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Minecraft As Classroom

Imagine a situation where you know a fair bit about a particular academic area of study -- for example, the history, culture and technology of modernity. And say you also know a thing or two about Minecraft, which, at this point, is still easily the best-selling video game in history. And say you also have a friend who knows something about Minecraft, but nothing about the theory and history of modernity.

What if there were enough connections between the two things that you started wondering if, under the right circumstances, you could use Minecraft to teach your friend about modernity? That's the possibility that we have been exploring with Video Games and/as Theory this winter. I've been using Minecraft as the subject matter in this course on and off since 2014, but under pandemic conditions, with the support of the Concordia Lab for Innovation in Teaching and Learning (LITL), I decided to try something a little more adventurous.

Since January, I have been running a "flipped" class, which means that the students spend their classroom hours working in teams on our custom Minecraft server, using it as a kind of experiential laboratory. At some point in their week, they listen to the lectures, which take the form of audio podcasts, and do the course readings, which are about various aspects of modernity rather than video games. I'm in more or less constant contact with the students through Minecraft, our courseware Moodle, and our chat rooms in Discord. At the same time, a research team of 14, from five fields in three different

universities, has been working with the students and studying their various activities. Bart will be discussing the research aspect of this project in his paper, so I won't be going into any more detail about it here.

I see this course as an intervention on several levels. Of course, I was curious about the utility of using a game as a teaching platform under pandemic conditions, and whether it might alleviate Zoom fatigue, and create a greater degree of student engagement. I am also interested in whether team-based student learning in such an environment can impart "future skills" like collaboration, planning, project design and management, interpersonal communication, and reporting. On the level of field and subject matter, I wanted to know whether it was possible to use Minecraft as an allegory for relatively more complex ideas in the theory and history of modernity. In addition, I consider this project to be an intervention in several fields: into game studies, which tends to ignore the longer history of communication studies and cultural studies research in favour of its own, more parochial arguments; into education research, which overwhelmingly positions Minecraft as a tool for working with children and people with ASD.

Pretty much everything else we want to accomplish with this course depends on that first question -- can we use this approach to create a greater than usual degree of engagement? Because we have been tracking the login and logout times of every user on our server, we have extremely detailed information about how much time each student spends on class activities. The graphs that I'm about to show were prepared by Stuart Thiel, an Engineer and leader of the development portion of our team. Our initial data shows that engagement levels are high. [IMAGE: PIE CHART 2] Out of 35 students, 3 of them rarely played, 14 played mostly during the originally scheduled class hours (10:15-11:30 twice a week. or 2.5 hours of official "class" time), 8 played

mostly outside of class, and 10 regularly played for more than four hours at a stretch. [IMAGE: AVERAGE HOURS PLAYED] Average time on the server per student was about 3 hours per day, every day, with more on the days that the course calendar identified as class time. [IMAGE: HOURS PER PLAYER] Total play hours for the course range from 392 hours at the top end (with 5 students putting in over 200 hours, 3 more than 150 hours, 4 more than 120 hours and 5 more than 50 hours, down to a low of about 3 hours total for the course. (We also have full logs of all text from Discord, which are also time-stamped; without going into too many details, conversations regularly go into the small hours of the morning).

There's no doubt we have their attention. The next big questions are, what can we do with that attention to make learning occur, and what could we teach? Because Minecraft players habitually refer to their in-game creations as "builds," Bart and I call our pedagogical model for this course [IMAGE: THE ALLEGORICAL BUILD] "the allegorical build." It works like this.

[IMAGE: ALLEGORY] Allegory -- a narrative device that uses assemblages of events, actions, and objects as an occasion to think through complex ideas -- is a powerful interpretive tool. It has a long history of use in philosophical and critical thinking that extends from classical antiquity up to contemporary materialist investigations of digital media and culture.

For Fredric Jameson, allegory is a way of dramatizing the rejection of what he calls a naive and representational immediacy in interpretation. Jameson often uses allegory to focus not on symbolic content, but on the material and linguistic nature of texts as objects. For Jameson, allegory is not static; it takes place in time. That is, it is literally the process of critical thinking itself, in which our initial

assumptions about the literal meanings of something often prove to be too convenient, and we find that we have to replace them with something more reflective.

