CHAPTER 2

WHY MINECRAFT?

"The only way kids learn… digital citizenship is by experiencing social media spaces and being part of those."

- Minecraft Teacher

Looking Closer at Minecraft

In the last chapter we talked about how games can be much more than just titillation. Games can also be vibrant, 'lean forward', media that allows the player far more interactivity than passive media. Games can be tools of creativity and production. In fact, there are scores of games that would warrant a specific guide for using in classrooms, or a study of implementing teachers. So, why Minecraft?

This chapter is an overview of Minecraft. Specifically, before booting up the game or digging into the teacher examples, let's look at what Minecraft is and why Minecraft is worthy of our attention. This chapter attempts to give you a glimpse of the game and explain why this particular game is so compelling for educators.

The game itself is simple. You set up a 'world' filled with randomly generated blocks, and your character is dropped in the middle of the world - empty handed. You can move by using basic keyboard commands (W,A,S,D) and your primary skill is the ability to pick up dirt, wood, or rock (left click) and put it down where you please (right click). While you hold blocks, you can 'craft' them (E) into tools, houses, and armor that allows you to pick up more kinds of blocks. The essential experience is to survive, explore, plan, and build anything you choose - and possibly show your work to a friend.

Minecraft has broken the rules about what we think a video game is, how it should be advertised, and how long a player will invest in their own imagination. It is not enough to say that Minecraft is unique or different and it is insufficient to call it just another computer game. Teachers in this study remember their 'first' time playing Minecraft with fondness. They and millions of others remember the moment they realized they could do *anything* they wanted in a world that was designed for just that.

Minecraft is a special game at the very least. Within the world of gaming, Minecraft is special in four ways:

- The Minecraft experience is about gathering and building whatever you can think of; it is a tool of production at it's core;
- It's also built without a structure or scaffolding that forces certain kinds of experiences. It trusts the player to think;
- Minecraft is social and is appealing because you can play with your friends; and
- The inner guts of Minecraft are wide open to learning more about programming.

Expert players make modifications to the game itself, or 'mods', and the desire to change the game itself is almost as strong as the desire to build, show, and experience the game itself. Any one of these four elements would make Minecraft a great game for educators - probably a top selling game on the market too. But all four of them create something special that is changing an entire generation of play.

It may be overreaching to call it historical, but within reason. "Historical" brings us closer to the context or tone in which players and early adopting teachers have framed it. For those in this study for instance, Minecraft is a not just a game - but a game *changer*.

So, what exactly is so special about this little game? Why would anyone be interested in a game where you move blocks around?

A Blank Slate

Well, for many, 'moving blocks around' needs no explanation. They 'get' it. For others, the idea of the 'blank slate' helps to explain the powerful pull of creation and it's endogenous connection to learning.

Early in American education, students used a small hand held 'slate' and chalk to show their thinking or to work out a problem. A 'blank slate' offered the potential to learn anything, and we still use this phrase to express the idea that anything can be expressed on 'a blank slate' or as a metaphor for students awaiting instruction. Blank slates represent completely open ended potential - as does Minecraft. But Minecraft is better than a blank slate in a few ways too.

Slates, however, were restrictive. They were more expensive than some families could afford at home, they had to be erased each time they were used, and they were small - unless you went to school where they sometimes had giant 'slate boards' on the wall! In this regard, Minecraft is entirely different. The potential of Minecraft is available to everyone relatively cheap, never needs erasing, and can be expansively large.

Today the blank slate has been replaced by paper. Paper allows every student the chance to draw a picture, write a story, take on giant projects, cooperate with others, and share their work. But, paper alone doesn't do anything, it *allows* many things. In teaching and learning, media serves us as a tool to share ideas and for learners to represent ideas back to their educators. While paper can be used for a memo, a picture, a table-top adventure game, a quiz, political commentary, or a sketch of a innovative idea; paper also awaits the users input in all things. This comparison gives us a lens to look at Minecraft too.

