CHAPTER 1

WHY GAMES?

"We took a little time to think what could we do with this and how could we use it..."

- Minecraft Teacher

Kids These Days!

Kids these days are playing a lot of video games. Popular videogames are not just for fun, many academics are growing enthusiastic about the potential and early results of using games for learning. In this book we look at a particular game that entertains millions of players. Minecraft has a growing fan base and teachers are quickly imagining ways it can be used for learning.

Yet other writers are not as impressed with these games. They ask why we should embrace a hobby for the 'serious' work of education. You may have already heard some form of these published sentiments:

> Games are just a waste of time?[1]
> Games are violent and anti-social?[2]
> Students should instead be quiet, sit down, and study the [heck] out of things?[3]

In fact, after ten years of more than promising research and evidence that games can be good for learning, these questions are still clearly espoused by prominent thinkers.

Why is this the case? Why do some still challenge the idea that millions of video game players claim they are getting value out of their game time? 'Worth' is a relative idea. Why do some still critique gaming? I will suggest that it is because gaming media is still growing and we have not yet seen their place in education.

Kids 'these days' are a lot like those of past generations. Without years of training toward a particular channel of media, youth are drawn to forms of media that allow them to learn from others. Youth have historically led the way in legitimizing new media as they grow into adults. Today, they are playing digital video games en masse. Today, many are saying that games provide exceptional experiences, stories, challenges, and social engagement. So, why do we doubt the entertainment media of an entire generation?

Are Books Bad?

Consider how Plato disdained the "new" media of books:

> "If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. What you have discovered is a recipe not for memory, but for reminder. And it is no true wisdom that you offer your disciples… for the most part they know nothing, and as men filled, not with wisdom, but with the conceit of wisdom, they will be a burden to their fellows."

Plato believed that memory was central to all teaching and learning. Notice he equates memorizing words to wisdom itself! For one of the world's most accomplished memorizers Plato could see the growing popularity of written texts - and even added his memoized teachings of Socrates to the ancient works! Yet he valued Socrates wisdom as higher than that contained in the book.

Plato felt books were shortcuts to the "hard labors" of real learning. Real learning was to put in the time with your teacher to memorize their every word. Oral traditions have interculturally shown to be stunningly accurate and generationally consistent because of the societal value placed on scribes and scholars that recorded and committed to memory many of the great works of history. This took considerable effort that reading could potentially delay and make lazy learners that wouldn't sustain high levels of learning - or worse, be "a burden" to society.

Plato saw a great loss in reading because it is a *one way*, second-hand, interaction. Reading is impersonal. If the reader does not understand, the written word continues on. The writer cannot elaborate if needed, nor can they read facial expressions, crowd response, learn from choice of words. The reader cannot ask questions, understand tonal qualities of the speaker, pick up on facial expressions, or see others in the audience reacting to the speaker. Reading is essentially anti-social.

Reading allows the writer to share violent acts, lurid drama, and emotive content without the accountability of a crowd (and nearby stones to throw). Reading can, therefore, be violent and lead to violent thoughts! Meaning and ethical considerations could be part of these narratives, but without a teacher on hand, reading had the potential to be misunderstood. Reading pretends to be meaningful without the attention or moral considerations that memorization requires.

Yet, despite these valid concerns, the overwhelming historical result of reading media has been a more educated citizenry. Plato wrote his teacher Socrates' words; a generation later, Aristotle wrote his own words, and we were never the same. Books did not eliminate the

value or potency of an outstanding lecture, nor have they replaced public speaking as a media. Instead teachers began to perceive and use books to great benefit - adding multiple tools for learning.

Media Channels

Negative expectations arise from fear of losing something personally valued. Plato was not wrong to doubt the future of memorized words, but he was mistaken in thinking that memorizing words heard in-person are the only way to learn. In fact humans have learned that we have multiple senses, multiple learning preferences, and there are multiple channels that media forms can use to educate. Plato couldn't conceive of a high quality of education occurring with books as the central media in the lesson plan, but in retrospect this is not hard to see for us.

Today we get 'lost' in books, we lose track of time reading, we even 'forget' ourselves in the written thoughts of another. The best writers have found a way to effectively convey tone, clarity, and voice in their writing. We fill bookstores, and Kindles, full of books because they are fun, engaging, and we learn from them.

Many teachers use written texts as the center of their lesson planning and design because they aren't entirely bad for kids. Teachers also have found ways to make use of books as learning media. They have written their own genre of 'text' books, and adopted assignments focused on writing so that learners can build their capacity to produce valuable contributions of their own. New media, like text, has historically added to our options in education, rather than competing with or eliminating other media.

