and caused a more natural bend in the path. Also the orientation of the building facades played a major part in view control and manipulation.
This study model was successful. It helped me learn that I failed on this first try. I was looking at the sense of scale with in the complex and their relationships to the other buildings in the complex. The small building in front is the gate house (administration) that directs you to the tournament arena. Obviously the size of the arena harshly overpowered the gatehouse. I learned that the connection has to be strong but not overpowering.

This study model was used to look at the different zones of the student living cottage. The private outdoor patio was pushed to the back. The entry was pulled out from the side. The roof played an important role in articulating functions underneath. The barrel vault iconography is evocative to Quonset huts and other places of physical activity.
Design Development

This study model of one of the individual student living cottages. This model was used to investigate the overall visual impression of the housing units as one approaches on the path. Like all other building on the site, the approach was never perpendicular to the facade. This angular approach deals with the "zen" view and the angular nature of the site.

This study model was used to experience an approach to the gatehouse (administration). Again the approach is angular so that you see the structure of the roof protruding which line you up for the next orientation which you arrive at when you reach the building. The "wall of fame" and the trees to the left are used as masking elements to partially hide the arena behind. Hiding the arena makes it even more impressionable once you are allowed to view it in its openness.
Design Development

This study model shows the view on Indiana, going towards the downtown. To the left is the Y.M.C.A. To the very right is Wishard Hospital, and across the street from my tournament arena is Lockfield Gardens Apartments. Behind and to the right of the arena is the retirement community. This model helps me deal with the issue of scale and its relationship to the scale of the context.

This study model of the gatehouse is a view from the arena, looking at the transition of the journey from the gatehouse to the arena. The transition included elements from my architectural vocabulary. Certain elements of repetitious elements leading your eye to your next orientation, variation of the ground plane, passage from open to narrow space, and overhead horizontal elements helps the person with security and familiarity of the space, even though he or she might experience this place for the first time.
This study model of the Civic Center shows the importance of creating usable plaza spaces. The plaza is the first physical meeting of the student to the civic center. The student starts their journey from their cottage housing, following a winding and rolling path covered with an overhead canopy of trees. The trees are rather dense, with only glimpses out in order to see the tower. This landmark guides the students to the facility.
These plans are intentionally left diagramtic in order to concentrate on the basic of spatial organizations and layouts.

1st Floor Gate House

Scale: 3/32" = 1'-0"
These plans are intentionally left diagramatic in order to concentrate on the basic of spatial organizations and layouts.

Gate House 2nd Floor

SCALE: 3/32" = 1'-0"
This is the outdoor assembly area for bringing all the students together for traditional group exercises. This facility is intended for public use and should be accessible from many directions and easy to enter and exit.

Classrooms are 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 participatory and spectating activities.
This is looking into my site from the northeast corner. The trees are providing the protection for the student cottages while maintaining a more human scale to reflect the small scale of the houses to the east of the site (just left of the picture).

Looking from the classroom, towards the tournament arena. However the view of the arena is not seen due to the "Wall of Honor" (the wall to the left of the path with the white squares representing plaques and pictures of commemorated members of taekwondo) and also the mass of the trees in the summer (primary use of the facility).
This is the layout design for my presentation. The way I displayed my presentation was very important to the whole concept of my thesis and the design of my building. The angle at which the boards are hung alludes to the awareness of orientation, sharp angles of the art of taekwondo, and the idea of schism or breaking of the linear element.

The integration of my presentation into the concept of my thesis was of prime importance. Even the model is segmented in similar angles as the boards are hung, as in the angles of controlled view in my project, and as in the intersection of the grided roads to the diagonal roads. The boards are hung in a sequence similar to the journey through the space on a typical day. First I introduce the context, then concept, then housing, then civic center, classrooms, gatehouse, and finally the tournament facility.
This view in the middle ground is of the public side of the gate house. This view side is what one would experience from walking from the Y.M.C.A. across the street. Also this is the view if you drive into and park on the site. Elements such as the small tower, paving patterns, columns, and ground plan changes are seen on the public edge as well as the interior of the complex. In the background is the classrooms. To the right of the picture is the tournament arena.