Likewise, Minecraft is not a game that you play through. It won't entertain you. Essentially, it won't *do* anything. Minecraft is a randomly generated digital space that you can modify by moving and transforming cube shaped pieces of the world. Playing with other people allows your constructions to be a note to others, a picture or space, a digital adventure game, a test or puzzle, a political agreement, or a chance to build an innovative 3D idea. But before you play, and get a form of writer's block, you should know the nature of this game is that of paper. The user interface is like a pencil, and for non-gamers, you may need to find a player to help if you don't know how to 'hold the pencil' yet. Once you learn, there is no limit to your imagination. Minecraft, like paper, is a blank slate. Minecraft assumes that a blank slate is compelling for many young minds.

Minecraft trusts in a second principle of human nature too. For Minecraft to work, as designed, it assumes that a person's mind is limitless or 'forever, voyaging'.

Forever Voyaging

It seems there was a market for this kind of game too. We know that Minecraft has serious sales. The Wikipedia on Minecraft paints it as one of the top selling games of all time - and it is gaining steam. Before it officially 'released' in 2011, Minecraft beta included 4 million units sold,[1] by 2012 it had grown to 5.3 million copies,[2] and as of this writing in 2013, Minecraft has over 11 million in sales.[3]

<2011	+ 1.0 million copies sold
2011	+ 3.0 million
2012	+ 1.2 million
July 2013	+ 5.8 million
Jan 2013	+ 9.0 million
Total	**20 million copies sold**[4]

Typically computer games, have their top sales the first month they are released and then fade away. Minecraft is selling more copies this year than two years ago and has sold more copies each year than the year previous. Heck, in the last 24 hours alone, they have sold over fifteen thousand copies,[5] - enough to launch a small indie company.

Minecraft, without a publisher, and without one paid advertisement spread via *word of mouth*[6] to be a central hobby for millions. This is much less like a typical entertainment product, that is consumed and forgotten, and much more like what we would expect to see when a new innovative technology releases. The first exposure to the game is the same.

Minecraft is not outwardly impressive. The typical first impression of Minecraft is to be a bit disappointed, 'So *this* is what all the hype is about?!?' Minecraft does not strike awe into the first time player. Though it requires a good graphics card to render, you'll notice first that it's graphics appear to be a throwback to the mid-90's. It looks like a 'retro' game.

We've already pointed out that there isn't much more than a blank slate to look at. The game is full of cubes, no motion capture has been done for your characters movement, and you don't need a retina display to see the chunky graphics. The soundtrack does its best to lull you to sleep and the standard 'getting started' tutorial is conspicuously missing. Minecraft seemingly breaks all the rules of awesome game design' because it fails to provide clear direction, narrative, or context; it doesn't scale (much) through more and more challenging 'levels'; and there is no central or essential challenge for you to overcome.

Not only is Minecraft *not* visually impressive, there is a steep imagination curve that pushes away casual players. If you don't have an avid fan, (bearing the fruits of creative thoughts), showing you the game, you too may start it up and think, 'Really? This is all there is?' Or worse, you'll fall in a dark square hole, get stuck, and decide to move on to other games in complete frustration.

Current players have tried to make it easy for you though. If you go online, you'll find an assortment of Minecraft Startup guides to help new players navigate the first day and night of the game. Chapter 3 will help with this also, but my goal is not to get you playing, but to have you forever voyaging to new classroom ideas.

It isn't the production that makes Minecraft draw millions, it's that millions can produce within Minecraft - and do. Like paper, Minecraft requires the player's action for anything to happen. It's a lean forward media. Minecraft simply opens up a world in which you choose the adventure, you choose the goals, you choose who to play with, and you build whatever you want. It assumes and trusts that the player has a mind that wants to create, that can make it's own plans, and will connect and help others learn to play. Like a blank slate, the power isn't in the slate, it's in the potential of the media. In Minecraft, the designers trust that the player has a mind, and, in the words of William Wordsworth (via Steve Meretsky), that the mind is forever voyaging.

