

More Than a Game...Teaching in the Gamic Mode: Disciplinary Knowledge, Digital Literacy, and Collaboration

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THE GAMIC MODE is an innovative way of authoring scholarly history that goes beyond the printed text or digital simulations by using digital game technologies to allow the reader to interact with a scholarly argument through meaningful choice and trial and error. The gamic mode makes the way in which the past is constructed as history explicit by allowing readers to play with the argument. By being able to meet all the requirements of scholarly arguments found in printed texts, such as monographs and articles, it is more than a game. This article presents an application of the gamic mode of scholarship to the classroom and explores its benefits to the learner, with a particular focus on the discipline of history. It will develop this theme in two ways. Firstly, it will do this through an examination of the theory behind the gamic mode and how it uses procedural rhetoric to effectively model scholarly arguments to students. Secondly, the theme will also be developed by analyzing the hands-on workshop delivered at Library Orientation Exchange (LOEX) of the West 2010 at Mount Royal University, Calgary, where participants took on the role of students and designed their own games that carried arguments. The key benefits to the learner are, we feel, that it emphasizes the construction of the scholarly argument, allows them to play with the content we want them to learn, facilitates the evaluation of their work, and generates an efficient use of class time.

As both of the authors are trained as historians, the disciplinary knowledge used as the example here will be that of history. However, this does not necessarily mean that using a gamic mode to teach disciplinary constructions of knowledge is limited to history—all that is required is a basic level of epistemic awareness to apply the gamic mode to any discipline. Firstly, this article discusses how the past is history, and the way in which the gamic mode of history fosters epistemic awareness of this process because it requires the reader/author to be intentional about the creation of disciplinary knowledge. This means that we must explain that history is a construction of the past, and that scholarly history as a construction of the past is not mode-dependent. Secondly, our work illustrates the benefits of procedural rhetoric and game design for evaluation and student engagement in the development of digital literacy, in the ability to interpret the past as history, and in constructing a scholarly argument. In order to understand how procedural rhetoric can be used in education in this way, serious game design and scholarly argumentation is explored. Lastly, it indicates that this approach to using serious games provides a unique and valuable opportunity for course instructors and librarians to collaborate on course design and delivery to further student learning. Our argument here utilizes a case study of the workshop we ran at LOEX of the West 2010 at Mount Royal University, Calgary. The workshop in its format conveyed the idea that arguments can be authored through rules and metaphors as a game, and *The History Game* used in the session carried our basic assumption that history is a construction of the past. We have also successfully held this workshop for a class of General Studies 300 (GNST 300) students at the University of Calgary in September 2010. In response to that class, we have developed a suite of assignments and lectures to integrate this approach fully into any history course, which will also be discussed in this article.

Gamic Mode

The gamic mode is an immersive, multi-media method of conducting research and teaching in the Social Sciences and Humanities. Scholars using a gamic mode can study causes of human action through observed evidence, infer relationships between events, and construct convincing conclusions. The gamic mode builds upon the traditional textual use of narrative as a heuristic tool to create and communicate knowledge and allow judgment. The gamic mode has the potential to communicate scholarship more effectively to new media-savvy and digital-literate audiences. The gamic publication and presentation of scholarship to these audiences allows it to be more widely accessible without “dumbing-

down” the content. The gamic mode of history builds upon traditional textual scholarship, film studies, re-enactment, and game theory in order to produce an interdisciplinary approach to the study of the past. We first presented the gamic mode of history as a serious game-based multi-modal approach to historical scholarship, as opposed to merely a digital simulation, at the *70 Years On: New Perspectives On the Second World War* conference in August 2009. That presentation was concerned with the theoretical underpinnings of the gamic mode in order to ensure its validity as scholarly history.

Construction of the Past as History

History, like any discipline, is a system to create reasonably justified truths about a particular subject. Scholarly history utilizes reasoned argument, historical imagination, and narrative to construct the past through a process of transforming historical facts into evidence by the application of interpretation in order to create knowledge. Since history is a construction and not the past, it can be neither recreated nor simulated. In addition, as none of these processes necessarily require written text, historical arguments are not mode dependent, meaning that they can be expressed in any format, including serious games.

Not all games, serious or otherwise, that claim to be history construct the past in this way. Popular gamic approaches to the past, such as the *Making History* series by Muzzy Lane or the *Simulating History Project* by Brock University, attempt to equate the amassment of facts with historical veracity, based on the assumption that if all these facts are right, the past is something that can be simulated or recreated. This is in fact misguided as it demonstrates the failure to understand that historical evidence is separate from the notion of historical fact. Despite these terms often being used interchangeably, facts only become evidence within the context of a particular construction of the past and based upon their relationship to the question at hand. An awareness of the relationship between fact and evidence is crucial for students to understand and is indeed one the goals of historical teaching. This relationship between fact, evidence, interpretation, and the way in which the past is a construction is at the heart of *The History Game*, used in our LOEX workshop. The rules for *The History Game* are appended with this article (see Appendices A and B for details on the games discussed in this article) so that the reader has the opportunity to build and play their own copy in order to take advantage of experiential learning to better understand how it carries an argument. Digital simulations can simulate a historical argument, but not the past itself, and claims to simulate the past result in student confusion and misunderstanding.