[IMAGE: CONTROL ALLEGORIES] One of Jameson's students, Alexander Galloway, specifically took up allegorical methodology as a way of thinking about video games. Galloway describes video games as control allegories, arguing that video games don't hide their systems of control ... if anything, they flaunt them. [IMAGE: GRID] Think for a moment about the grid that surrounds and positions everything in Minecraft, making it findable, legible, and useful. The grid is one of the master control techniques of modernity, but digital culture perfected it in the form of the database. We learn to play the game, literally, by aligning ourselves with the grid and synchronizing our behaviour with the game's control systems.

The form of the control system of any piece of software is an [IMAGE: ALGORITHM] algorithm: a specific set of instructions for solving a particular type of problem. Algorithms don't have to be performed by computers. You can do them when you're doing long division or following a recipe. But computer programs are implementations of algorithms in particular coding languages. To do well at a game, you have to make some inferences about what its algorithms specify and then meet those specifications as best you can. As you learn to play a game like Minecraft, you're becoming what Bart calls "close to the code," meaning that you are developing a sense of the results that various algorithms produced in the game itself. This doesn't mean that you **understand** the code or would recognize it if it's suddenly appeared in front of you on the screen. What it means is that you are effectively building allegories of the game's algorithms. Galloway's contemporary and occasional collaborator Mackenzie Wark crams the two words together into a portmanteau and call this process an "allegorithm". [IMAGE: ALLEGORITHM]

While playing video games, we construct allegorithms by conducting experiments. In the low-resolution voxelized world of Minecraft, players feel as if they have more control over the conditions that produce the world as they experience it ... that things are somehow testable. There's a long tradition of video game players conducting semi-empirical experiments in particular game worlds, in order to answer questions about the physics of the game when they could be answered definitively by reading the code. In a recent article, one of our team members, Nic Watson, coins the term "procedural elaboration" as a description for such activities in Minecraft, where the production of descriptive procedural knowledge through experimentation is a form of gameplay in itself, rather than a means toward the development of instrumentally effective strategies.

This, typically, is where a video game studies approach would stop. What I want to think about with this course goes one step further, [IMAGE: THE ALLEGORICAL BUILD] considering the relationship of the allegorithm to the critical readings and course lectures. **This** relationship is the allegorical build: the moment when students use the allegorithm to think about something else, in this case, a series of core readings concerning the theory and history of modernity. I think this is a more qualified and more defensible approach than positioning games as an allegory for real-world issues.

The course syllabus was deliberately designed to scaffold the long process of the allegorical build. It presents students with the choice of one of four possible ways to fulfil course requirements, ranging from largely independent research and writing to various combinations of group project-based work and written assignments, with groups persisting over the course of the term. All students participated in an initial warmup exercise, which both provided some instruction in basic

Minecraft procedures, and gave them a low-stakes sense of how they would be marked in the class. Each group then chose from the syllabus one or two project themes to develop, and submitted a short proposal for approval. These project themes are associated with the topics of one or more readings from the syllabus. Completing a given assignment requires both a given team's in-game project and individual reflection papers from all team members.

The allegorical build isn't speedy. It begins with hesitations and the realization of misperceptions, then slowly but deliberately works toward a negotiation of in-game activities and critical readings toward a third thing. That third thing isn't simply a theoretically informed understanding of the game (which would be the goal in game studies); nor is it a better understanding of the critical material (a media-historical or cultural studies approach), but an ongoing, intensive form of learning in which the theoretical and philosophical potential of the readings is doubled by the experimental and technical milieu of procedural elaboration in the game, transforming both components in the process (see Parikka, *_Insect Media_* 96).

On the first day of class, many students were clearly expecting not Minecraft **as** classroom, but a classroom **in** Minecraft. [IMAGE: AMPITHEATRE] One group immediately pulled together a carefully designed, well-lit amphitheatre, presumably under the assumption that I'd be lecturing to their avatars in a group. [IMAGE: IMPROMPTU] When it became obvious that that wasn't how things were going to transpire, another student, with considerably more experience in the game than many of the other students, began to hold an impromptu tutorial in rudimentary game skills, like building a crafting table and a basic set of wooden tools. It was so successful that I asked him to continue his workshop two days later (but without providing any explicit instruction about how to do so).

[IMAGE: TUTORIAL] I arrived at the start of class to discover that the student had transformed a nearby field into a procedural workspace, with neatly divided plots for each student, containing a water source, a bit of fertile farmland, and enough supplies in a chest to construct a tiny house, a bed, and plant a food supply. This emergent act of generosity and leadership set a tone for the rest of the term, which has been characterized by the same sort of reciprocity, with teams trading each other for necessary materials, and frequently making gifts for each other. Under such conditions, the first step in our pedagogical process, in which students developed a comprehension of the Minecraft algorithm through procedural elaboration, went very smoothly.

