

MINECRAFT

Gettin' Diggy With It

Minecraft and Gamification in the Afterschool Environment



Statistics

Percent of people who report feeling engaged in school or work

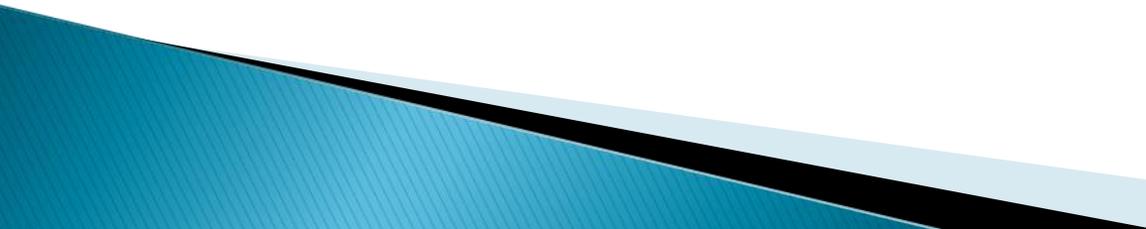


Sources: Gallup Student Poll, 2012; Gallup, State of the Global Workplace, 2013.

Quotes

- **“The education crisis is a crisis of engagement and is putting our society’s future at risk.”**
- **“It’s time for us to talk about making school more relevant to the lives of students today—to nurture the natural love of learning that will engage them today and empower them tomorrow.”**
- **“The real work of a 21st century education is to spark the passion for lifelong learning that our kids will need to navigate their way to a promising tomorrow.”**
- **www.instituteofplay.org**

Why Games and Learning

- Knowing then: recall and repeat
 - Early 20th century standards focused on content knowledge in reading, writing, calculation, history, science
 - Knowing today: find it, evaluate it, use it compellingly at the right time and in the right context – higher level thinking!
 - 21st century success depends on higher order skills – ability to think, solve complex problems, interact critically through language and media
 - Games naturally support this 21st century form of education!
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Why Games and Learning

- Games create a complex problem space or world that students understand through self-directed exploration
- Games create an environment where players need to understand where they are going, what they need to do next, and what they need to work on
 - Master certain skills
 - Master content areas
 - Confidence building

Why Games and Learning

- “Some experts argue that games are, first and foremost, learning systems, and that this accounts for the sense of engagement and entertainment players experience.”

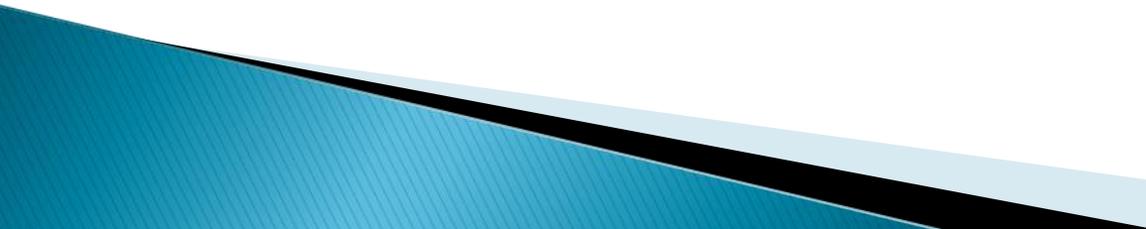
Why Games and Learning

- “There are other attributes of games that facilitate learning. One of these is the state of being known as play. Much of the activity of play consists in failing to reach the goal established by a game’s rules. And yet players rarely experience this failure as an obstacle to trying again and again, as they work toward mastery. There is something in play that gives players permission to take risks considered outlandish or impossible in ‘real life.’ There is something in play that activates the tenacity and persistence required for effective learning.”
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What is Minecraft?

- Minecraft is a game of exploration where players build constructions out of textured cubes in a 3D generated world
- Activities include gathering resources, crafting, and combat
- Two modes: survival and creative
 - In creative mode players have unlimited resources to build, have the ability to fly, and have unlimited health
 - In survival mode players must gather resources to build, craft, maintain health, and combat monsters or other players to survive

What is Minecrafteredu?