> Of Newton with his prism and silent face,
>
> The marble index of a mind for ever
>
> Voyaging through strange seas of Thought, alone.[7]

It takes a unique restraint for a designer to hand over the reins of design to the consumer - or a trust and respect even. One has to believe in humanity a bit. In this regard, educators can resonate a bit with blank slates, paper, Lego's... and Minecraft.

Minecraft humbly presents a randomly generated world when you set it up. Players are faced with a silent 'index' of options that they can alight with a sharp mind. Thinking is an internally rewarding experience and creator, Markus "Notch" Persson, is to be credited with making a game that trusts and relies on player thought to fill the space with intention.

This explains why Minecraft was, and probably had to be, a non-corporate decision to make. Notch started his own company, Mojang, to make this game where the 'Sea of Thought' can also be lonely, filled with 'creeping' terrors, frustrating, yet ultimately rewarding. This requires a trust in the intelligence of the player to fill their own worlds.

Or perhaps this trust wasn't such a leap of faith? Mojang also built a new kind of multi-player mode that encouraged real life friendships to make private worlds together. Where one person may come up short, playing with others is a far more generative activity. Humans are, after all, social beings. If one person couldn't muster the voyaging mind, perhaps two or more people together could cultivate the needed creativity and play to populate this game?

Embracing a Limited Multiplayer Online Game

For years, I thought I knew what online play was all about, but when my kids dug into Minecraft, their experience had some key differences - namely Minecraft was a limited multiplayer online (LMO) game.

The Story of a Gamer…

I'd been actively involved in a 'guild' of online gamers. We had large group events, 'raids', on Saturday nights and Sunday afternoons, but fellow guildies were generally online every night - so if you were looking for a small pick-up group, you could usually find one. We played online in Massive Multiplayer Online Role Playing Games, or MMORPGs, or for short, MMOs. We were a 'family friendly' guild and considered ourselves less intense than 'hardcore' gamers. We played for fun.

My role was that of 'tank' and I loved drawing the attention of big, nasty creatures and taunting them to hit me. While I was tossed about, my friends would pummel the 'boss' of baddies and heal me until we conquered the latest challenge game makers threw at us. These weekly efforts usually resulted in conquest, but at times it took us a month to topple one of these boss fights.

Our core group had played for nine years - jumping from Everquest to World of Warcraft together the week that WoW was released. This was my gathering place each weekend or what Constance Steinkuehler calls my digital 'third space' between work and family life.[8] Using annual vacations, my digital friends had gradually become face to face friends too. We enjoyed each others time. We shared a common interest, were willing to share the same amount of time, and generally enjoyed sharing life with each other each week. Over these years, we also got pretty good at tackling the challenges of MMOs together. We were coming to be known as one of the best guilds on one of the most competitive servers in the game.

However, as our guild was successfully beating baddies, this came with challenges. As people came, they needed leadership, communication, and management to organize 50-60 active players (150-200 players were occasional members). Also, when people gather, so does drama. We had to handle drama and would inevitably had to meet and agree on guild rules, policy, and direction.

In fact, while real life had me working as a high school principal, I was always learning tips for my real job from how we led our guild online. People management skills crossed the digital line just fine for me. After all people are people. (I should point to what I believe to be seminal work by Moses Wolfenstein[9] who tracked this phenomena of transferred leadership skills across school leaders playing MMOs.)

This alone was interesting for a time. But eventually, I would hesitate before logging in and consider if I wanted to take on whatever was waiting. After all, work is work. Some nights, after working with people all day, I just didn't have the will to log in.

Even when the game became tedious, I still jumped online once a week to maintain very real relationships with people. But they could tell I was less committed to the guild, raiding, and managing people. For a full year, I dutifully took damage for them as a tank, worked on the latest armor upgrades, and trained my kids to run 'dailies' for me to offset time on redundant collection quests - but I also stepped back from the social engagements. Yet I still logged in to announce to my friends that I was going to 'log out' for good.