Media channels are value neutral. The 'channels' through which we receive media encourage personal preference (like Plato's oral learning), and we hone our literacies for learning based on the media channels we prefer. Readers get better at reading, viewers get better at viewing, and speakers get better at speaking. Expert readers may not have a tendency to value movie watching, but this preference should never be interpreted as actual value. Media value is in the effectiveness with which it communicates, entertains, informs, and engages the reader.

Books are not essentially bad - they are a form of media. They are a particular channel for information and ideas to travel through. Those ideas however carry with them a worldview and perspectives that are laden with value. Value is embedded in the message that is communicated through media. Our question for books, and all media channels, should be the extent to which they can reach people with a message or experience. In that sense, games are clearly a powerful media channel.

Despite any loss of memorized content, anti-social tendencies, and moral ambiguity, books are generally considered an educational asset. Books have the benefits of mass production, permanence, and have developed common formats. For all the books that have been burned, others have elevated the human condition. The mass production of the written word has arguably transformed institutions, nations, contractual relationships, and power holders - toward a more democratized and equitable world.

Games will do the same.

What if we could have looked inside the classrooms of those Greek teachers that Plato was complaining about? What were they doing differently? How were they forming daily decisions to make use of these books? What we could learn from those book reading Greeks and Romans?

As a former history teacher, I would *love* to go back in time to see early innovators using books! One look at those early adopters would show both the early mistakes and the early seeds of change toward a new way to think about teaching and learning - that would lead to 'readers', 'textbooks', and 'syllabi' as teacher adoptions of books for learning. 'Today, we are at that point of inception for digital tools and resources for the classroom. How they will eventually be used will be born out of how teachers use them and dream of using them now.

Digital gaming is capturing the attention of kids today. Elders are scoffing at it, but as a media channel, it can tell powerful stories, challenge the mind, and convey the thinking of designers. Gaming media is proliferating as the media of choice and I want to know much, much more about what teachers are doing to adopt and use gaming in their classrooms.

Games for Learning

Teacher adoption of new media has determined the degree to which it gets used in the learning process. Many schools have libraries built into them today. In addition, libraries have added books, music, video, and audio collections. Yet, however stocked the libraries are, the teacher gets to decide how media gets used for close to thirty-seven million public school students for six hours or more each day.

Games for learning is a logical development. If games are a powerful media channel, it stands to reason that some of those games can be effective and powerful learning experiences. The question is, how do we better see the future of games for learning in the classroom? How do we explain and move forward with better educational designs, better game designs, and actual use of games for learning?

Teacher-experts matter. We need to keep an eye on the teacher-innovators that are emerging around games for learning. This book is dedicated to only a small number of these stories.

We need more. Expert teachers are the first, best, and by sheer force of numbers, the most likely place that we will find seeds of transformative educational practices. This starts with valuing their role as an expert audience for games for learning - and as expert learning designers.

Rhetoric matters. We cannot further confuse the discussion of games for learning with poor rhetorical constructs (bad arguments). Moving past, or addressing, the negative arguments above is a collective task for advocates of games for learning. In addition, I'll share dogmatic arguments coming from games for learning advocates. We need balanced and logically consistent arguments that have the potential to move game and classroom design forward.

Gaming matters. Finally, we need to continue to build a positive understanding of what effective gaming media looks like from an educational perspective. When educators begin to design, they start with learning goals, and gaming media choices will be made based on the games potential to meet those goals. Below I'll suggest a framework to define and discern effective gaming media from ineffective designs. Educators should demand better games and know what to ask for.

These three lenses provide context for conversation that you may have when you talk to an administrator, parents, or even explain to students why you are going to boot up Minecraft. At the very least, these provide context for why myself and the other writers in this book have chosen Minecraft adoption as a focus for this study. Teachers, rhetoric, and gaming itself are of value to the entire field and we see their learning potential as nothing short of what Plato's books offered humanity years ago.

Teacher-Experts Matter

First, teachers are experts. Least lets start with the assumption that teachers are excellent at their jobs. They are also very, very busy experts. They have to design, teach, and iterate lessons for kids on a scale and pace that is hard for non-educators to understand. But, it's important that we do understand and respect their expertise in the politicized atmosphere that we hear on the news.

