Minecraft in the Classroom

Mentoring Project

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Introduction

As an elementary teacher, my colleagues and I are always looking for ways to incorporate technology into our classrooms. Technology is shaping the way teachers teach and students learn. One way technology is being used in the classroom is through game-based learning. Last year Dr. Lee Graham introduced me to game-based learning through a graduate course at the University of Alaska Southeast. It was during that course that I began to use the popular game, MinecraftEdu (TeacherGaming, 2015) in my class. I have had huge success bringing Minecraft into my classroom.

Several teachers have expressed interest in learning how to use MinecraftEdu in their classrooms. One teacher in particular was very eager. For my mentoring project I chose to help her learn MinecraftEdu and help her incorporate it into her classroom. I also helped her create and implement a MinecraftEdu unit on the history of the Klondike that she will share with other 4th grade teachers. During this unit design I will be helped her develop mini projects within her Klondike World that thrived on exploration, creativity and problem-solving.

The rationale for this mentor project was to help increase the use of MinecraftEdu in my school by illustrating how this popular game-based learning program can be used as a learning tool in the classroom. This project will demonstrate to mentee how MinecraftEdu can help students meet technology standards that prepare them to be successful in the 21st century. It will also demonstrate how MinecraftEdu can help motivate and engage students in high quality learning.

Literature Review

Effective educators and leaders recognize that motivation is a key aspect of effective learning. Author Dave Burgess writes that there are 3 critical elements of an engaging lesson:

presentation, content and method/technique (Burgess, 2012). Game-based learning is one way educators can apply these 3 elements.

There are some students who would rather be playing video games at home than attending and learning at school. Many students find video-games and technology engaging. When it comes to game-based learning not all games are equal. Dr. Graham said, "Some games are computerized worksheets. That is what game designers mean by 'Chocolate on Broccoli'" (Davis, 2015). "Therefore the key challenge of effective learning games is for the learner to be engaged, motivated, supported and interested but also importantly for learning to be undertaken in relation to clear learning outcomes as well as being made relevant to real world's context of practice" (Freitas, 2006, p. 5). The popular video game, Minecraft, provides such a medium.

Joel Levin, an elementary teacher in New York City, was first drawn to Minecraft in 2010 (Granata, 2015). He was amazed at how much his 5 year old daughter was learning from playing the game. He brought the computer game into his classroom which lead to the creation of the mod MinecraftEdu (Granata, 2015). MinecraftEdu is an example of game-based learning. It is a school-ready version of the original hit game Minecraft ("Minecraft," 2014). MinecraftEdu has many features (like teacher controls) that make it more suitable for school settings ("MinecraftEdu - About," 2015).

In February of 2014 there were over 100 million registered Minecraft users (Futter, 2014). Minecraft is sweeping the globe. Some countries have even made it part of their curriculum. In Northern Ireland the government made MinecraftEdu available to every student in post-primary school ("Minecraft Launches in NI Schools in Innovative Technology Project - BBC News," 2015).

By using MinecraftEdu in a classroom the educator can create an environment where students are engaged and motivated to learn any subject material through 21st century skills. Authors, Doug Thomas and John Seely Brown, explain that in a face of rapid change we need a new culture of learning. With MinecraftEdu teachers don't have to provide the latest information because the students themselves are taking an active role in creating and molding it (Thomas & Brown, 2011).

Mentee Description

My mentor is a 4th grade teacher who teaches in the same school as I do. She has been teaching for 4 years. It was a privilege to work with my mentee. She has an eagerness to learn and the ability and willingness to work as a team player. My mentee is patient but is not afraid to take risks. Most importantly she has a positive attitude.

I selected my mentee for several reasons. Although we teach different grades and have never really worked together, we do like to bounce ideas and thoughts off of each other. She is an enthusiastic teacher who understands the importance of technology and the need to teach 21st century skills. She isn't afraid to put in extra time to try new things. She embraces the growth mindset and is interested in learning more about the maker movement. She likes to integrate technology into her classroom. Prior to the mentoring project she used the computer cart several times a week but mainly for word processing.