It is important to be intentional when dealing with disciplinary knowledge because making epistemologies clear, regardless of format, aids in the development of epistemic cognition, the process that enables individuals to develop the criteria for limits and certainty of knowing.¹ This is precisely what instructors want to see in students as critical thinkers. Epistemic cognition enables a constructive approach to ambiguity as opposed to the common student misapprehension that historical certainty exists. Epistemic awareness is important because one of the main benefits of using the gamic mode to teach history is that it makes clear the process by which the past is constructed as history. Students often fail to recognize that disciplines have different epistemologies, and a basic awareness of this, at the very least, will enable them to consider how constructing an argument is unique for each discipline. This awareness helps them avoid the mistake of writing in the same disciplinary form for all of their courses and suffering as a result. Even in the case of interdisciplinary scholarship, it is important for students to know the way in which knowledge is created in order to construct arguments that put forward a reasonable justifiable truth. In all cases, truth is constructed through arguments and the epistemologies set the basic rules for those arguments. One way to make students aware of the epistemologies is to first make them aware of the rules of arguments, which can be done through authoring and analyzing games using procedural rhetoric. One of the benefits of using games for developing epistemological awareness is that, not only are they inherently rhetorical, but also students and instructors are intimately familiar with them.

Procedural Rhetoric, Serious Games, and Game-Based Learning

Procedural rhetoric is a way to describe how games make arguments, first proposed by Ian Bogost in his works *Unit Operations* (2006) and *Persuasive Games* (2007) and the chapter “The Rhetoric of Video Games” in Katie Salen’s *The Ecology of Games* (2008). Bogost suggests that user interaction with a set of computer-mediated rules carries an argument. He suggests that an argument can be translated into a series of processes and that the argument persuades the user of its validity using a rhetoric that is significantly different from that of other forms, such as print. Jesper Juul’s work, *Half-Real* (2005), supports the idea of procedural rhetoric, but from a different direction, in that the mode itself can be inherently convincing. He focuses on how players construct a limited reality through their interaction with a game. Qualities such as internal consistency of rules and play, and the ability to understand and predict what will happen in the gamic environment, create a sense veracity, which would make a well-designed game carrying an argument more convincing than text.

When using a game-based approach for teaching history and instilling a sense of epistemic awareness or historical thinking, the ideas of Bogost and Juul are particularly important. But in order to capitalize on Bogost's theories to make the structure of historical arguments clear to students through games, one not only has to be aware of Juul's assertion that the mode is inherently convincing, but also ensure that the truth attribute is primarily reliant upon evidence, interpretation, and argument and not just mode. The basic idea to use game-based learning to teach history is to apply procedural rhetoric to construct scholarly historical arguments as games. This allows students to play with the argument itself and see how it functions, putting the individual at the centre of the learning experience. It also allows student interaction with the content to create knowledge and to match what is actually being taught. All of which is what Royle and Clarke suggest is the most effective application of game-based learning.² This is a more effective approach than modelling the creation of the historical argument through the mechanical means of print, the oral presentation of a lecture, or digital simulations. Learning the construction of the past through history by simply modelling in this way is extremely difficult for students and "it is likely that many students will be stopped at the beginning of the learning process."³

The instructional goal of the post-secondary history course is the creation of the historical argument, which is the process of establishing the relationships between facts, evidence, interpretations, and conclusions. The essay is traditionally used to evaluate student ability to create a historical argument using these processes. For the librarian, this means that the real research question is the application of found sources, not the continuous pursuit of the perfect source or just amassment of sources, supplying the student with a continuous stream of books, articles, or primary sources. For the student, the authoring of a serious game means doing the same thing they would in an essay, but it shifts their focus to the rules or processes of the argument, and away from mechanics, facts, and flowery prose. In the case of the gamic form of the history essay, the student establishes the processes that create the argument by authoring rules that transform facts into evidence, express interpretations based on that evidence, and build towards conclusions.

Game Design Activity

Setup

At LOEX of the West 2010 at Mount Royal University, we applied the basic ideas of procedural rhetoric and game-based learning to allow participants to experience how games can be authored to carry arguments.

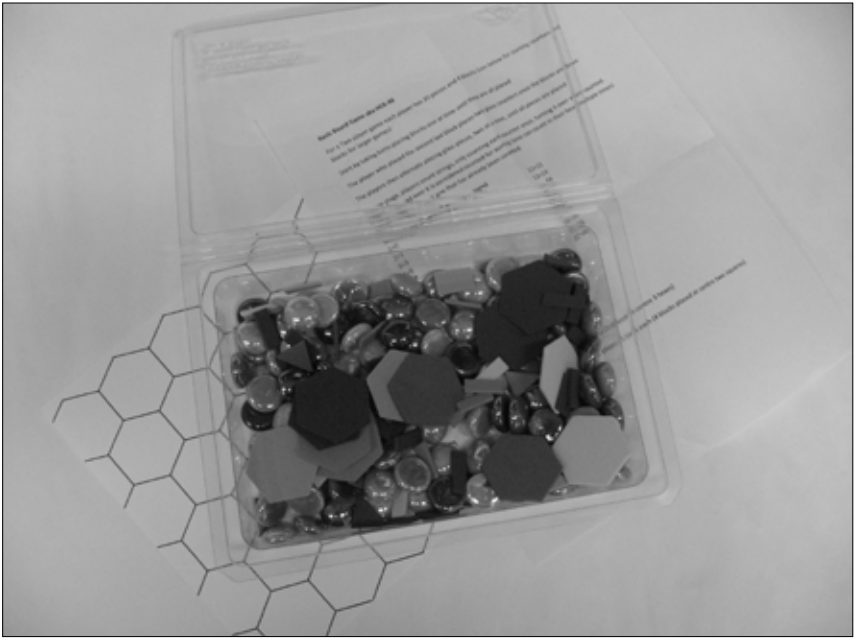


Figure 1: *Hex48* game board, rule sheet, and pieces.