If you were looking out a 5th floor window of Wishard Hospital across Indiana Avenue, this would be your view. The presence of the tournament facility is dominant on the site to reiterate its permanence to the public "urban theatre" scene. This means I picked up on the institutional atmosphere of the building in this surrounding context of the tournament arena. The use of oversized columns and beams demonstrates its stability structurally & psychologically. The paving pattern extends from the arena in all directions, encompassing all it reaches, including Indiana & University Streets.
This overhead view of the civic center demonstrates the architectural vocabulary I set forth. Notice the extensive use of columns, grade elevation changes, change of direction and orientation, definite vertical and horizontal emphasis. The plaza accepts you in both directions (i.e. from the housing or from the classrooms) Your presence in the space is felt by the manipulation of closeness of space opening up into openness (similar of being squeezed and then suddenly released back to a more normal volume. Other manipulations of glittering glass (from the colossal order of the building to the left of the plaza) to the darkness & shadows between the buildings and under the balconies occur.

This is the middle "heart" of the site. All paths, views, needs, desires, ambitions, learning, and functions feed in and out the classroom complex of the center of the site. One cannot avoid, physically, visually, or psychologically this complex of buildings. Its ever going presence is like the student's instructor watching your performance. One can not hide anything from the wise & insightful instructor.
This view shows the roofs of the buildings removed, showing the internal structure. This modeling technique was important in showing the presence of the structure. The columns and beams are in a trabeated fashion. Trabeation, may show the static quality of the design, however it overly exhibits to stability within the interior and exterior of the building. The beams and columns are also emphasized by such conventions as being oversized, over extended and engaged within the walls and roofs so that they are viewed from inside or outside.

The view of the journey from the gatehouse to the tournament arena. For the first time in the journey with in the complex, one is not guided by my architectural vocabulary. There are no walls, ground plane changes, nor landscaping to guide your way to the arena. I believe the students ready to go the tournament facility are ready for that "jump of faith" one must overcome before any great accomplishment.
The important notion of subspaces feeding off the main journey axis is representational of the side marker encounters and developments experienced intentionally or unintentionally. These experiences are the building blocks of formulating the students experience and ability level. Such side feeder sub-spaces as the demonstration plaza or the tree encompassing universal genuflection areas (to the left and right of the journey axis, respectively) are just a few examples shown in these pictures.

This view of the roofs off my building again shows the importance of structure as more than just an element to hold up the building. The use of the columns direct the person who approaches to a certain event. For example, the row of short columns (approaching from the right and located on the right side of the journey axis.) Theses columns angle in towards the dining entry, but also open up to the plaza beyond the two corners of the buildings.
The plaza and the reflecting pool beyond demonstrate one of my design ideas of positive and negative spaces. Positive spaces (like the plaza) are represented by occupation of people, looking out into negative space. The negative space (like the water) are for the views and the separation of the positive spaces. However, to follow the oriental tradition of the yin-yang, there is a little negative space in the middle of the positive space and visa-versa.

The arena with its roof off reveals how it is actually a shell of two integrated structures that contain but not touch the independent structure of the seating within. As I am trying to foster the independence of the students, I reiterate the independence of the struggle. The two outer wall/entry structures are two perfect squares rotated by 12 degrees. This angle represent the angle of the roads off from a 45 degree angle (normally thought to be the angle of Indiana Ave. from the grid). Within the square of the glass walls the seating again rotates back to the angle of the entry of the arena.
Any bend in the journey axis is always marked by a important transition of the experience from nurture to independence (one of the many issues my thesis concerns). In this view, the roofs are removed to show the structural concept of the complex. The columns and the beams serve as indices of visual foreshadowing of the change of orientation in the journey. Never are the columns parallel to the way one is walking next to them. The awareness of the columns going away or coming closer makes the student aware of their spatial awareness.

This view of the model shows the overall layout of the site. On the east (right side of the picture), nestled with in the trees are the student housing cottages. To the west of the houses is the civic center. In the middle of the model is the classroom complex. The far west side (left side of the picture) is the tournament facility.
On the west side is the tournament facility. This building stands alone, austere, almost intimidating. The reason for its dominant presence is to reiterate the importance of its activities within the site. The building is oriented to an angle off of Indiana Ave., however it is parallel to the paving pattern that intersects Indiana Ave. at an angle. The extension of the pavement into the road symbolizes a gateway to or from the downtown. This gateway although not being some physical gate, opens your awareness to your presence of the whole facility. When one drives over it, feeling the change of road texture, or visually notice its intruding angle into the road becomes shaken for a second and thus becomes aware if their location.

