Reading the Matrix as Terrain: RPGs Persistent Progression as a Curricular Model

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If under the presumption that a game's rules establish pathways for action, does a false nostalgia – inherent in the games selected as metaphors for the current conference – lead to limitations in framing, and solving, problems? Can technological changes in gaming, and the rise of role-playing games (RPG's) provides a new set of metaphors for thinking about curriculum? Can the traditional rules of gameplay, framed through the matrix of the NAAB's Students Performance Criteria (SPC), be rethought?

In an RPG, participants assume the roles of characters while collaboratively crafting stories. Participants determine the actions of their characters based on characterization and acquired skills. Within this system, failure or success is based on the ongoing observance of systemic rules relative to a progression through varied narrative elements. In line with the conference's thematic framework of play as a "form of design thinking," the work outlined in this paper explores the persistent progression of "playing by the rules" as a way to articulate an architectural pedagogy, which is structured but still adaptably open to new forms of expression and curricular deviations. Reading the SPC matrix as a terrain, with defining criteria dictated by NAAB serving as landmarks, can we explore the pedagogical possibility of nodes across this terrain as opportunities for required "gameplay?" This paper emphasizes how embracing the rules as "checkpoints" can clarify path options across the matrix and create multiple successful paths across NAAB's terrain through both primary and secondary evidence. Our resulting pedagogy is embedded into the nature and development of the matrix and SPC's through a process of structured decision-making. This approach not only satisfies the requirements of the NAAB but also puts into play an education framework that is both fixed enough to meet particular educational standards, while still adaptable enough to meet the rapidly changing needs of our profession, and fluid methods by which the current generation of students process and understand information. In the end, it is all about playing the game by taking control of the narrative rules.

> It's all about the game and how you play it.
> All about control and if you can take it.
> All about your debt and if you can pay it.
> It's all about pain and who's gonna make it.
> — *The Game*, Motörhead[1]

INTRODUCTION
Winning in a game has a lot to do with how its rules are deciphered and interpreted by the players before action begins. This implies that a process of insight and criticality can create alternate opportunities, opening up multivalent interpretations and flexibility of action, which can provide the groundwork for innovation. If, under the presumption that a game's rules establish pathways for action, does the false nostalgia inherent in the games selected as metaphors for the

current conference lead to limitations in framing, and solving, problems? Might new, more contemporary games provide more forward-thinking insights? Yes. Just as technology has changed many aspects of life, the technological evolution of game development and mechanics has changed the act of gaming: not simply as technique (board vs. computer) but as experience (path-dependence vs environment), as trajectory (linear vs nodal), and duration (singular vs progressive). The rise of role-playing games (RPG's) thus provides a new set of metaphors for thinking about architecture in general, and curriculum in particular. If we understand architectural pedagogy as a multi-scalar RPG, how might this give rise to new curricular domains and procedural praxis? And where do we start?

This paper summarizes the last five years of curricular articulations of the architecture program at Louisiana Tech University, where, by critically interrogating the "old" norms that underline the pedagogical framework itself, "new" norms can be generated. The act of constructing and implementing an instructional pedagogy which "plays with the rules" is facilitated by rethinking gameplay. Changing the game metaphor allows new rules, and new methods of interpretation, to be brought to action; control taken from the rules and given to the players.

Every game has its gamemaster; within the realm of architectural education, governing entities like the National Architectural Accrediting Board act as the traditional officiant regarding rules, limiting overall avenues of gameplay via the governing matrix of the Students Performance Criteria (SPC's). While those criteria attempt to mainly regulate architectural education, they are sometimes also regarded as squashing possible innovations in terms of both pedagogy and outcomes by too-narrowly defining the field of play. Can we take control of this criteria while still "adhering" to it? And can we also rethink the game through the integration of curricular deviations while still playing by the officant's rules (NAAB)?