We invented a simple board game (Figure 1), which we called *Hex48* due to the number of hexagonal spaces on the board. It is intended to function as a game design blank canvas, providing participants a structure to support their initial attempts at game design. Stripped of metaphor and argument, *Hex48* is comprised of a single sheet of rules, a number of coloured glass beads for markers, a few hexagonal foam blocks, and a generic hex map (Figures 2 and 3). The participants first played this game, then brainstormed arguments one might want a game to carry. They then modified *Hex48* through the addition of metaphor and rule changes to carry one of those arguments. Having participants build their own games allowed them to experience how games can carry an argument, and the design process required them to focus their attention on the structure of the argument itself. The final step was to introduce participants to a version of *Hex48* that we altered to answer the question, “what is history?” We chose that question for our game as a way to support our point that games can carry an argument, and that the argument can conform to a particular epistemic approach. The intent of combining the game design experience with the playing of our own *The History Game* was to create the situation “where players literally perform the kinds of understandings we want

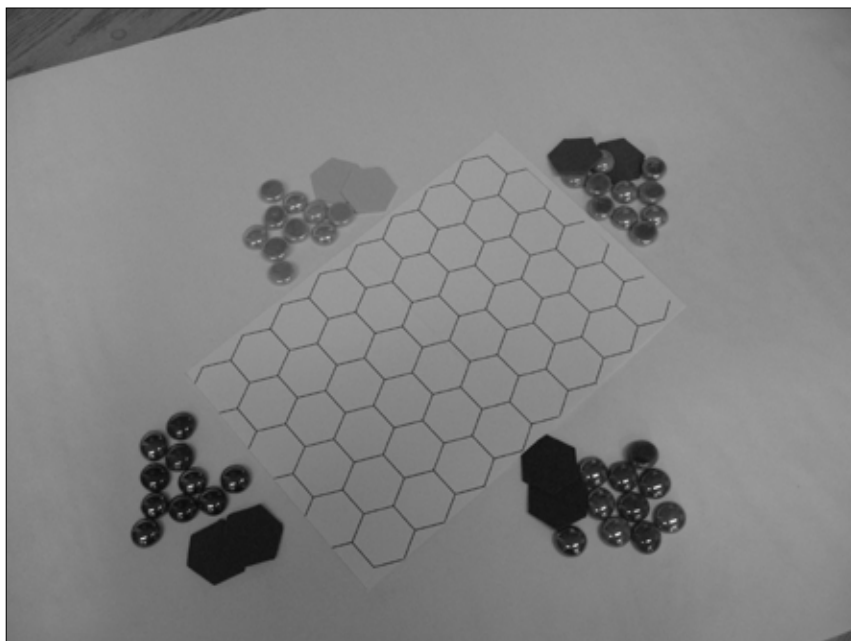


Figure 2: *Hex48* game board (hex map) and pieces for 4-player game.

them to have,”²⁵ which is that procedural rhetoric can be used to establish a truth attribute in an academic setting. Our post-session feedback indicated that the session was quite successful because the format made clear and supported the argument made in the presentation.

Activity Description

We started the workshop with twenty minutes of lecture covering similar content to this paper in order to provide context and equip the participants to play the game and design their own games, as well as to learn that the activity itself was carrying out the argument.

Introduction to Basic Board Game (10 minutes): *Hex48*, with no narrative, no argument

Brainstorming (5 minutes)

Redesign (15 minutes)

Playing *Hex48* adaptations (5 minutes) and Reporting (5 minutes)

Playing *The History Game* (10 minutes) Note: This last step was cut to give more time to redesign, playing, and reporting.

As we said in the session after the first ten minutes with *Hex48*, participants had just played a meaningless, if fun, game. We told them

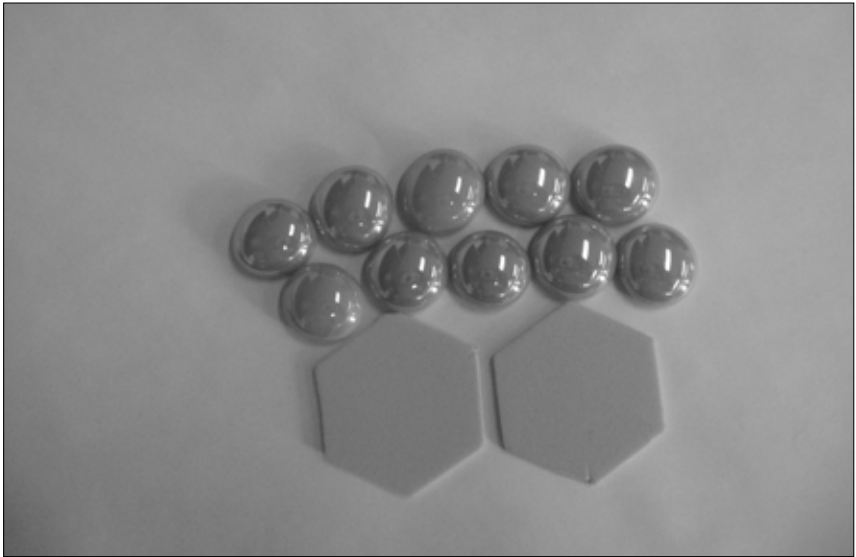


Figure 3: *Hex48* game pieces (glass beads and foam blocks).

that we could go on to discuss serious games now, as moving to lecture at this point is what a lot of instructors would do, using the game as simply a hook for engagement. Using a game simply as a hook without actually teaching anything has the potential to do just the opposite, creating boredom, disengagement, and dissatisfaction.⁵ It was explained that the basic board game activity has a lot more potential to express an idea, so we kept building on it and made it a part of the educational experience, as opposed to a fun (or not) little waste of time, betraying the pedagogical relationship between student and teacher.