The housing cottages are at the scale of the residential homes just east of the site. I rebuilt the "urban wall" that the houses make on the other side of the street. I desired this rebuilding of the missing side of the road to make a friendly gesture to the neighborhood and to reconstruct the feeling of going down a neighborhood street corridor of housing facades with a tree line canopy.
With the use of an architectural vocabulary and a set pattern of ways to approach and experience the different buildings of the site allowed me to freely plan the footprints of the building not according to any overall set grid. This freedom of planning creates an array of dynamic/diagonal views that play upon the corner perspective of the buildings. These approaching perspectives are conducive to the views from the journey axis paths.

The journey axis path goes between the center of the smaller complexes of the site. The interaction of the journey path axis with the buildings makes the continuation of the journey enhanced by the passage of spatial experiences. Walking thought a complex bring one into much more interaction than walking aside it. The student can psychologically feel his positive but definite intrusion into the space. The student is actually a part of the spatial intercourse and just a spectator. Being pulled up close to a building and sunken below a continuous eye level line plays with the awareness of one's senses.
This is the very northeast corner of my site. I purposely reestablished the older deteriorating sidewalk in order to draw the urban pedestrian into my site. I have created walks from the housing paths to connect with the public sidewalk as an invitation to come into the site. I encourage public community interaction with the residential neighborhood bordering the site. I kept the scale small and personal in order to not frighten the passerby and actually gesture to the to take a diversion or shortcut through the site to feed their curiosity.

The student housing cottages are scattered throughout the eastern quarter of my site. However, they are not random. There are four main branches of paths that feed into the civic center plaza. Each house has their own personal path off one of these main branches to their own student cottage. In addition, each cottage's orientation is varied from their surrounding cottages so that students might interact with the neighboring student easier. Without varied entry orientations, no entry would be next to another. This sharing of proximity and visual connection fosters the informal living community spirit of the facility.
Even though much of the facility is formal in its atmosphere, the placement of the building is a subtle mixture of informality. The formality comes in with the definite axis's of circulation, but the subtler informalities occur with glancing angles, intended asymmetry, and balance of interest and quality of spaces, not just the mere physical balance of volumes of spaces. For example, the training room and sparring pavilion are on the right side of the journey axis path and take up more space than the building on the left.

The path back from the tournament to the student housing is of equal importance to the journey. This part of the journey symbolizes the end of a special day, returning to the comfort of one's own private cottage. The path from the gatehouse to the classrooms is the first leg of the journey back to the housing. The axis continues past the bend of the path. This visual extension ends with a visual terminus of the canopy of trees, containing the student cottages.
All of the building’s facades in the class room complex is focused toward the bend in the path. One can think of this attention to the bend as the attention of the instructor(s) watching the students and determining if they are ready to proceed forward. In this manner the buildings and not the instructors are testing the students. The building not only serve their programmatic function but also provide an image or atmosphere of teaching presence. This architectural quality of being more than just rooms and buildings and bridging the gap to be an initiator of spatial awareness is the intention of my thesis.

This view of the tournament arena would be seen from the very top of Wishard Hospital. Even though the tournament arena has the appearance of monumental qualities, it is only a little more than half the height of Wishard Hospital across the street. Wishard Hospital being six floors (about 70 feet) is still much taller than the tournament facility (about 40 feet). The small pavilion in front of the arena is the public bus stop for the Indiana downtown circuit. This gesture to the city is to encourage participation of the city to the facility. The form is indicative throughout the whole facility—a foreshadowing.
The connection from the gatehouse to the tournament arena is the proverbial trek across the "great expanse." This journey is the final experience of the student before entering the arena. This short but psychologically long journey is unaided by any amenities to guide one direction. This walk is solely dependent upon one's self. This independence from the surroundings heightens one's confidence of achievement once traversed. This is much like the mother eagle taking the baby out of the nest and dropping them so they take to opportunity and initiative to fly themselves. This journey in turn provides the student with the mental feeling of personally earned achievement.
educational tournament facility for:
American Taekwon do Association