Architectural education is a deliberate and complex process of extended learning; both to encourage the comprehension and consolidation of knowledge, and to give time to novel discoveries and innovation. When coursework is approached as singular traditional games, their finite length and conclusion encourages a mode of learning as play and replay, perpetual restarting. However, RPG's generally enact a learn-and-apply
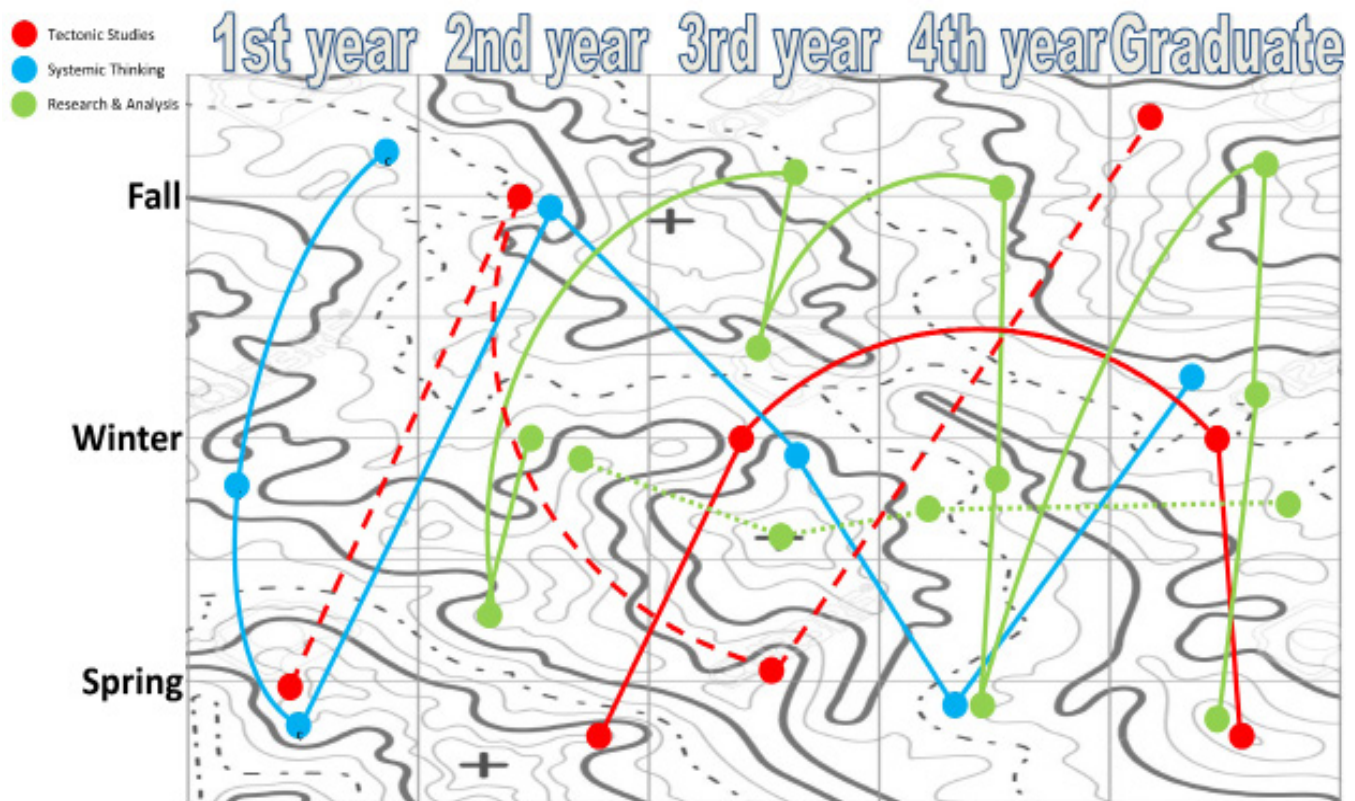
Figure 1: Terrain Mapping of Assignments and Territories across the 4+1 Curriculum

model of *persistent progression*, where the in-game journey is experienced over many sessions of gameplay, players learning, growing, collecting, and evolving as they explore and re-traverse the terrain of play. Progress exists through recursive 'trials' or 'stages' that plant knowledge applicable in new contexts later in the game. This is a better model for our approach to pedagogy.

All architecture programs are essentially bound to the Students Performance Criteria. Yet, we propose that this system, which is rather linear and taxonomical in its articulation and observance, can be pedagogically investigated from a topological point of view where SPCs are less of an itemized checklist and more of a recursive folding of nodes. These nodes can be strategically articulated around three territories (rather than NAAB's four realms): Research & Analysis, Tectonics Studies, and Systemic Thinking. In fact, reading the NAAB's articulation of "rules" as a topological terrain rather than a linear outline has allowed us to create a multiplicity of paths, with different intensities, through both primary and secondary evidence without compromising the scope dictated by its regulating gamemaster.