Activity One: Hex48

After the initial introduction, participants broke in to groups of four and set about learning and playing *Hex48*. *Hex48* was created by taking *The History Game* (explained later), stripping out the argument and metaphors, and simplifying the rules to make a basic hex strategy game. The goal of *Hex48* is to place one's counters in the longest possible strings and to block opponents from doing the same, in order to get the highest score (Figure 4). Scoring worked by using a multiplier such that the longer the string, the more points each counter was worth—e.g., two three-counter strings at a total of 6 points is worth fewer points than one six-counter string at a total of 9 points (Figure 5). In order to keep the session on schedule, we worked with groups to make sure they mastered the rules quickly and

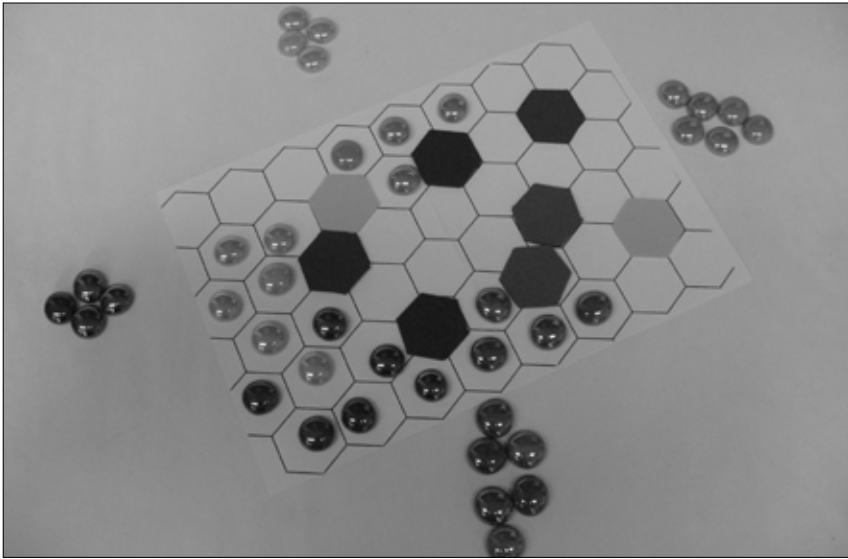


Figure 4: *Hex48* game, in process.

could start playing right away. As the game was not computer-mediated, there was room for participants to negotiate how to apply the rules and what constituted winning. As a result, the first round in most groups was played cooperatively, with most participants achieving the highest possible score. Once players understood the rules better, they renegotiated what counted as a win and became much more competitive.

Activity Two: Participant Game Design

After playing *Hex48*, the participants did some brainstorming to identify arguments and metaphors that one could use a game to convey. Suggested topics about which one could form arguments included: “ninjas are bad and pirates ‘arr’ good”; “research is fun”; “donate blood”; “style-guide rules are necessary”; “academic divisions that generate resources should have a say in their dispersal”; “balanced diet”; “traffic flow”; “emergency awareness”; and “tobacco-free campus”. While these topics are not arguments themselves, they did get the groups discussing arguments and game metaphors related to those arguments, and they kept the session light and interesting. When the groups started to look at transforming *Hex48* to carry a thesis, they became much more serious and focused on the structure of the argument itself. In all cases, the groups took ownership of the game creation process and demonstrated high levels of creativity in writing new rules and applying metaphors to game pieces and interactions. While they

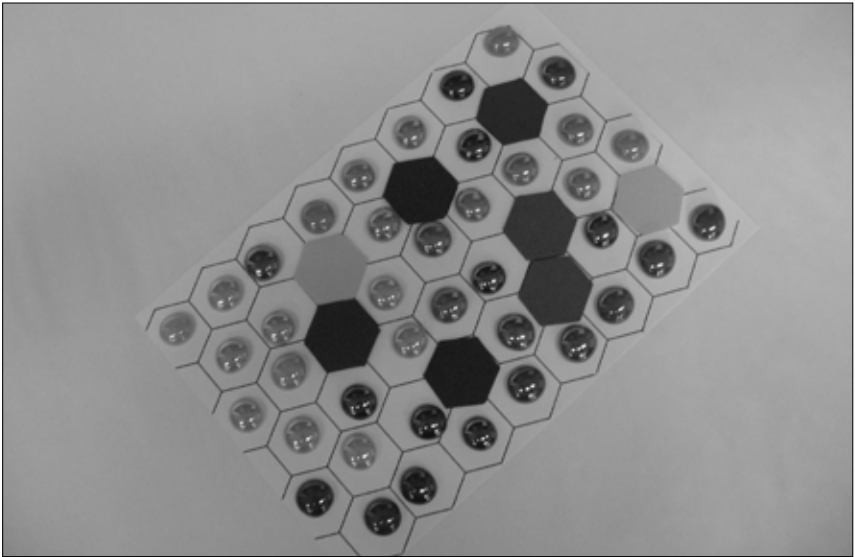


Figure 5: *Hex48* game, completed and ready for scoring.

utilized the pieces of *Hex48*, and a few additional pieces, their finished games bore very little resemblance to the original basic game. Groups were encouraged to add any elements they thought were useful to carry their arguments, and one creatively added a digital dice simulator. The topics that groups chose to work on were: “Traffic Flow”; “Creating A Smoke-Free Campus”; “Ninjas are Bad and Pirates ‘arr’ Good”; and “How To Do APA Citation Style”. The latter two were less immediately successful as serious games. The “Pirates” game focused on entertainment more than argument; the game board represented a map that a pirate would navigate to check chests, some of which had treasure, some traps. The victory conditions, metaphors, and random chance-based game play were not linked together and failed to make cohesive argument. The “APA” game was less a game than a task where one was to place coloured counters in the correct order, with each counter representing part of a citation. There was little scope for strategy, player investment, or meaningful decision making, and the game was primarily focused on conveying skills and content rather than argument. The group that did “Smoke-Free Campus” through play-testing several ideas and rule modifications settled on an argument quite quickly. They created a game that argued it is up to each individual to convince others of their stand on an issue in order to enact change. Players each had different coloured tokens representing like-minded individuals; those who wanted a smoke-free campus, and those who did not. Those tokens



Figure 6: *The History Game* game board, rule sheet, and pieces.

were arranged and moved about the board by each player to surround or outnumber the other players' tokens to "capture" and change their colours to their own. This represented the need for individuals to take action to convince others of their point of view if they want to create a smoke-free campus. As the games were played, the contrast between the four games demonstrated very clearly the absence or presence of a good thesis and supporting argument. This proved our hypothesis convincingly that playing a game that carries an argument makes that argument clear and easy to evaluate; by having learners author their arguments as games, they focus more on the construction of that argument rather than entertainment or flowery prose.