For instance, for every singular lesson design that a researcher tests; a teacher prepares a lesson that gets tested in practice with up to 180 kids in 3-6 iterations (classes) per day (180/year). For the average high school teacher, with five classes (n=@30), that amounts to around 27,000 student reactions to lessons - per year. After one year of teaching, most teachers will have an experienced feel for whether or not a lesson plan will work well and with which types of learners it will work.

By the time that teacher is up for tenure (usually three years), they may have tested lesson ideas, in actual practice, over 4500 times. If that teacher has generally reported to work each day they will have easily garnered over 10,000 hours, (Gladwell's suggested condition for expertise)[4], of time designing and delivering learning experiences to youth. Regardless of their availability to write this experience in a peer reviewed journal, most teachers have an expertise that is deeply rooted in their work with learners.

If teachers can become experienced in their practice simply because of time on task - even mediocre ones - they should have a respectable baloney detector for non-educators telling them how to change their lesson planning. This doesn't necessarily make them skeptics, (as outsiders often mistake this as), but it does make them a seasoned and salty population.

I've found that what can feel like a fight from teachers is actually a form of testing to see if an idea can hold it's own in the world of practice. If it does, I've yet to meet a teacher that isn't willing to try something that they see as a *better* way of teaching than their current methods. We need not waste time 'convincing' teachers, but invest more effort in *showing* them learning methods that surpass current practices.

This speaks to educational change. Teachers are commonly being blamed for 'out-dated' practices. This is easy, but not productive. Nor will perceived teacher resistance (like Plato) matter much as we move forward. If we have media options that effectively educate youth with new ideas and abilities, demand and time will have it's way as early adopters figure out what learning will look like in practice. Speeding up reform efforts will happen as we *show* this expert audience what might be done better and allow them their professional expertise to play with, refine, and develop learning plans that integrate new media.

Here we offer up Minecraft as a potential teaching resource. Instead of mandating that all teachers use Minecraft, lets start by looking at those experts that have already used it and plan to continue using it as a classroom tool. Some of these teachers have utilized this game to become the central learning activity in the classroom supplemented by a host of existing pedagogical practices. We should listen first.

Then we should help to communicate examples of practice with sound rationale and understanding. Any argument that suggests change, to those working in arguably the world's most effective educational system ever, should be convincing. We need to present these examples with reasonable and well balanced logic. If not, these master practitioners will kick back with some salty questions and calmly go about preparing their next lesson using their well established methods.

Rhetoric Matters

If you have never enjoyed the pleasure of martial arts films, you have missed out on the popcorn version of "Kung Fu". In the movies, Kung Fu isn't bad or good, it's just a measure of having 'form'. Out of balance combatants have 'weak Kung Fu' and those in balance have 'strong kung fu'. The difference is not the moral stance of the character, it's the balance that they have and their ability to retain that balance under stress. Argumentation, or rhetorical design, is similar.

Rhetoric, in the classical sense is the "art that aims to improve the capability of speakers that attempt to inform, persuade, or motivate particular audiences..."[5] Rhetoric requires a form that is both designed by the speaker and in response to an audience - it requires balance. The central goal is not to argue, but to, in the end, agree. I even like the ordering of informing first, then persuading, then motivating action. Sadly, this process takes time and patience (like strong Kung Fu!), and mandating action is often easier than rhetorically constructing consensus across a population.

Strong Kung Fu is usually found in those with physical, mental, and spiritual balance - at least in the movies. Balance requires a certain calm, awareness of the context, and understanding of your challenge. Weak Kung Fu is found in the young, the rash, and usually the over-reaching pride found in the villian. (This is usually shown in a 5-minute training montage showing the hero growing stronger both physically, mentally, and spiritually.) The hero grows from weak Kung Fu to stronger Kung Fu and this usually has something to do with hard work, humility, and appreciation for expertise.

The cumulative lesson (from a childhood of watching bad captions) is that balanced rhetoric is more important than force of will or excitement around a topic. The alternatives are exaggerated and fanatical statements like "All games are good!" or "Games cause violence!"; neither is strong Kung Fu. As educational leaders, it is not our job to cheerlead, or worse, to mandate; its our job to inform, persuade, and motivate.

Weak Kung Fu

In this book, we suggest that games are good for learning, but some arguments for this are more balanced than others. You should avoid weak arguments not because they are necessarily wrong, but because they present an off-balance logic that is easy to redirect into unnecessary debates.

Strong Kung Fu avoids conflict when possible and manages it when necessary. Lets first look at weak Kung Fu examples, then start training for better rhetoric. I propose that some of the outlying resistance to games for learning actually comes from those that are seeking to promote games.