North edge of site
View of University ave.
Northwest apex of site
South of Indiana Ave.
East on 10th St.
Indiana & 10th intersection
Wishard hospital (west of site)

Retirement Community (south of site)
YMCA
Lockfield Apts.
New IUPUI student apts.
Residential (east of site)

Existing buildings on site
University Apts. (north of site)

an urban educational complex for indianapolis
steve huzskai
educational tournament facility for American Taekwon do Association

site placement

an urban educational complex for indianapolis

steve ruszkai
educational tournament facility for:
American Taekwon do Association

Art of Zen
Art of myself, my mind, and my body.

The Self
The self is the identity, the sense of self, the sense of who we are.

Views & Conveniences
- Location of spectators at right side directly
- Entrance level being perpendicular to facade.
- Creates an inviting space that offers a higher
elevation of sight from floor to ceiling, providing an
- overlooking visual enjoyment.
- Windows on other side from corner of
- road. Windows in front or modifying
- substantially
- satisfaction.

section A-A

Student cottages

an urban educational complex for indiana
steve ruszkai
educational tournament facility for:
American Taekwon do Association

an urban educational complex for indianapolis
Steve Ruszkai
educational tournament facility for:
American Taekwon do Association

Ground Level Plan
Lower Level Plan
Upper Seating Plan
North Elevation
Section AA

an urban educational complex for Indianapolis
stoke ruzska
Reflection

This thesis proved that building means more than just a place to hold functions or just to be aesthetic. Architecture in its truest meaning is to communicate with its inhabitants about their needs, but also for the architecture to take those needs to a higher meaning. Without this distinction, (architecture taking its inhabitants to a higher meaning of more than just existence or function) all walls, doors, floors, windows, and roofs would just become an assemblage for a building -- not architecture.

Throughout this project, I have been asking myself about the use of the building as an actual teacher and not just a place to be taught. In some cases my investigation took me places that led to a "feeling" of just building and not a building as a teacher. However, finding these instances helped me reinterpret my meaning of "teacher."

I discovered that a building or a complex of buildings (as in my case) can not make that jump from "building to architecture," without the fundamental intention of that construct must control and manipulate its inhabitants in positive and constructive ways.

Ways to achieve this positive manipulation is by the use of atmosphere through the quality of light, controlled views, fore shadowing, after shadowing, sense of stability through structure, sense of passage of time/space, and a feeling of achievement by a journey of spatial experiences.

The farther I went into my thesis, I came to an understanding that I was developing an architectural vocabulary of elements. This vocabulary offered me two major design opportunities. These two opportunities helped me generate the forms in a coherent manner. The opportunities also became an efficient time-saving feature when the design can decide for itself what it wants to be and especially what the design wants not to be.
Reflection

The first major opportunity was that I could use the vocabulary as a common denominator for connecting all the different building functions of my facility together. Never did I have to ask myself how should this building should be stylistically related to the one I just designed. Style was replaced by vocabularies. I was able to give each building an identity. Best of all the common vocabulary gave me the freedom to use a variety of building forms, scales, and masses to distinguish its function and importance. This architectonic variety also helped in the locations of the buildings.

Secondly, from the set architectural vocabulary I created, I was able to play with the overall connections of the complex on the site. I was able to push and pull on the buildings, throw the journey axis into angles that would have been unable to be achieved successfully without an overall strong unity of building types. I was not dependent upon the normal rectilinear physical connections for the variety of buildings on my site. For example, the plans of each of the buildings did not have to line up in neat rows. The elevation heights did not have to remain constant. I was able to pull the building apart, yet they retained a deeper connection of remembrance, sense of dentity, and a progression of spatial experiences that climaxd at the tournament facility.

I come back to my original thesis question of, "Can the building be the teacher and not just a 'space' for teaching?" I know that my investigations into mental and spatial experiences conclude that "architecture" can condition the student in a positive and constructive way. Buildings themselves can not achieve this. Without architecture's higher intention to influence its inhabitants, buildings loose all their possible opportunities.

The end...for now.