As a result of regular discussions in various class Discord forums during the course of the week, I was soon getting the sense that the students were beginning to allegorize the readings. The hard evidence of successful allegorical builds began to arrive in the reflection papers accompanying the first group projects. I'll close by describing one of the more surprising (and gratifying) examples.

[IMAGE: GRINDER] One of the kinds of builds that appear on any Minecraft server is called a mob grinder. These are structures that players create in order to safely process monsters, or "mobs," for the resources and experience points that they drop on their death [IMAGE: GRINDER INTERIOR]. So it wouldn't surprise anyone familiar with the game that there is a project on the course called "Meatpacking I," for which the instructions are simply "Build some sort of mob grinder." What I paired this project with on the theoretical side was "Mechanization and Death," from Siegfried Giedion's **Mechanization Takes Command**. Over the span of half a century, writers like Gideion, Vilèm Flusser, Bernard Tschumi, and David Edgerton have looked at this

topic from a variety of different fields, concurring that slaughterhouses exemplify both the triumphs of modernity and its worst failures, often simultaneously.

Predictably, there are several such structures on our server. [IMAGE: ENDERMAN GRINDER] Most are constructed according to a deeply pragmatic, unadorned aesthetic, out of whatever materials happen to be lying around, like this Enderman grinder. The one I want to talk about today, though, the one the students informally dubbed the "murder hole," [IMAGE: MURDER HOLE] is different in several key respects. It is a traditional, fully functioning zombie grinder [IMAGE: ZOMBIES], which produces both the loot that the zombies drop and the experience that this generates. But it's constructed in a specific manner that not only makes its inner workings visible to the viewer [IMAGE: INTERIOR]; even its decorative elements have a pedagogical purpose, demonstrating the queasy relationship between kitsch and mechanized slaughter in the game [IMAGE: PEDAGOGY]. In sum, its design effectively turns the mob grinder into a teaching tool.

All of the papers that concerned the mob grinder made reference to Giedion's work, and were articulate about the similarities and differences between slaughterhouse architecture in-game and in historical circumstances. So far so good; there was evidence of the success of the allegorical build, in print. But where I sat up and took notice was when I realized that the best papers I received on this project were allegories not for Giedion's work, but for other readings on the syllabus: Heidegger's "The Question Concerning Technology" and Sam Binkley's "Kitsch As Repetitive System." The sophistication of the analysis is impressive. In the paper on kitsch, the author sums up perfectly the complex nature of what they have produced:

Our capacity for emulation in Minecraft is limited by the

blocks available to us. As a result, while we've conveyed a "familiar 'message'" of slaughter, the subtextual layer of cultural significance is somewhat lacking (143) [...] while our imitation evokes the sentimental value that kitsch places on feeling, players are an extra layer removed from the reality we have tried to emulate. They bear witness to not just an imitation, but an abstraction of an imitation of reality; thus, they must search deeper in the decorations we've used to discern the kitsch aesthetic we aimed to provide.

Meanwhile, the Heidegger paper concludes:

From Heidegger we can see that the essence of technology predisposes players towards this revealing by mining their worlds into being. Though each played world is brought-forth by its players, the sheer inexhaustibility of the game, by virtue of its near-infinite capacity for generation, suggests that no framing could ever fully encapsulate it. Small comfort, I'm sure, for the zombies we already have at our standing reserve disposal.

[IMAGE: HABITAT] Earlier in this talk, when I suggested that the allegorical build was a third thing, this sort of thinking is what I had in mind. In these papers, which serve as an expression of these students' potential (certainly not the only one, but the one most visible to academics), the game isn't reduced to a prop to support the reading, and the readings don't become the justification for play.

As the course comes to its end, I am thinking a lot about the soft skills that this approach to teaching encourages. Over the last couple of days, as they completed their final papers, the students have been applying all of the interpersonal cooperative skills and all of the generosity they learned from working in-

game to the process of writing. The class Discord is full of instances of them coordinating their topics within groups, editing and proofreading each others' papers, sharing images, directing their peers to relevant secondary sources, asking questions about drafts and testing out their analyses. As they shuttle back and forth between their projects in-game and their readings with increasing confidence and sophistication, these students are deep in the allegorical process of **becoming-educated**.

[IMAGE: SUPPORT]