As in any topological terrain, there are recursive elements or nodes that appear, disappear, and then reappear. Pedagogically speaking, those nodes are understood as both qualitative and analytical assignments built in to the

way we teach and organize our core design studios and support courses. These recurring elements are also strategically articulated to provide a gamified framework designed to fit to the player's current skillset and abilities. That also means that once a nodal category has been experienced and mastered, a player is ready to level up, adding more HP (health points) to their character — reflected in terms of understanding and mastering knowledge — or weapons to their arsenal, reflected in terms of gained and mastered skills.

FROM NAAB REALMS TO TOPOLOGICAL TERRITORIES
In an RPG, participants assume the roles of characters while collaboratively crafting stories. Participants determine the actions of their characters based on characterization and acquired skills. Within this system, failure or success is based on the ongoing observance of systemic rules relative to a progression through varied narrative elements. In line with the conference's thematic framework of play as a "form of design thinking," the work outlined in this paper explores the hybrid act of playing by the rules and playing with the rules, as a way to articulate an architectural pedagogy which is structured but still adaptably open to new forms of expression and curricular deviations. In this context, what are the current rules and what kind of outcomes have those same rules delineated?

The National Architectural Accreditation Board's "2014 Conditions for Accreditations" is currently articulated

around criteria that professional programs are expected to meet in order to acquire and maintain accreditation. This system particularly emphasizes educational outcomes and curricular development in terms of students' performance, curricular framework, evaluation of preparatory education, and public information. All those aspects are organized into four Educational Realms: Critical Thinking & Representation, Building Practices, Technical Skills and Knowledge, Integrative Design Solutions, and Professional Practice. While those realms are categorically organized to cover what needs to be taught, they appear to be too taxonomical and isolated given their specificity. When we incorporated substantial changes to SPCs in 2014, our program and curricular framework were initially articulated around a rather "mechanical" observance of those SPCs. However, as NAAB encouraged the reduction of evidence (2 primaries per SPC), we found ourselves filling in the educational realms with more and more recursive evidence. The taxonomic nature of the matrix was exerting an unwelcome control at odds with our developing cross-matrix, multi-year, multi-course approaches to pedagogy.

Thus, rather than merely following NAAB's rules, we started deconstructing and analyzing them while focusing more on the "evidence" we had to generate to show compliance with the system. In the process of recognizing those primary nodes, the Curricular Committee documented a pedagogical recursiveness that needed to be celebrated rather than merely tolerated. As part of this process, we looked at the overlapping conditions of those SPCs which can be shared in different courses subsets, thus establishing our game play based on those territories. The emergence of those three territories subsequently generated particular pedagogical nodes that present progressively increasing difficulty with new content and challenges to keep player's interest high. For the purposes of this paper, we will present a subset of these nodal assignments: research booklets, wall sections, structural models, code analysis.

Pedagogically speaking, these nodes are understood as both qualitative and analytical assignments built in to the way we teach and organize our core design studios, as well as many support courses. Those re-occurring elements are also strategically articulated to provide a gamified framework designed to fit to the players current skillset and abilities. This means that once the players "level up" from a nodal assignment, they venture out into surrounding terrain, gathering information and visiting other nodes before returning. These nodal outposts can thus provide new challenges within an already experienced context, while "hidden levels" are also newly discovered. This results in a series of recursive pedagogical loops intertwined throughout the program.
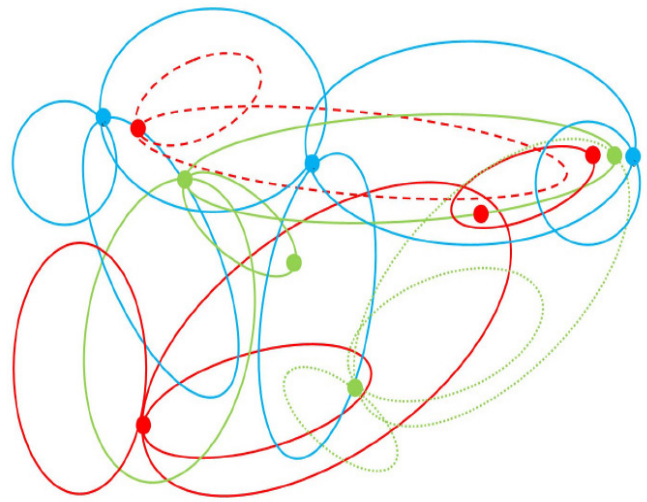

Figure 2: Recursive Assignments Charted as intertwined Paths, Loops, and Nodes

INTERTWINED TERRITORIES:

RESEARCH & ANALYSIS
Every journey requires a level of understanding of the possible paths and contingent points of arrival. Within our program, the process of research and analysis is understood as a persistent characterization of the first weeks of design studio. It is an analogical process that becomes territory as it defines the boundaries and possible trajectories of the game being played. Thus, our first studio assignments normally focus on the ability to gather, access, record, apply and comparatively evaluate relevant information while understanding the role of applied research in determining function, form, structure, and tectonic systems. Certainly, architectural research is a mode of design inquiry applied to provide strategic solutions relative to particular building types, sites, and possible formal schematic developments. The design process is founded upon the identification of a preliminary framework that defines proper methods of analytical and critical exploration, which eventually lead to discovery and invention. This progression not only implies the gathering of empirical information (originating in or based on observation or experience), but it also investigates the importance of implicit or explicit values, as well as those conventions and assumptions that make up the architectural and urban framework of any given site.

Considering its complexity, research needs to originate from a question or problem that might derive from a previous study or research. After having identified a specific problem, it becomes necessary to delineate the way in which the problem is going to be addressed. Specific methodologies could be required to answer a research question or test a hypothesis. Within this process, original assumptions might be critically challenged through a process of data collection and interpretation, which might eventually lead toward the resolution of a question or a problem. We truly believe that

Figure 3: Research and Analysis, New York City, 3rd year (2016)

larger scale infrastructural research project, emphasizing not just the local site but how it fits within a larger, typically wetland based, landscape, in relation to existing building codes. In the winter third year, the site shifts to an urban landscape, with research on urban connectivity and history and associated building codes. Both quarters produce a large research booklet. Third year spring is a design build studio, and here students research centers upon cost analysis in relationship to design and site. Fourth year moves across research issues of urban planning, energy modeling, and intense structural design. Research culminates in the graduate year, where students intensively research architectural precedents across a range of formal, spatial, conceptual, and constructive desires to establish an individual project agenda.

TECTONIC STUDIES

Our process is not exclusive to site and programmatic developments, but it also accounts for tectonic and structural recursiveness. In fact, our students are sequentially and constantly exposed to specific assignments that target material, structural, and tectonic issues relative to both building envelopes and systems. From freshmen projects focusing upon testing structural strength to sectional and structural models, our students are progressively analyzing basic strategies for how the building form(s) and spaces are supported and resist gravity and lateral loads. Additionally we address when structure is intended to be exposed, and how to differentiate intended systems of materials (wood, concrete, steel). This progression implies not only the gathering of factual information but also the study of the implicit or explicit values, conventions and assumptions that make up the built environment. Within this framework, research happens through analysis of architectural precedents, critical readings, and representational explorations.
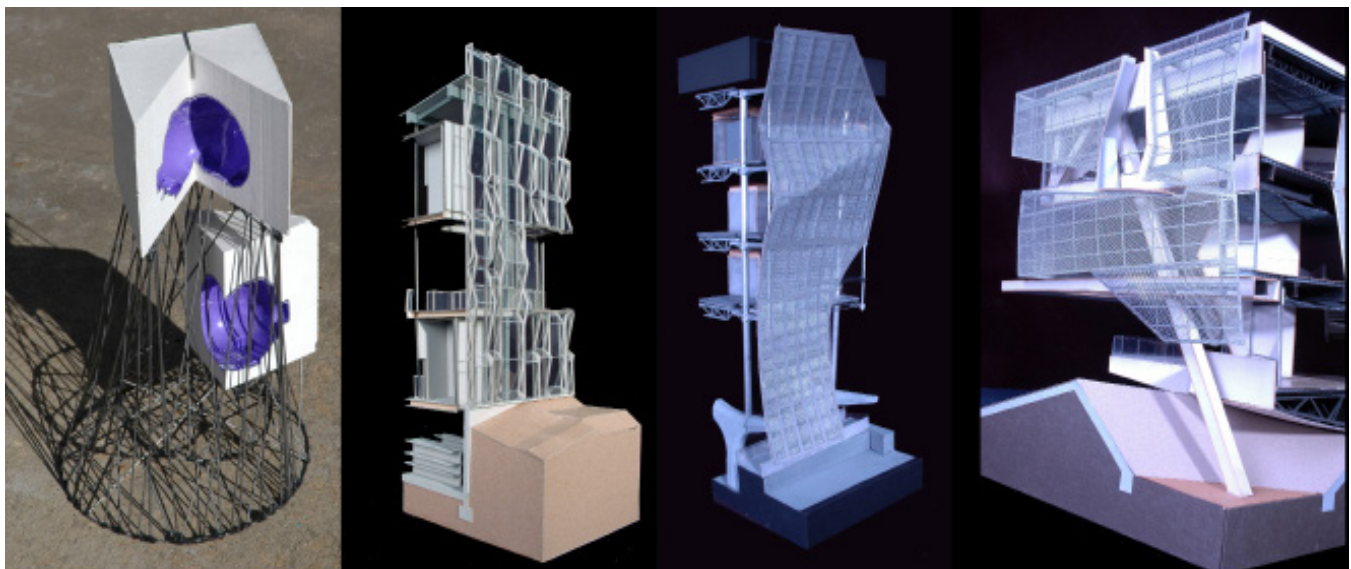
the matching of a given program for a specific project with a suitable site is a function of a coherent programmatic and site inventory and analysis. To begin this process students engage is a wide range of activities. In first year students begin several of their exercises with data sets that they are asked to research. These datasets range from celestial maps to maps of cities across the globe. In second year, students complete research at a nearby bayou. In addition to learning the history of the place, they also make their own interpretive collages of their experience, grounding themselves to the site. In third year, students engage in multivalent research on their sites. Typically in the fall a site in nature results in a