Activity Three: The History Game

Once the participants had finished playing *Hex48* and redesigning and playing their own games, they had developed a basic understanding of how a game's rules and metaphors can carry an argument. We were then able to introduce them to *The History Game* (Figure 6), a philosophy of history game that carries the argument that history is a construction of the past based on relationships between evidence, interpretation, and conclusion. While there was not sufficient time for the participants to play *The History Game*, they were already aware of *Hex48*, which is a simplified version of it. Very quickly, they were able to see how the past is constructed as

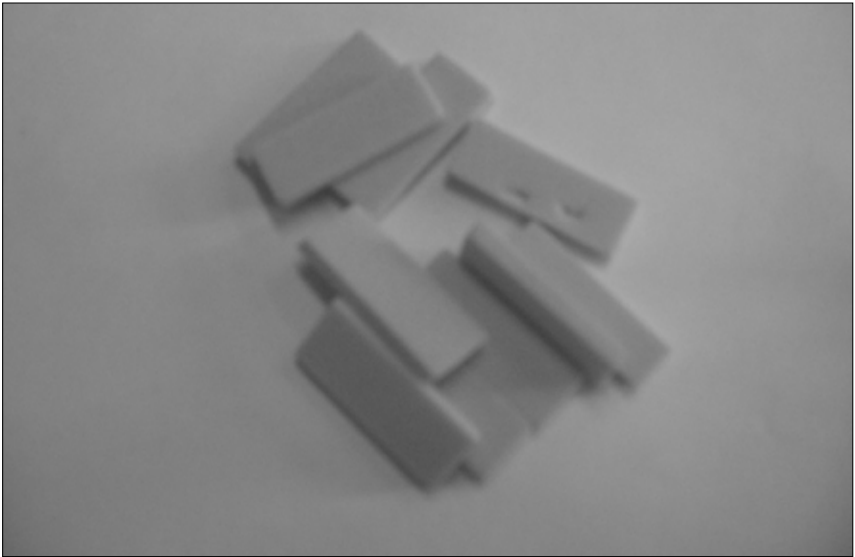


Figure 7: *The History Game* “Interpretation” pieces.

history by adding additional pieces representing “interpretation” (Figure 7) labeling the basic pieces as “facts”—which became “evidence” once placed on the board—and altering scoring to change the nature of the strings to represent “arguments” (Figures 8 and 9). As in *Hex48*, those players with the largest strings scored the most points. However, this now functioned to place an inherent value in the game on cohesive evidential relationships; the longer the string of evidence and interpretation counters, the more cohesive an argument it represents (see Appendix B for *The History Game* scoring instructions). The addition of metaphors and labels to change the meaning attached to scoring and winning the game shows that history is a construction of past via argument. The game is designed in such a way that through repeated play, it demonstrates unambiguously a definition for history as the transformation of facts to evidence; the necessity of evidential relationships; and the arrangement of the interpretations to make an effective historical argument—as opposed to simply having the most facts on the board. It was important to focus the game on the role of interpretation, in part to act as a counterbalance to the tendency of students to focus solely on the amassment of facts. In using a basic board game, we were only able to demonstrate this small part of our larger argument. In order to express our full argument as a game, it quickly becomes a practical necessity to utilize computer mediation since the arguments and rules become increasingly complex.

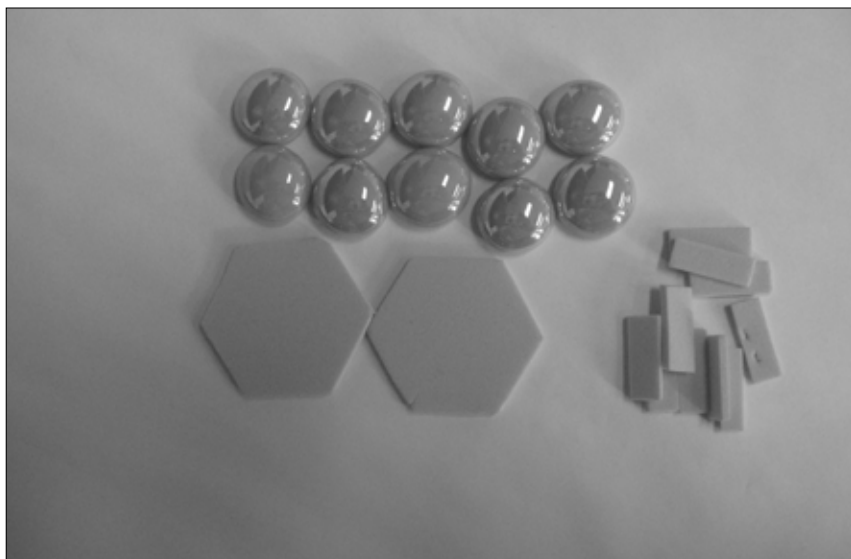


Figure 8: *The History Game* “Unknown/Fallacy” pieces (foam blocks), “Facts/Evidence” pieces (glass beads), and “Interpretation” pieces.