Consider these very popular arguments:

1) Games are popular with kids...
2) No, games are *really* popular with all ages...
3) Games require *learning* a game to play and master...
4) Games are really *complex* systems...
5) Games make complex learning *fun!*

Depending on your audience, you may actually use and believe all of these premises to be accurate. I'll admit to using them myself. Yet they didn't always lead to the responses that I was hoping for. In fact, more often than not, these lead to skepticism and counter-kicks from teachers. Why?

For a moment review the above list and replace "games" with "books" and ask if the arguments would be compelling - even for an established media.

Learning in general is of course a fascinating topic, but formal schooling currently happens within an established state centric system that demands learning *outcomes*. Those outcomes are predominantly defined, and effectively tested, as the ability to 1) read non-fiction texts, and 2) solve decontextualized math problems quickly. Other standards exist, and more tests are being designed. That system may be in contest with other options, but the public school model still houses most of our students. We have a content driven system.

Teachers are asked to teach specific content that has been agreed to be 'relevant' by the state, school boards, and indirectly by parents that choose your school for their kids. Today they have actual, written, standards that they are accountable to teach. For this reason, teachers are on the lookout not just for any learning experiences, but *those that meet the classroom objectives of teachers*.

With that in mind, review each of the questions above and ask (as many teachers do), how does this help me teach my content? Fill in the blank and try it a few times with each question: Chemistry? Adverbs? The American Revolution? Long division? Do you see the disconnect? Like Plato, it's hard to see a future where learning facts is not central to the learning model.

Any media might be popular, require learning, be complex, or provide amazing fun, but they may not be what teachers consider 'classroom' learning. On the flip side, not all game designs are actually well described as popular, complex, learning rich, or fun.

Some games just aren't up to a level of quality where they represent the findings in the research community. So 'games' and 'learning' can be unique and non-associated variables; games are a media channel, and learning is a value that can be gained, or not. Not all games,

(or any media type), are good for classroom experiences and it follows that not all games will motivate teachers to try them out in class.

Strong Kung Fu

While all games may or may not be popular, learning rich, complex, or fun, consider that some games have been exactly that. On the flip side, while all games are not necessarily good for classroom learning, some games have been shown to be exactly that. Consider rhetoric that allows for deviants. When we cease making sweeping claims about 'games', we can start to speak to our common concern for learning and kids. Using the same arguments with more balanced rhetoric, and connecting the media to learning as a measure, our presentation dramatically improves:

1) *Some* games are 'popular' with the kids and learning can be more engaging by tying into student interest areas.
2) Some games require intense learning, and some games provide learning experiences pertinent to classroom use.
3) Games have varying degrees of complexity and some are uniquely able to present experiences that are in line with classroom learning objectives.
4) Schools aren't necessarily fun, (nor do educators have an obligation to make them fun), but they are more tolerable, engaging, social, and functional when fun can be integrated into learning.

Consider how these claims both 1) represent accurate logic, and 2) direct the conversants to consider the individual game, not the entire media type. Why make sweeping claims when specific, balanced, Kung Fu will do? Some games are great experiences, and this book is full of examples that Minecraft is one of those.

Gaming, as a whole, does not have to be defended in order to justify use in the classroom. We do *not* have to claim a universal attribute for *all* games in order to claim that the attribute exists for a *particular* game that we intend to use for a purpose. For instance, we don't have to claim that all books are valuable to teachers, only that *this* book is relevant for a classroom.

Strong rhetoric helps to avoid massive and irrelevant discussions about whether or not games are a waste of time, causes violence, or if you are dumbing down the curriculum. For instance if asked, "Don't games make kids think about poking people?", consider the balance in saying, "Perhaps, I'm not aware of any studies on *Minecraft* that show increased poking. I have read about teachers that use Minecraft to teach science." Games, therefore, are not necessarily even pertinent for classroom teachers… but in chapter two I'll lay out exactly why Minecraft is.

My own musings on balanced Kung Fu, shouldn't be read as an excuse to gloss over well done research either - even when it makes larger claims. Schools that are interested in the best possible delivery of relevant curriculum should strongly consider that some games have *proven track records* of being engaging, intelligent, complex, and rigorous learning media with iterations that are useful across age and subject areas.

Gaming is an emerging media format with great promise for teaching and learning. Models of games for learning are beginning to proliferate and great teachers make it their work to know what and how to engage kids with learning experiences that work in their classrooms. They know that gaming is relevant, useful, and powerful when designed well.