- Educational version of Minecraft which has been customized with features designed especially for classroom use
 - Three modes: survival, creative, minecrafteredu mode
 - In creative mode players have unlimited resources to build, have the ability to fly, and have unlimited health
 - In survival mode players must gather resources to build, craft, maintain health, and combat monsters or other players to survive
 - In minecrafteredu mode, students must gather resources to build and craft and have unlimited health
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Why Use Minecraftedu?

- Minecraftedu in the classroom

Why Use Minecraftedu?

- Allows students to be in control of their learning, becoming self-directed learners
 - Brings learning into the 21st century
 - Acts as a powerful bridge between the physical and virtual classrooms
 - Is an equalizer in the classroom
 - Gives a voice to students who do not feel successful in school
 - Previously disengaged students are transformed in the classroom
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Why Use Minecrafteu?

- Students can collaborate on projects
 - Students can add their own creativity to personalize their end result
 - Caters for a diverse range of students making it easy to differentiate
 - Can also be used as a “reward” if used as a recreational game
 - Gives students a different “platform” for learning
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Why Use Minecraftedu?

- Students demonstrate/learn:
 - Integrity
 - Teamwork skills
 - Self-representation skills
 - Conflict-resolution skills
 - Creativity and resourcefulness
 - Critical-thinking and problem-solving skills (higher level thinking)
 - Digital citizenship
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Science in Minecrafterdu

- Students can choose a mineral in Minecrafterdu and compare/contrast the mineral and its properties with that mineral in the real world, then present findings
 - Students can build a house in Minecrafterdu and then screen cast a video showing the transferal of thermal energy
 - Students can build a model of a volcano and use it to explain plate tectonics
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English in Minecrafterdu

- Students can write a procedural text on how to craft a pickaxe
 - Students can write a story about a character that falls into the world of Minecrafterdu, then illustrate the text with screenshots from the Minecrafterdu world
 - Students can create a story path using command blocks and have other students walk their path and read their story
 - Students can be given daily journals through the assignments section of the teacher controls
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Social Studies in Minecrafterdu

- Students can recreate a village/town based on a culture that has been researched
 - Students can, as a team, create a self-sufficient community that includes different roles and responsibilities for its members
 - Students can collaborate with a class in another school/country to build a “perfect world” together and can use such collaborative tools such as Skype or Google docs to help
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Mathematics in Minecrafterdu

- Students can use Minecrafterdu to demonstrate an understanding of and investigate square or cubic numbers by building with blocks
 - Students can be given perimeter and volume and can represent these numbers by building with blocks
 - Students can use the number blocks and “x” blocks to build expressions and equations
 - Students can use colored blocks to represent fractions and ratios
 - Students can also use the colored blocks as a substitute for Algebra tiles
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The Teacher is in Control in Minecrafteu

- Teacher has control of the following
 - Various world settings
 - Whether or not students can build
 - Student muting (all or select students)
 - Player vs. Player (whether or not players can harm each other)
 - Teleporting students
 - Setting mode to creative, survival, or minecrafteu mode (all or select students)
 - Freezing students (all or select students)
 - Access to special blocks to help in building worlds
 - Access to special building tools to help in building worlds