The mentorship involved at least two hours of contact time per week for 11 weeks. Times were modified when the schedule required it. My mentee and I developed our mentorship around her desire to use MinecraftEdu to enrich her teaching unit on the Klondike. She teaches her students about the Klondike Gold Rush every year and wanted to make it meaningful to them. This became the central theme of our MinecraftEdu exploration.

Mentorship Description

In week 1, of the mentorship, my mentee and I met and set-up our project. Week 2, involved teaching my mentee how to install MinecraftEdu. After we installed MinecraftEdu, I taught my mentee MinecraftEdu basics with guidance from the tutorial world. In week 3, I continued helping my mentee with Minecraft basics but a majority of our time was spent discussing ideas and creating the Klondike unit. Week 4 was challenging as my mentee and I worked on creating our Klondike World based on map ideas. She also begin reading aloud a book about the Klondike to her class. During week 5, we created our timeline and reserved computer times. Finally in week 6 we were able to start involving the students. Students downloaded MinecraftEdu. We also set the set the expectation for the unit. We let students explore a basic world while my mentee practiced using the teacher tools. We started week 7 by having the students take the Minecraft Gamer Type Quiz that I had created last year. My mentee used the data from this quiz to form Klondike teams. Week 8 marked the start of the unit for the students. In their teams they planned and gather supplies that they would need to travel from Seattle to Dawson City. We had planned for the teacher to start an incentive program where the teacher could give additional supplies, travel advantages, extra mining time, etc. but we decided to add that next time because it was too much for my mentee to manage at the time. Teams traveled to Dawson City in our Klondike world. We had to modify as we went. We added in a lesson on how to navigate with coordinates in Minecraft. Week 9, 10 and 11 involved students building mining camps and beginning to mine.

The mentorship was a collaborative project. Over the 11 weeks my mentee and I had many discussions regarding integrating technology into the classroom. I modeled several lessons for her and she slowly eased her way into the lead teacher role.

Mentee's Evaluation

At the end of the mentorship project my mentee reported in her evaluation (see appendix) that she had gained a better idea of project based learning as well as the positive effects of scholastic gaming. She also reported seeing student engagement, teamwork and social development cultivate through MinecraftEdu.

My mentee stated that she had always known and felt that technology integration is very important but she had never approached it from the gaming perspective. Through the mentorship she found game-based learning to be very powerful. She wrote, "There is a very big difference in student engagement and processing skills between gaming sites that are simply solve a problem and move on to the next question and a site where you have to use creativity and abstract thinking." Minecraft was new to my mentee. She liked that she was able to devise a plan, construct and build in Minecraft to prepare students for the 21st century. She wrote, "MinecraftEdu is an excellent tool to help our students evolve and prepare for the jobs we don't even know exist yet."

The impact MinecraftEdu has had on her students' achievement has also been amazing. She wrote, "The students will help each other out in a genuine manner while building or restoring personal relationships inside the classroom. I had previously thought that video games were causing children to be less skillful socially and hindered personal relationship. When in fact, when monitored right students who wouldn't typically be friends are building bonds while creating and constructing a life-like world."

She also reported seeing some of the best writing this school year when the students wrote an opinion essay about why they believe Minecraft should or should not be played in

schools. She reported that the examples and justifications behind their reasoning was above grade level work.

My mentee felt that the social studies coverage using MinecraftEdu had been the most authentic deliverance she had ever used. She found that students were making stronger connections to what life was like for the travelers and miners. She also felt that students had a stronger comprehension of geographical locations and events that took place in these locations.

When reflecting on our collaboration my mentee reported that we met frequently to plan and organize lessons. She found that I was very flexible and understanding of her beginning skills in MinecraftEdu. My mentee wrote that "She is an amazing teacher and colleague, as well as a very knowledgeable mentor on project based learning." She said the best word to describe the mentorship is "inspiring".

My mentee reported that her understanding and practices have changed as a result of this project. She is now integrating more project-based learning into her teaching. She said that nearly every day her students ask when is it going to be the next time we play MinecraftEdu or when is the next time we get to do a cooperative learning project. My mentee said her initial goals were met and she was surprised because she didn't know going in that they could be met at all by integrating this style of learning let alone this fast. Overall she was very happy to see the result in her students' writing achievement, social studies application and social-emotional growth.