Students and Game Design

As our hands-on activities during the LOEX workshop demonstrated, it is possible and valuable to have students engage with game design and authoring their arguments using a procedural rhetoric. By first looking at the use of a board game and theory behind it, we have focused on the pedagogical issues as opposed to the technological. Karl Royle’s research suggests that is the most appropriate approach. He states that the inclusion of computer games is “an issue of curriculum and teaching methodology rather than a technological issue.”⁶ The evaluation of the structure of arguments through assigning term papers and essays suggests that the overall goal in history continues to be that students learn to construct sound historical arguments.

A certain amount of course redesign is required in order to effectively incorporate this application of game design and game-based learning to raise epistemic awareness and ensure students learn how to construct sound historical arguments. The redesign involves the insertion of three classes, structured in-class exercises, assignments, and a variation of the traditional term paper assignment. This redesign is necessary to introduce to students an unfamiliar approach to structuring academic arguments in a supportive learning environment. It is important that the instructor lets the students know what is expected of them, addresses any fears, and clears up

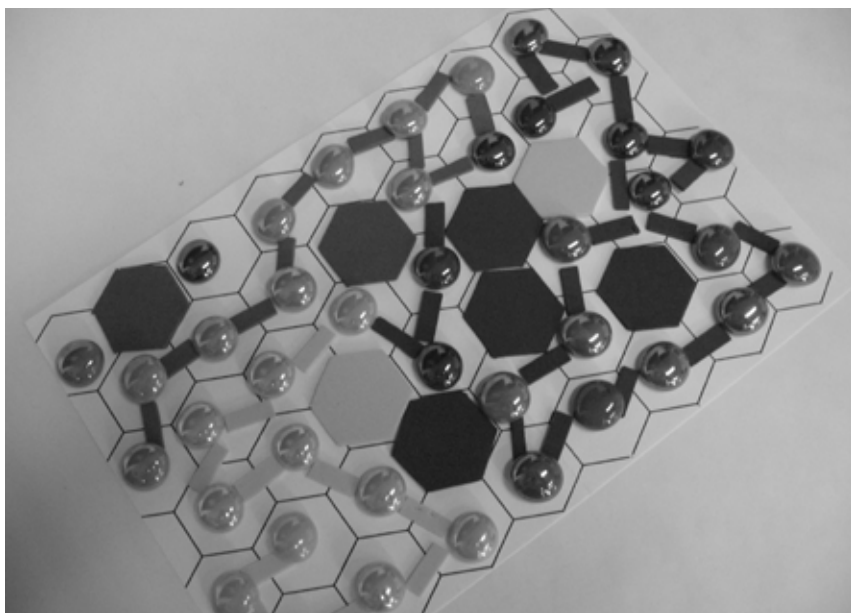


Figure 9: *The History Game* with completed “Arguments” and ready for scoring.

any misconceptions. For instance, one misconception that arose at both LOEX and in GNST 300 is that the game is about a particular theme or content rather than a structured argument. This has resulted in a couple of games that either pit two competing arguments on a theme against one another, acting as a decision making tool, or simply acting as a vehicle for factual content, such as the APA game from LOEX. This redesign with additional scaffolding around procedural rhetoric allows for game design to be used as a tool to raise student epistemic awareness. It is important that all students understand that the goal is the creation of a game that unambiguously establishes a single thesis through game rules and play.

This scaffolding occurs early in the semester with a series of three fifty-minute classes that allow time for reflection and supporting assignments. The first class consists of a lecture and discussion that focuses on rhetoric, procedural rhetoric, and epistemologies introducing to students to the concept that different modes (games in particular) can carry arguments and establish reasonably justified truths. The second class is a workshop much like the one carried out at LOEX, where the learners play *Hex48*, design their own games, and participate in a discussion. After the class and before the next class, the students are given a take-home assignment to play *The History Game* and participate in an online discussion reflecting



Figure 9: *The History Game* modified into the computer game *Half-Life 2*.

on their experiences. In terms of timing, the second stage is allotted a full class with follow-up assignment and discussion, because much of the learning will take place through the actual designing and playing of the game and reflection. Through a mixture of lecture and discussion, the third class introduces the epistemological and disciplinary norms in history for creating reasonably justified truths about the past. Following the third class, the students are given a small-group assignment in which they produce the rules for a gamic version of a course reading or lecture, allowing them to apply their understanding of procedural rhetoric to the main course content. Finally, students turn in a detailed project outline (including working thesis and annotated bibliography) that is then used as a base for them to present their arguments as either primarily a game utilizing procedural rhetoric with a short essay, or primarily an essay with a set of game rules as their term project. Both the game and essay express the argument presented in the outline, allowing students to see how different modes can carry the same argument. They are not commentaries on each other. The outline allows the instructor to check students' understanding of the process and collaborate with them on both parts, and the students themselves choose how they want the two parts evaluated, with the primary portion being 70% of the project's grade.

Having students author their essays and term papers as computer-mediated serious games is much more possible than it may at first seem. James Paul Gee's 2010 work suggests that most students are not intimidated by the technical aspects of using computers to create serious games.⁷ Students can easily create their serious games by modifying, or *modding*, a commercial off-the-shelf (COTS) game through its built-in editors or importing new code by using a commercial game engine licensed at a nominal cost for educational use, such as Valve's source development kit (SDK) or *The Hero Engine*,⁹ or by building the game completely from scratch. Our own personal experience suggests this is the case. In the summer of 2009, Jerremie Clyde had students in grades 7 through 9 create games by modifying *Age of Mythology* to express what they learned from a two-week camp in comparative world mythology. With limited instruction, the students readily took to using *Age of Mythology*'s map editors and scripting tools to complete their projects in as little as four hours. These students were focused on demonstrating content knowledge, not necessarily authoring a complex argument in gamic form. The most challenging part of creating *Hex48* and *The History Game* was translating the argument into procedural rhetoric. Once the rules were set, the physical design of both board games was quite simple and came about through a two-hour trip to Michael's, a local craft supply store. As we already had the rules set for the board game, we were able to put together a digital first-person shooter (FPS) version of *The History Game* by modding the COTS game *Half-Life 2* using Valve's *Source SDK* (Figure 10). It is a puzzle game in which the player uses the *Half-Life* gravity gun to manipulate objects that represent facts and interpretation. Through layering interpretation objects on and between the fact objects, the player creates the evidence objects necessary to build structures that move them through the map. This not only illustrated that authoring a digital version is straightforward, but also that the gamic expression of the argument is not necessarily genre- or format-dependant.

