Minecart Relay Race Post Mortem

To recap, here is some basic information about the design of the Minecart Race:

Summary

This lesson is a competitive relay race within a classroom split up into teams of four. Students must answer questions correctly and quickly in order to pass a "baton" (aka a minecart) between each other to reach the goal before an opposing team does.

Objective

The lesson is very linear, neither freeform or creative. Students will be practicing their knowledge on antonyms/synonyms as well as learning the value of teamwork.

Activities -

1. Each student will be given 20 ladders (via the "give all" function in the menu--which is accessed by pressing "p") to begin.
2. When all students enter the game, they will be on a floating island with teleporters, each one transporting whoever right-clicks it to a designated race track.
3. Take each team of 4 and assign each one to a teleporter.
4. Once each team has gone through their own teleporter, each team will be at their designated track.
5. Each team will then have another teleporter in front of them, the teleporter allows students to send themselves to one of three rooms located somewhere along the racetrack. Have one student go to each room. There will be one student remaining at the beginning of the track.
6. The one student who stays behind will start the race.
7. In the beginning of the race, the starting student will find a treasure chest with a diamond pickaxe in it--the student will take the pickaxe.
8. The student will then be presented with a sign, prompting the student to think of a one word/phrase answer to a question.
9. Behind that sign are three other signs, each with a possible answer on it, with only one of the signs being the correct choice.
10. When a student chooses an answer, he/she will find a column of iron in front of said answer.
11. The student will dig down into the pile until he/she opens up a narrow hallway.
12. If the student is correct, then the hallway will bear a switch that the student can pull to power a minecart rail.
13. If the student is incorrect, then there will be a prompt to try again. Once the minecart rail is powered, the student will be able to climb back up (using his/her ladders) to the surface and push the minecart along the now-powered rail.
14. The minecart will travel up to the next student, pass over a switch, and allow the next student to repeat the process until the whole team has completed the race.

Note: This progression applies to the very first student in the race. The other three students in the team will be teleported and held in large obsidian rooms--each room being equipped with a dispenser, which will give the student in holding a pickaxe when a minecart passes over the room's respective switch. Once the student has a pickaxe, he/she can dig out of his/her room and repeat the process from steps 8 to 14.

The Results from Playtesting

In short, the game did not work well with students. The game proved to be confusing from beginning to end, as the many steps and directions did not mix well with having to learn the initial controls and basic Minecraft mechanics on top of it all. Most of the class period was spent attempting to get students to their respective places on the race tracks and even then, students were hard pressed to get started, as they were still wont to wander and toy around. However, students who did manage to get started were able to answer questions correctly and in the manner that was expected from the game’s design. In light of this, though, no team was able to complete their respective track before class was up. Here is a quick recap, in timestamps, of what occurred during our playtest of this lesson:

(Note: these timestamps were taken by producer, Anthony Hildebrand, while he was monitoring the playtest via spectator/teacher mode)

*Minutes:seconds*

0 – instructions complete

1:40 – all students in world

4:30 – instructions on splitting teams

5:30 – Mallorie and Taylor a bit slow, finally done. Some port blocks having issues.

7:00 – Ashley (A) still lost.

8:00 – other ashley (a) ported back to the original

9:30 – Tony found the “t” key – “hi”  
Andrew: “hi tony”  
Tony: “eat me”  
Paige, Rocky follow suit.

10:30 – I muted students.

11:30 – instructions on track

12:30 – Room became louder, Lauren had to step in on an individual basis

15:00 – teleporters to rooms not working, fixing manually. Overheard: “Why can’t I dig?”

17:00 – I unmuted. Vice Principal had noted that this class wasn’t chatting as much.

17:30 – Overheard: “People need to learn how to spell”

18:20 – In-game: “hi mrs. ondecko”

18:50 – I remuted students. Mrs. O had voiced annoyance with the class’s chatting.  
Students wandering aimlessly along track.

20:30 – Still fixing teleport issues.

22:00 – Overheard: “I’m confused. How do you jump?”

22:30 – Lauren starting the lesson.

23:15 – ashley (a) left the game.

23:40 – “Everyone ready to go?”

25:00 – Actual race start, in theory.

Ashley and ALEXIS both at start of track 1. (There should’ve been only 1 student there.)

(Note: was really difficult to oversee the class given the wide spacing of tracks.)

28:00 – Overheard: “Where’s the minecart at?” “I pushed the minecart.”

30:00 – teams 1, 2, and 5 seems to have actually answered questions. End.

Why we feel the playtest resulted in the way it did:

Taken from the post mortem containing what practices to avoid in MinecraftEdu, we feel that the Minecart Race has failed for the following reasons:

Avoid introducing extraneous mechanics

When introducing MinecraftEdu to students, the first hurdle will always be getting students to learn the controls themselves, the second being the "distraction phase", where students are more or less wont to move about in the world aimlessly, trying what they have just learned as far as basic controls are concerned. These two phases have taken roughly 15 minutes, and in a ~45 minute class period, the phases don't leave a lot of time to allow students to learn additional mechanics set within the Minecraft lesson in question.

Students, when presented with a Minecraft lesson that contains extraneous mechanics, have been noted to miss the lesson entirely while some were barely able to start by the time the class period finished.

Avoid competition

While this is somewhat related to the first warning, but including a competitive element in a lesson generates problems for both the designer and the students playing through the lesson. On the designer's side, there is one major problem with including a competitive element: Minecraft itself was designed to allow cooperation; to instill an element of competition requires the designer to take extra steps in creating an experience that is linear enough to counteract Minecraft's open-world/cooperation element (for further explanation, please refer to the Minecart Race Post Mortem).

Other problems for the designer include having to foolproof the game. While this is true for most, if not all, competitive games, a competitive game in Minecraft means having to balance two abilities all players innately have above all else: building and destroying, two abilities that lend themselves greatly to Minecraft's cooperative and open-world vibe. By allowing a player to build and destroy as part of the game's rule set, the designer opens a slew of possibilities for the game to be cheated in/broken. In other words, creating a competitive game within Minecraft has the strong possibility of requiring the designer to fight against what Minecraft is for the sake of his or her game working. While doing so may not necessarily be wrong, it has proven to be very problematic in its execution due to the number of variables that need to be kept in check.

In terms of problems for the students, one of the major problems with playing competitive games is having students acquiesce to restrictions on building and destroying after having just learned the ability to build and destroy as part of Minecraft's general control. In our playtests featuring competitive gameplay, students often asked why they could not build and destroy as they pleased and became preoccupied with the loss of two of Minecraft's largest mechanics rather than focusing on the lesson and playing by its rules. In addition, another problem was coordinating students to participate in a single activity. Again, having to rally students to arrive at the same location to do the same activity works against the nature of Minecraft's open world vibe, another restriction that was met with protest from the students who experienced it.

Avoid team formation

While one of Minecraft's strengths is cooperation, the formation of teams falls under the purview of game elements that work against students' inclinations in Minecraft. Forming teams essentially tells students that they need to avoid interaction with other students in the class. In a server with the entire class exploring and playing in Minecraft, having to stick to a certain group or avoid another has proven to be disorienting for both the teacher and the students, as there are just simply too many students in a given classroom for a teacher to simultaneously keep track of/for students to take into account.

Don’t use Minecraft to teach without having let students use Minecraft to play

Students need to have a vocabulary and understanding of that virtual world before they can take educational content in, and apply that understanding outside of Minecraft. We were still able to have reasonably successful playtests with students who were learning Minecraft on the spot, but they still required assistance during the playtest. For a much smoother playtest, we recommend to coordinate a time with the students to learn how to play Minecraft ahead of time.