Gaming Matters

Scholar Larry Cuban reminds us, repeatedly, that radio and television did little to transform the American classroom.[6] More recently Larry Cuban argues compellingly that the 'digital revolution' isn't all that revolutionary.[7] Personally, I imagine Dr. Cuban reading a claim that, 'Games can be powerful learning tools!', and shrugging. Exciting technology that appears very revolutionary can, and often does, end up having much less impact on classrooms than we thought. What if games are a fad?

I'm motivated to introduce Minecraft in the next chapter, but first convince my 'Imaginary Larry' that it's worth taking a look at games as a learning space as a distinct media channel.

At the very least, the teachers represented in this study present a series of revolutionized Minecraft classrooms, even if on a small scale. For them, gaming matters because of their experience with learners. This same population of teachers, that are not as impressed with television, report that games are different from other media.

There are some considerations about games that support their relevance for learning above and beyond more established media. Before moving on to Minecraft, we will consider that games can be viewed developmentally, both inside and outside of formal learning spaces, where consumption and production are closely partnered, and as a 'lean forward' media.

Big Red Developmental Dogs

Today, there is little disagreement that when kids read books, they are developing a skill or proficiency that will help them read other books. Less prevalent is that kids music also matures into pop music and adult preference. Kids movies graduate to adult themes and topics. So even, if for now, kids are reading Clifford books, we naturally expect them to later read novels, news, and professional texts.

Elementary school libraries are filled with books that are fun, silly, playful, and appeal to young readers. We know that it is *the capacity to read,* and read with understanding, that is our accepted goal for children learning a media. As books lead to familiarity with the printed word, I am interested as games providing the same kind of familiarity with digital content.

Not every game should be evaluated for it's specific learning outcomes, but for their ability to attract and engage youth toward digital content. For established media, we excuse 'childish content' because we value the adult ability to be proficient with the media. If we value the ability to communicate, 'read', and quickly navigate digital spaces, we need to do the same for gaming media.

Do we allow the same understanding of the value of games like *Windosill, Williamspurrg,* or *Clash of Clans*? This is perhaps what Plato was unable to see from his perspective. He only saw the popularity of Greek drama, (which, let's be honest, wasn't Shakespeare...), and Plato made judgements about popular forms of the media without full understanding of mature or educationally designed forms of that media.

Consider the mature narrative power of *Mass Effect*, the calming effect of Flower, or the historical accuracy of *Assassin's Creed* cities, or the graphic wonder (art) of *Elder Scrolls Online*. Are these being similarly overlooked by critics? These are exactly the things that adult gamers discuss and are amazed by.

In the same way that we allow "Reading Time" to elementary readers, (or at least we should!), I advocate for similar "Gaming Time" that includes playful and compelling games, libraries full of fun and delightful games. We would see children's media evolve and benefit from feedback from educators that track what media is consumed, improved proficiency with the basic tools of our society, and hopefully could expect gaming interests to mature too.

The media of gaming represents a spectrum of complexity that leads not to topical content necessarily, but to a *proficiency* with digital media, digital communications, and digital communities. Games, like books, have a range of 'reading levels'; and Clifford games should progressively lead to much more compelling forms of media, and eventually to digital 'reading' skills that will help youth in the workplace.

Gaming Outside the Classroom

We have long accepted that the *habit of learning*[8] toward a subject is as relevant as the information that we expect to later be consumed through that media channel. The media of a book is a 'must learn' even when simpler forms include a big red dog, young sleuths, aliens, or parties of adventurers. For this reason educators have long encouraged learning outside of the school day through reading programs, summer clubs, after school programming, and strong communication with the home.

This isn't complex: If kids read for fun, they will be better readers. If we value proficiency with computers, we can safely assume that if kids play with computers for fun, they will likewise be better at learning and 'reading' software. The variables are guidance, availability, and encouragement to all children.

In our past book, *Mobile Media Learning*[9] I guided chapter authors to consider questions from Dewey's *Democracy in Education*[10] when reviewing their experiments designing mobile games for learning. Dewey considered an education that allowed each student to construct their understanding of the world through experiences. So when games are employed outside of classroom settings, we should consider this as a natural fit for an experiential media.

This study finds that teachers are using Minecraft to build experiences (as true classroom grandmasters) in a way that fulfills the theoretical expectations of Dewey. Not all of them rely on minutes allocated during the school day. Educators consider the whole child and respect that if they engage with content for fun, they will be better learners.