Still, a few close friends and I are regularly in touch and game together occasionally. So that was a long story that led to this reality for me. My core group of digital friends and I are still in touch. It was that small group of players that made the time social for me, not the scores of people crowding the server, but the few relationally relevant people that could laugh, play, and share time that was rewarding.

The truth was, I enjoyed their company, but just couldn't justify playing a MMO that was starting to feel like a job. This is where Minecraft is a welcomed change of pace in the gaming world. It hit the market at a perfect time after a wave of MMOs hit the market and before people had abandoned them entirely.

For both veteran guildies, like myself, and for millions of new players, like my kids, Minecraft came with many of the design benefits of an MMO, but the low-key playful nature of what I'll call an *Limited* Multiplayer Online experience - or LMO. You can play with friends. You can set up times to meet online or see what the other has done while you logged out. You can plan together, show off 'awesome' projects, or set up challenges for others to enjoy. Playing together is fun and a key aspect of gaming expectations today.

Teacher concerns

Yet, during my time working with teachers across the country, I see a pattern of hesitation toward MMOs in the classroom. Teachers are justifiably shy of MMOs because they have no control over who is going to talk to their students once online. A typical MMO server could have between two and ten thousand players online at any time - which presents the *potential* of the wrong people chatting with students.

As exciting, social, and investing as these games are, teachers have to sell new curricular ideas to parents and administrators. So if there are thousands online, how can you prevent bullies? How do you stop a stranger from asking for my child's address? What if they see a swear word? For gamers, these are minimal problems (if not imaginary), however, for administration seeking to avoid a lawsuit, these are central possibilities. It's the potential problem that can freeze educational innovations sometimes, not the actual issues.

MMOs provide no guarantee of privacy because they are designed to be social experiences. (In their defense, you can report inappropriate play and the MMO companies are pretty diligent in following up on these complaints). Developers want you to be able to meet new people, and do everything they can to facilitate social play and positive online norms of behavior. Players can and do get banned, but game companies wait for abuses to happen first, then react.

Educators attempt to prevent abuses before they happen. Socially, MMOs are more like going to a concert, and less like having a 'sleepover' with a few friends and parent supervision. Why not invite over kids you can trust, whose parents you can report to, and keep them in your own home which you can guarantee is safe? There may be bouncers, hired for safety, at a concert that respond to bad behavior, but as a parent or teacher, why bother until the kids are older?

For my part, I completely agree with this bias. Schools should and are well served in protecting kids from as many dangers and hazards as they can. It is the teacher's job to make the case that they can combine great learning experiences within a safe context for the kids. LMOs offer this kind of guaranteed protection and are a much easier game to present to kids for this reason alone. So far, Minecraft is the first to really nail this controlled multiplayer option in it's native game.

So, while my work in the past[10] has been to study teachers that have overcome these resistant points for great classroom learning, it hasn't gone viral in schools. These challenges have made the use of MMOs in classroom settings fairly limited. The LMO however, addresses many of these concerns.

LMOs for Learning

Most people have had private (controlled participation) social gatherings and have attended (open uncontrolled participation) large community events. Both social experiences are integrated into our lives and are far from exclusive of each other. So it's not hard to imagine that games would eventually be designed to address both styles of social connections.

In fact, there have been other 'invite only' multiplayer games. Some of the very first local area network games were by invite only, strategy games have long allowed you to invite a friend to play chess, scrabble, or Civilization. These games require a degree of coordination or act as 'play by mail' asynchronous communication. Players exchange 'moves' but little informal communication or 'hanging out' together.

However, the excitement of having an environment that is 'live' is a different sort of social connection. Setting up a server creates an 'always on' setting. This means that anyone can login and play as they please and that when you login, you are likely to find friends there to chat with or take on a new adventure together. So what MMOs offer is community and conversation in a way that other multiplayers do not. An LMO, may have less players, however, the players it does have are all people that you have chosen to have in your community.

This is a significant advance for teachers. Minecraft offers all the stimulation, cognition, and social interactivity of an MMO, but without the worries that playing with strangers will lead to. A teacher can set up a class, make a whitelist of players, and say with complete certainty that the space is safe for school use. In fact, for the paranoid, they can set up *internal* servers at the school or a *local network* in the computer lab that has no connection to the internet itself at all.