Collaboration and Implementation

Equally important as the technical aspects of game design and the pedagogical concerns of applying serious games and procedural rhetoric to teaching history is the ability to bring two different yet allied approaches to looking at the discipline of history together. To support the use of the gamic mode, librarians need to be deeply aware of the philosophy of academic disciplines and how those disciplines create knowledge. This is because when authoring in the gamic mode, there is a real abstraction to the usual progression of research and writing. Epistemic awareness is

important because, while librarians do not need be scholars in a particular discipline, they are the nexus of student and professor at research source and research output. For example, it is not necessary for the history librarian to be a practicing historian, but it is necessary for them to have a solid grasp of the philosophy of history. It is of particular importance since many faculty are not experts in the philosophies of their own disciplines; for the most part, they know how to work within their discipline, but they do not necessarily know how to deconstruct their discipline. For librarians, knowing how a discipline creates reasonably justifiable truths is a natural extension of an interest in information. In extending this interest in the creation of knowledge and use of information to epistemologies, a librarian can become a particularly useful collaborator for instructors looking at translating their disciplinary process into a gamic form via procedural rhetoric.

Conclusion

Kurt Squire has suggested that “the important question is not *can* games be used to support learning, but *how*.”⁹ Games can be used by carefully focusing on what one is actually trying to teach: the construction of the argument. The argument is created first, and the game is merely a vehicle through which it is expressed, as opposed to focusing on the game as a way to engage or entertain students. Giving argument pride of place over game in this way, as we do in our research into the gamic mode of history, allows one to avoid meaningless games and digital simulations which only offer student engagement. By putting play before pedagogy, instructors can fail to address the important issue of the way in which argument is used to create reasonably justified truths in their discipline, such as how the past is constructed as history. By utilizing procedural rhetoric and placing argument first, the gamic mode provides an innovative and engaging way to allow students to interact meaningfully with the construction of the past as history. It allows students to practice that which is actually being evaluated and not be distracted by an over-emphasis on facts, form, and flowery prose.

Notes

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Appendix A

Hex48 Rules

Object of the Game: The game is won by scoring more points than your opponents. Points are scored by stringing one's Counters together. The longer the string, the more points you get. One's Counters can also be placed to obstruct the strings of others.

Setup: For a basic 2-player game, each player has 20 Counters/Pieces and 4 Blocks:

- 2-Player game: 20 Counters and 4 Blocks per player
- 3-Player game: 14 Counters and 2 Blocks per player
- 4-Player game: 10 Counters and 2 Blocks per player
- 5-Player game: 8 Counters and 1 Block per player (3 Blocks automatically placed on centre 3 hexes)
- 6-Player game: 12 Counters and 1 Block per player (4 Blocks automatically placed on centre two squares of large board)

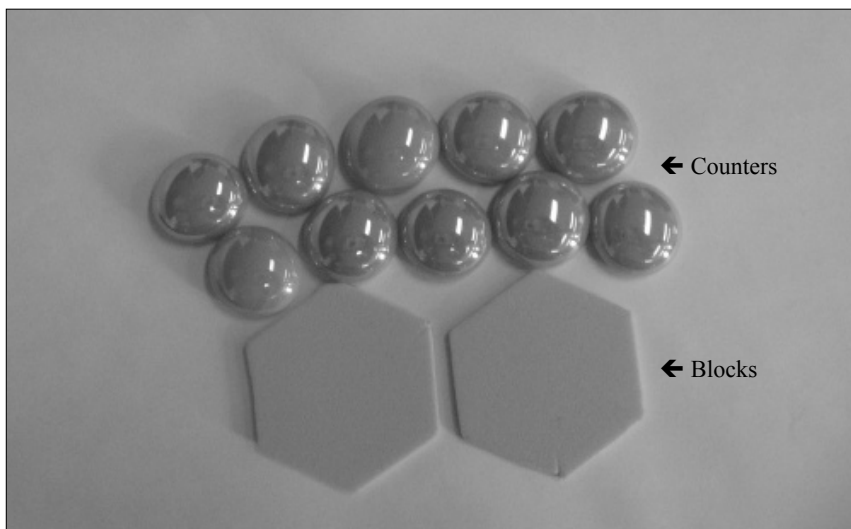
Gameplay: Start by taking turns placing Blocks one at a time until all Blocks are placed. Once the Blocks are down, the player who placed the second-last Block begins. The players then alternate placing Counters, two at a time, until all Counters are placed.

Scoring Stage: Players count strings, counting each Counter only once and turning it over when counted. Once a Counter is turned over, it is considered counted for scoring (one can count in their head multiple times). You can reverse or pass one that has already been counted.