Yes, games do take time. Some games take large amounts of time, but we shouldn't be skeptical based on time because we see teachers creatively encouraging play outside of traditional class times. If media can transform learning, like it did for Plato, we should expect that context, time, and teacher-student relationships may also transform.

Producing Ideas

One filter to understand new technology, and the veracity of a 'digital revolution', is to ask if the technology helps humans to be receivers of ideas, or to be producers of ideas. While some get excited about the potential and power of new tools alone (the Industrial Revolution!), some wait for the tools of production to be put into the hands of the masses (Communism!... err... 3D Printing!).

Technology has the power to transform - it's just a matter of seeing how things will pan out and to what degree the ability of production will be left to people. Gaming is uniquely enabled by the exact same instruments that allow for its production. Though some delivery tools block off a range creation tools (console gaming), others allow games and game production tools to exist on the same toolbar.

It is because games allow learners to use digital tools, provide experiences, are increasingly cooperative, and because they can often address very specific classroom learning needs that they should be part of a suite of learning tools at a teacher's disposal.

Games, *like any other media,* are subject to the skill of the teacher that uses them. Quality teaching is still at the center of classroom learning environments. Games can be used badly in a classroom, adopted for poor learning goals, or applied without clear mentoring,

frameworks, or purpose. This is not unique to gaming media. The goal is to seek a balance that avoids poor pedagogical approaches and leverages powerful learning opportunities.

Specifically, teaching and learning, is best when teachers create clear objectives, guidance for mastering them, and ask students to be responsible for the production and representation of them. Ultimately teachers in this study each appropriate Minecraft as a learning tool to be bended to their own philosophy of teaching and learning.

This is why teachers don't want products that teach for them (packaged content), they want component tools they can *use* in new ways to communicate, share, and interact with learners (editable content). The more we push standards, develop prescription curriculums, and worry about 'fidelity of practice' between teachers and content specialists, the more teachers should push back.

In a healthy learning setting teachers are reacting to students with a clear set of objectives for the learning and using a variety of tools to engage and challenge learners. Teachers don't want a better production, they want to *broadcast*. It's not about finding the right game, it's about allowing teachers to find the right game. We will see that Minecraft teachers like Minecraft because it allows them to teach, it doesn't tell them how.

Leaning backward and forward

When it comes to games, educators often recoil at the thought of students playing computer games all day, but to ask students to design and make a computer game has much more allure. Teaching and learning, at their best, are 'lean forward', not lean backward' activities. This explains some resistance to gaming for learning, but also provides insights on the implementation of games as an educational media.

Lean Backward Media and Lean Forward Production have manifestations in every technology for learning, across media types:

Lean Backward and Lean Forward Technologies	
LEAN BACKWARD MEDIA	**LEAN FORWARD PRODUCTION**
Listen to a story	Tell a story
Financial receipts	Running a trading coster
Reading the Iliad	Writing the Odyssey
Visiting the Louvre	Finger painting
Listening to Green Hornet radio	Recording War of the 'Worldlies'
Watching the Muppet Show	Putting on a puppet show
Watching Star Wars	Making an indy film
Cheering	Scoring
Buying stuff	Making stuff
Cutscenes in a computer game	Playing a computer game

Both applications can be educational, but clearly leaning forward creates greater potential for student engagement with the content. There are already some outstanding books that dedicate all of their pages to why games are powerful options for teaching and learning and I encourage reading those to prepare for discussions about games.

For our purposes, presenting games for learning can be as simple as,

1) Games don't replace expert teachers and those teachers have much to contribute to the conversation about how to train and use others to employ games as learning tools;
2) Games can be relevant for the content you are responsible for teaching and work well as supplemental or integrated media that you share with learners; and
3) Games represent the entertainment arm of a proliferated set of digital tools used across institutions for information and communication - tools that students should be familiar with from an early age - even if playing 'Clifford' games.
4) Games also represent a media that requires learner activation for any progress. They are essentially lean forward media even as entertainment - that have the potential to engage and motivate learners in and around classroom learning topics.

In summary, some games are specifically relevant to a topic and can be used by the teacher for demonstration, some can allow for student adoption of topic matter, some can also be the platform for student creation, and games can also be created to represent ideas and understanding.

Gaining experience with games for learning may mean simply starting with a game and building competency using all approaches with that single game. All four teaching applications can transform games into a powerful addition to classroom learning, but like any skill, they require time, practice, and enduring vision for how they can be used in a practical way. Some games are better for some approaches, naturally, but some provide broader applicability worth investigation.

Interestingly, Minecraft can be used in all four ways.

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