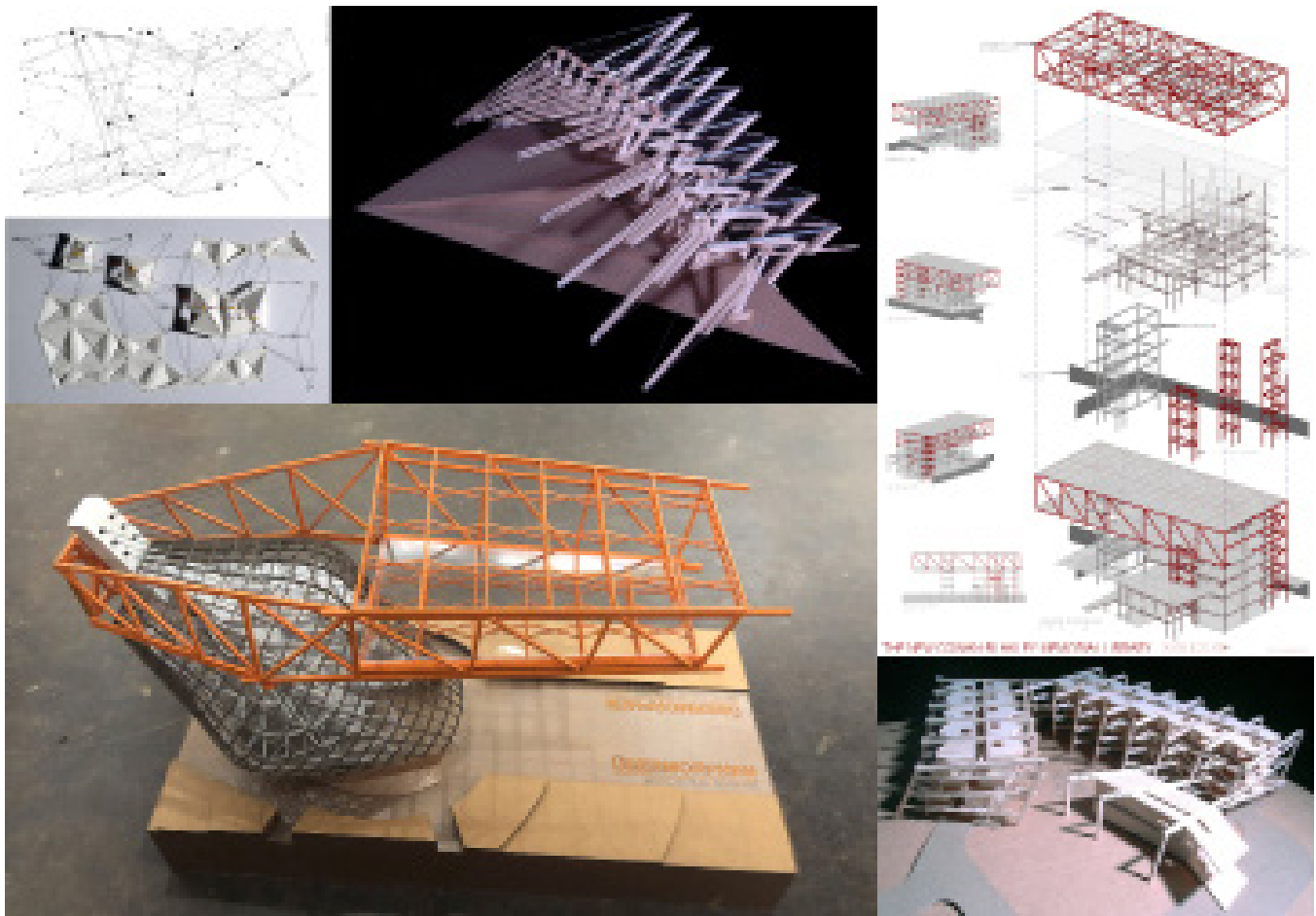Figure 4: Sectional Models Progression; First Year, Second Year, Third Year, Graduate Year.