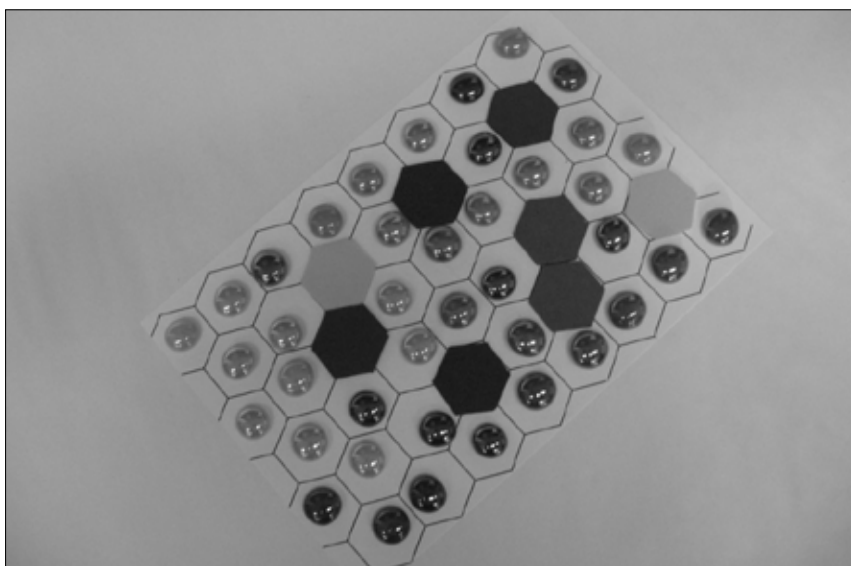
Hex48 Scoring Table
(counters in string = score)

1 = 0	11 = 22
2 = 1	12 = 24
3 = 3	13 = 26
4 = 5	14 = 28
5 = 7	15 = 30
6 = 9	16 = 32
7 = 11	17 = 34
8 = 13	18 = 36
9 = 15	19 = 38
10 = 20	20 = 45

Guide to *Hex48* Playing Pieces



Sample Completed *Hex48* Game



Appendix B

The History Game Rules

Object of the Game: The game is won by scoring more points than your opponents. Points are scored by stringing one’s Counters together. The longer the string, the more points you get. One’s Counters can also be placed to obstruct the strings of others.

Setup: For a basic 2-player game, each player has 20 glass Evidence Counters/Pieces, 20 foam Interpretation Counters/Pieces (in the same colour as the Evidence Counters) and 4 Unknown/Fallacy Blocks:

- 2-Player game: 10 Evidence Counters, 10 Interpretation Counters, and 4 Unknown/Fallacy Blocks per player
- 3-Player game: 7 Evidence Counters, 7 Interpretation Counters, and 2 Unknown/Fallacy Blocks per player
- 4-Player game: 5 Evidence Counters, 5 Interpretation Counters, and 2 Unknown/Fallacy Blocks per player
- 5-Player game: 4 Evidence Counters, 4 Interpretation Counters, and 1 Unknown/Fallacy Block per player (3 Blocks automatically placed on centre 3 hexes)

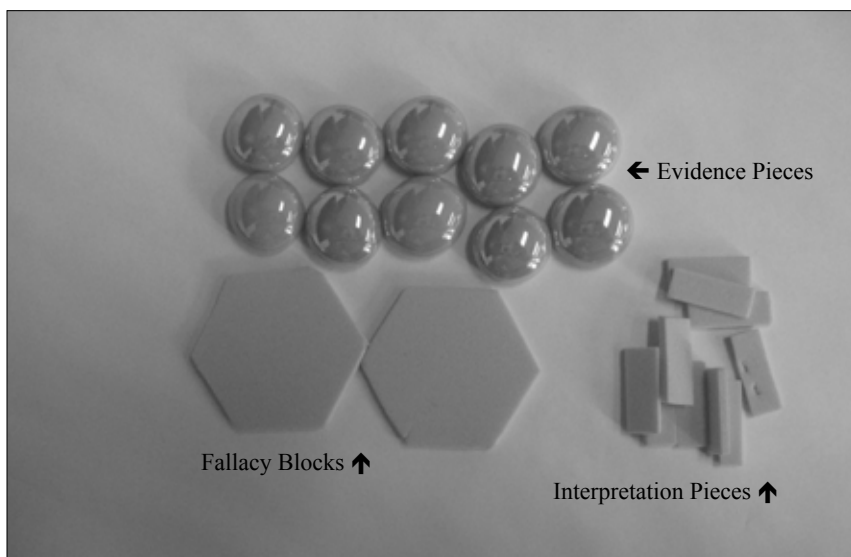
Gameplay: Start by taking turns placing hex-shaped Unknown/Fallacy Blocks one at time until all Blocks are placed. Once the Blocks are down, the player who placed the first Unknown/Fallacy Block begins by placing two glass Evidence Counters. The players then alternate placing their Evidence Counters, two at a time, and Interpretation Counters, two at a time, until all Evidence Counters are placed. In the players’ last turn, they will place their remaining Interpretation Counters. Each side of the hex on the Unknown/Fallacy Block can only have one Interpretation Counter, and all Interpretations must be placed on a Block with an Evidence Counter in it.

Scoring Stage: Players count strings where Interpretation Counters link Evidence Counters, counting each Evidence Counter only once and turning it over when counted. You can count another player’s Evidence as part of your string (argument) if you link to it through two Interpretations. Once a Counter is turned over, it is considered counted for scoring (one can count in their head multiple times), unless another player needs it as part of their strings as they link to it with at least two Interpretations. You cannot reverse or pass one that has already been counted.

The History Game Scoring Table
(counters in string = score)

1 = 0	11 = 22
2 = 1	12 = 24
3 = 3	13 = 26
4 = 5	14 = 28
5 = 7	15 = 30
6 = 9	16 = 32
7 = 11	17 = 34
8 = 13	18 = 36
9 = 15	19 = 38
10 = 20	20 = 45

Guide to *The History Game* Playing Pieces



Sample Completed *The History Game*