Final Analysis and Conclusion

I approached my mentorship not knowing much about how to formally lead through change. Over the course of the project I learned applied the five components of leadership that author Michael Fullan said are necessary for success in leading (2014). My mentee and I were

able to share a moral purpose. She and I had a great relationship to build our collaborative learning on. We both understand change and are flexible. Through the project she and I created the context for sharing and creating knowledge.

During the mentorship I concentrated on helping her begin to integrate meaningful game-based learning in her classroom so I was pleasantly surprised to read in her evaluation that she got a lot out of the project-based learning aspect of the mentorship. I hadn't realized that project-based learning was new to her.

The mentoring project was full of little moments of growth for me too. This was my first time working with 4th graders. It was interesting to go from 2nd grade Minecraft to 4th grade Minecraft. I also learned a lot about world building in Minecraft and the history of the Klondike Gold Rush.

I enjoyed my mentorship project. My mentee and I both learned a lot from the experience. My vision statement throughout this project was to create the spark for further knowledge in my mentee and myself. I was extremely satisfied to see her evaluation and see what a positive effect it had on her. I found it interesting that in her evaluation she summarized the experience with one word "inspiring" which matched my vision for the project. My mentee saw that learning can be irresistible when we understand that the culture of learning is fueled by curiosity and interests. I feel the project was a success because I was able to get someone else, excited about integrating technology into their classroom.

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Appendix

Mentorship – Technology Leadership Evaluation

Describe the impact that this collaboration had generally on your growth as a professional:
Throughout the mentorship, I was able to gain a better idea on project based learning as well as the positive effects scholastic gaming has on students. By seeing the impact of Minecraft in the Classroom with my student engagement, teamwork and social development and I am a firm believer that more project based lessons should be incorporated in the classroom.

Describe your growth in understanding effective integration of technology and development of needed skills:
I have known and felt that technology integration is very important, but approaching it from the gaming perspective was very powerful. There is a very big difference in student engagement and processing skills between gaming sites that are simply solve a problem and move on to the next question and a site where you have to use creativity and abstract thinking. Minecraft was new to me this year, but not my students. To be able to devise a plan, construct and build in the Mindcraft world is helping prepare our students as 21st century learners. Minecraftedu is an excellent tool to help our students evolve and prepare for the jobs we don't even know exist yet.

Describe any impact on the achievement of the students:
After Mrs. Duncan approached me with this mentorship opportunity I thought that I could use Minecraft as a cooperative learning activity and for a social studies integration project. The results have been amazing.
The students will help each other out in a genuine manner while building or restoring personal relationships inside the classroom. I had previously thought that video games were causing children to be less skillful socially and hindered personal relationship. When in fact, when monitored right students who wouldn't typically be friends are building bonds while creating and constructing a life-like world. I have also seen some of the best writing this school year when the students wrote an opinion essay about why they believe Minecraft should or should not be played in schools. The examples and justifications behind their reasoning was above grade level work.

My social studies coverage using MinecraftEdu has been the most authentic this year than my previous years teaching about the Klondike gold rush. The students are starting to make stronger connections of what life was like for the travelers and miners. Also, their comprehension of geographical locations and events that took place in these locations in much stronger.

How would you characterize this collaboration?

Mrs. Duncan and I met frequently to plan and organize lessons. She was very flexible and understanding of new users. She is an amazing teacher and colleague, as well as a very knowledgeable mentor on project based learning. The best word to describe this collaboration is inspiring.

In what ways has your understanding and practice changed as a result of this project?
I am definitely integrating more project-based learning into my teaching. I see the value and desire in my students and the need to prepare them for the future.

What impact have you had on student achievement due to your increased knowledge?
Nearly every day my students ask when is it going to be the next time we play MinecraftEdu or when is the next time we get to do a cooperative learning project. My initial goals were met and I didn't know if they could be met at all by integrating this style of learning let alone this fast. I am very happy to see the result in my students writing achievement, social studies application and social-emotional growth.