This kind of LMO retains the benefits, and eliminates the worries of community style online games.

Modding

Minecraft is a blank slate; it allows for a voyaging mind; it is an LMO; and Minecraft represents a fourth trend in digital gaming that has engaged a new generation of media producers - modding. A 'Mod' is short for a modification to a piece of software, especially a game. Modding is the verbing of the word and is the act of making mods - an activity apart from the game itself, but is seen as an act of expert fandom around the game.

Most mods are not kept secret, they are published online for anyone to download and attach to their own game. Mods can change the graphics, rules, or any other aspect of the game itself. Increasingly, game companies encourage and welcome these modifications because they actually can serve to improve or fix issues in the game released. Modding communities also build momentum for a game and a self-organized community around the game. Under the radar, game companies can also scan the modders for experts that may be worth hiring.

For instance top shelf games are embracing modding for their games. The popular Skyrim uses the Steam Workshop space for players to make their own stories, objects in the game, or add spells, and change rules. Players usually find a thing or two in the games user interface (UI) that bugs them, so they go into the code, change it, and share their fix with the world. Mods thus allow players to customize their play experience in every regard. Expert World of Warcraft player screens are often filled with such UI mods and in some ways raiding depends on the modding community to build tools for leaders. Even my lifetime favorite Civilization has opened up to modders that convert the game, add world leaders, change units, and allow for core rule changes to play. Mods customize, add play-time, and field prototypes for future game designs based on player desires.

Expert modders become famous for their work - within that gaming community at least. But when a game has 7-15 million players and 1-2 hundred thousand have downloaded your mod, that is more famous than most politicians, scholars, or even many entertainers. Of course it's a different kind of fame, for a different type of media, but it's still fame. Top modders will have followers that know they do good work, bug test, and generally have similar taste. And for many novice gamers, the aspiration to make a mod and be known for it is a powerful draw.

So in one sense Minecraft simply follows this trend. It too opens up the files for players to change and modify. In another sense, Minecraft takes modding a step further. Minecraft hosts one of the largest, and growing, community of players so the stability of interest means your mod will be relevant to a larger number of players and for a longer time than most games. But that isn't all, Minecraft opens up the doors to modding like no other game.

Because Minecraft is on simple to set up servers, with fairly basic graphics, and contains little to no storyline, it allows players access to nearly every aspect of game play. Setting up a server allows you to change the game world to your taste and gives the player a chance to see that changing code can make the game more fun for you. When players start to add friends, they inevitably have to negotiate the 'rules' of the world server so they can compromise on a mutually fun space.

Sooner or later, one of the players finds out that they can upload new 'skins' for their characters, which are seen by all. Instead of endless farming to get the cool gear though, in

Minecraft you can simply modify your graphics files. Using editors you can design your own skins and make your characters look like a superhero, a robot, a princess, or anything you can imagine.

Once a player has tinkered with server setup and graphics mods, the idea that you can go into the game and add unique operations and objects is suddenly much more approachable. So the progression and natural scaffolding for programming feels easier. Though there is no clear data, I'd presume that far fewer Tomb Raider players mod the game than do Minecraft players, simply because Tomb Raider can be a completely rewarding experience without mods and even without other players. Minecraft is already a tool for creation, attracts creative people, and makes modding an integrated and rewarding part of the experience.

On a side note, some are arguing that everyone should learn to code.[11] That every subject, every institution, and every profession will be led by those that can master and *produce* in the media that transmits communication and information. Today, they argue computers are the media of choice for doing work across professions. This leads to a question of how and where to introduce coding to youth? So as these folks are building online guides and tutorials, Minecraft quietly has millions of youth learning to set up servers, build graphics, and modify code to suit their play styles.

In Chapter 9, we'll introduce you to all of these forms of modding in the game and show you a few tricks. For now, understand that modding is part of the context of this game and part of why this game is uniquely worth taking a look at for classroom use.