Figure 5: Curricular Progression of Sytemic Thinking. Clockwise from top left:First Year Star Re-mapping and Relief; Second Year Ribbed Structure; Graduate Year Structural Design; Second Year Exoskeletal Building; Fourth Year ACSA Steel Competition.

These exercises begin in the first year in winter quarter, with a small testable structural model, and continue into the spring with a design/build pavilion. In second year, students develop sectional models, investigating relationship between idea, envelope, and structure. By third year, students complete additional sectional models, now focusing upon precedent, and elaborating their own design ideas. At the end of third year students complete a large design build project that emphasizes tectonic expression. In fourth year, students complete structural models, and exploded axonometrics showing assembly of systems. To emphasize the importance we place on structure and tectonics, each student must engage in a specific mission, entering the ACSA steel competition. Finally, in the graduate program students revisit section models, structural models, and assembly axonometrics in their three quarter comprehensive studio. Pedagogically speaking, these persistent exercises on Research & Analysis have helped our students establish a personal methodology that optimistically generates proper design solutions relative to tectonic and structural expression.

SYSTEMIC THINKING

Systemic thinking is thus implemented to create integration between those pedagogical parts, creating recursiveness as a means to emphasize the linkages and interactions between the elements that comprise the whole of the system. This process facilitates the students' journey within our territories while encouraging inter-relational explorations that deviate from a pedagogy that normally tends to isolate and bracket design goals and objectives as a simplistic catalog of check listed items (SPC). Interestingly enough, this systemic assessment has generated an evolving interpretation of both the rules we had to follow (NAAB), and the evidence necessary to still play the game like everybody else.

First year studio introduces systems of both geometric and natural ordering, based in star maps and city maps across the globe, where students develop rule based systems in order to make decisions. Generated through basic compositional decision making, students must specifically identify, adhere to, and defend their decisions. In second year, students continue with system thinking, now developing an exoskeletal building constructed from a series of living units. Derived from their experience on the site, the students generate both the experiential character of each unit, and the overall composition of the system. By spring, second year, students are designing the

envelope of their buildings in relationship to their initial conceptual explorations, thinking systematically about how they can translate initial relational constructions into ideas about tectonic expression and material selection. In third year code plays an increasingly important role, mediating between design and inhabitation. Students initiate research studies on code, and then must consider how it can apply to their buildings while still retaining their design integrity. At the same time, the school has instituted very specific exercises, such as structural and sectional models mentioned earlier, that act as thresholds for accomplishing systemic thinking through envelope and structural resolution. By the graduate program, systems thinking has pervaded all aspects of design. Structural, mechanical, and operational systems throughout the building are developed in detail and integrated in a year-long comprehensive project.

CONCLUSION

Critical Thinking (Realm A) and Integrative Practices (Realm C) are ultimately defined by the conceptual lineage that connects those recursive folds and territories. This gamified process facilitated our organizational planning of the accreditation visit, simplifying the process of evidence collection and display by recontextualizing the rules from taxonomy to terrain, a method more favorable to our methods of teaching. These terrains and recursions are not character (faculty) dependent, but exist and adjust across a varied group of educators / players. New assignments continue to develop, and if they contribute valuable evidence, are played with by others for attempted new recursions. Often an assignment will grow through discussion with instructors at other levels, to reoccur in subsequent levels, or be simplified to introduce aspects of it in earlier levels of instruction.

NAAB Realms are ultimately defined by the conceptual lineage that connects the recursive folds and territories. This gamified process facilitated our organizational planning of the accreditation visit, simplifying the process of evidence collection and display by recontextualizing the rules from taxonomy to terrain which appears to be more favorable to our methods of teaching. This narrative, here described through gameplay, allowed the team to make quick work of understanding our program, and thus we received a near flawless report and new term. Success according to the rules everyone must play by.

ENDNOTES

1.   Johnston, Jim. *The Game.* Sanctuary Records, 2002.