Students Can Help

- Custom created world



Students Can Help

- Custom created world



Students Can Help

- Custom created world



Students Can Help

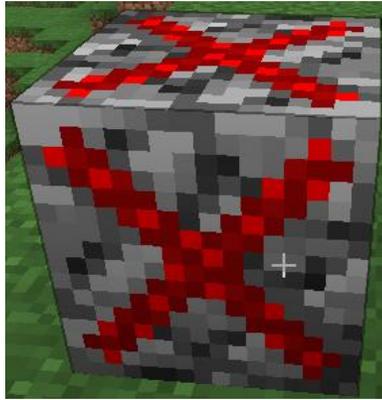
- Custom created world



Hidden Management Tools



**Build Allow
Block**



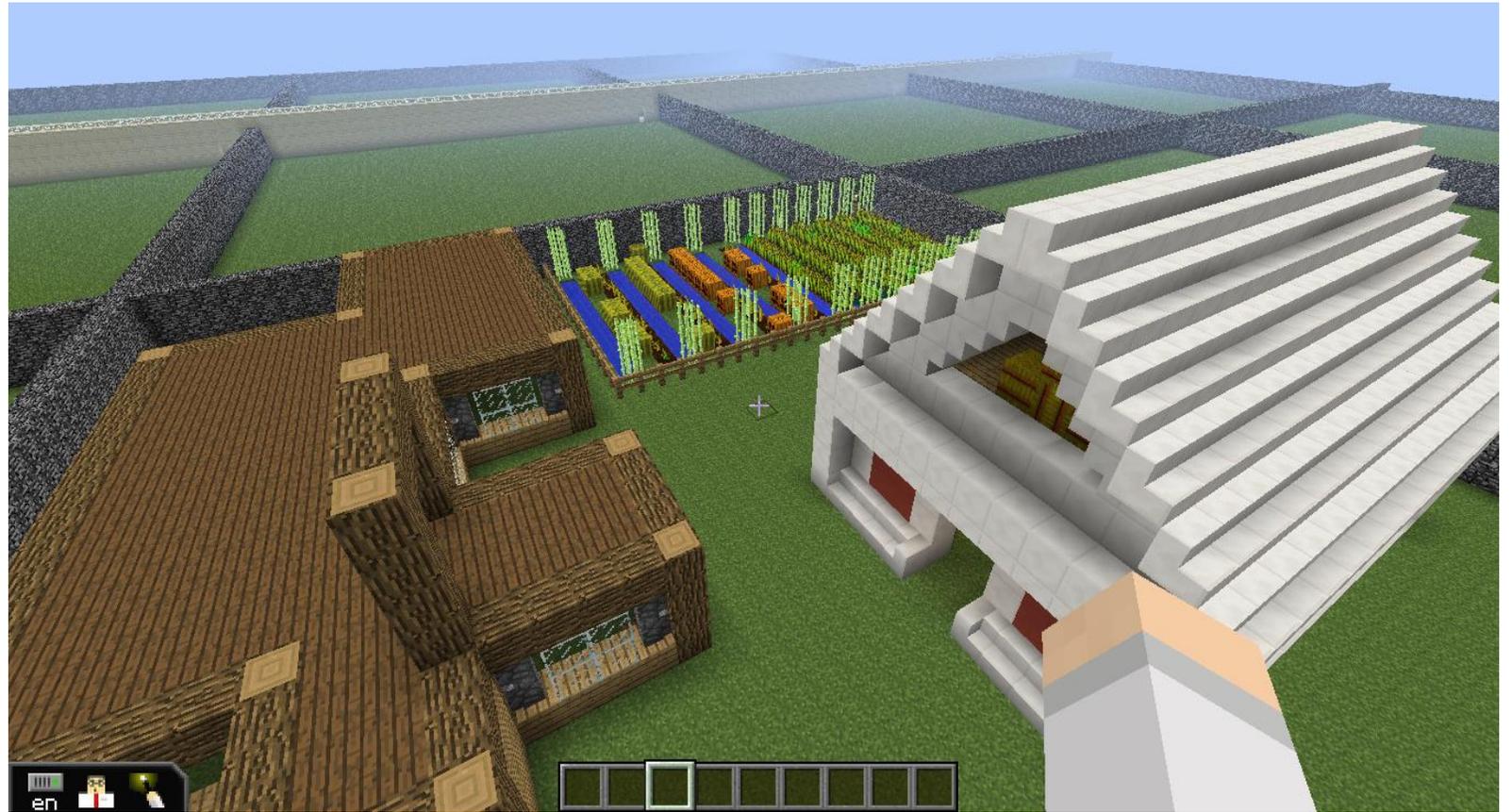
**Build Disallow
Block**



**Boundary
Block**

Applications of Minecrafteu at SRMS

- Structure building and farming



Applications of Minecrafteu at SRMS

- Structure building and farming



Applications of Minecrafteu at SRMS

- Structure building



Applications of Minecrafteu at SRMS

- Structure building



Applications of MinecraftEdu at SRMS

- Alternative Energy Project



Applications of MinecraftEdu at SRMS

- Alternative Energy Project



A New World of Possibilities

- Humanities

Looking forward to seeing
Minecrafterdu
at a school nearby