Not only is Minecraft full of potential, designed for thinking, and social, it's an entry level drug for programming and creating digital realities. These four aspects of Minecraft make it interesting within gaming culture as a truly unique and innovative piece of software, but these elements also have easy to see educational benefits before you even boot up the game.

This is true outside of any curriculum you design, or any topic you want to cover. Like slates, paper and legos, the tools of creation are open to any activity you choose to attach them too. This particular tool has the additional benefit of being wired for social engagement and programming skills. This follows an age old educational principle of modeling learning. If you want learners to write, hook them on reading and show them they can write too. If you want engineers, hook them on legos and show them mini motors. If you want students to learn today's digital tools, you can use digital tools for learning; one way is hooking them on Minecraft and showing them what they can do with mods.

That is why this book is focused on one game.

So, Why Minecraft?

Because it's a digital tool that provides learners a blank slate, moddable, LMO to forever voyage the imagination. Just ask students that play and you will get some convincing material, as one of the teachers I interviewed found:

> "So there have been 70 middle school girls running their own world and it blows my mind what must go on in this server so he had each of them type up a paragraph for his own reasons about what Minecraft has taught me. I took that stack of letters and I gave them to my principal and I think that was the final push she needed to give this a try."

Together, these assets have made it much easier to find teachers integrating Minecraft into their classrooms. In fact, unlike most research efforts, the Minecraft teachers largely *came to me* when they heard I was doing this book. Minecraft has an emergent, active, and passionate community of educators already using it for learning - and they care about sharing this tool with you! Teachers are like that. When they see a good thing, they are ready to share it because they see the larger mission of serving the kids.

Actually, I'm humbled a bit by the task of doing justice to what they are so excited about. This book isn't so much my thinking about Minecraft (or MC), but my effort to adequately represent what the teachers in the study want to tell you. They wanted to make sure you knew the ease of use, that you weren't scared off by the learning curve, and that you had examples of use that you could relate to. That is what this book is hoping to accomplish.

So it's time to boot up. Minecraft is easy to use and the next chapter should have you move from reading this book to playing the game to see what it's all about for yourself. After you've played for a bit, you are ready to return to Chapter 4 and find out what teachers have done to make this part of their classrooms.

References

[1] "Minecraft beta cracks 4 million". *GameSpot*. CBS Interactive. Retrieved November 9, 2011.

[2] Shields, Duncan (March 22, 2012). "Top 15 best selling PC games of all time". SK Gaming. Retrieved January 16, 2013.

[3] "Minecraft stats". https://minecraft.net/stats. Retrieved July 30, 2013.

[4] Nunneley, Stephany (January 22, 2013). "Minecraft sales hit 20 million mark for all platforms". *VG247*. Retrieved January 30, 2013.

[5] "Minecraft stats" https://minecraft.net/stats. Retreived Aug 21, 2013.

[6] Silverman, Matt (October 1, 2010). "Minecraft: How Social Media Spawned a Gaming Sensation". *Mashable*. Mashable Inc. Retrieved December 28, 2012.

[7] Wordsworth, W. *The Prelude: Book First.* use by Stephen Meretsky's Text Adventure Game *A Mind Forever Voyaging.* http://www.bartleby.com/145/ww287.html. Retrieved August 27, 2013.

[8] Steinkuehler, C. and D. Williams (2006). "Where everybody knows your (screen) name: Online games as "third places"." Journal of Computer-Mediated Communication 11(4).

[9] As a side note, I was part of a unique study by Moses Wolfenstein on the links between online guild gaming and real life leadership practices. Look up his dissertation for more.

[10] Dikkers, S. (2012). The Professional Development Trajectories of Teachers Successfully Integrating and Practicing with New Information and Communication Technologies. Curriculum and Instruction. Madison, WI, University of Wisconsin - Madison. PhD.

[11] See intro video at http://www.code.org/.

Further Reading:

Review http://www.bbc.co.uk/news/magazine-23572742