

Case 14



Virtual Worlds in Mathematics

Background Information

Distance Education is changing with every passing day. An online class in the past used to mean sitting at your computer and maybe listening to an old lecture that a professor recorded. There were no other students for you to communicate with if you needed assistance and majority of the time you worked on assignments alone. Now, with the development of virtual worlds, distance education is about to make a dramatic change. According to Sara Robbins-Bell, “Second Life often has more than 50,000 simultaneous users. No other technology can host that many users communicating in a synchronous space. This massive synchronicity not only allows for a rapidly developing culture within the world but also creates a sense of presence, of being in the same space together, that a chat room or discussion board simply cannot create” (Robbins-Bell, 2008, 28). Virtual worlds are always open, which allows for students who may have to work full time to help support their family and still remain in high school. Is the virtual high school the school of the future? California, Nebraska, New Jersey and other states have already implemented Virtual High Schools. Virtual High Schools have many advantages such as “students in small, rural, or low-wealth school districts to take specialized courses that would ordinarily not be available to them, provides home schooled students with instruction in subjects their parents might not be able to teach, and financial sense because schools using distance learning do not need to modernize or build new buildings in order to provide quality cyber instruction” (Chaika, 2005)

Mathematics

How many teachers in mathematics classrooms follow this routine, or a similar one daily: Warm-up, homework check, lecture/notes, classwork/homework? Now, what if you were able to allow your students to apply the math they are learning in class? By using virtual worlds, you are! An example of this would be in a middle school in New York. Every student in a math class was given a stipend of 100L\$. After they joined the group, “Beach Bash” a notice was sent out to the students that read: “Hello everyone.... By now you should have received your lindens. You are going to have to make sure that you budget wisely. In order to attend the beach party, you MUST have: A bathing suit, suntan lotion, a towel, surfboard, beach blanket, a cooler, and shoes.” Students had to record their work on a sheet that was provided by the teacher. The required math was subtracting what they are spending from the total and calculating the percent off of the total. Students were communicating about which items were the better deal, complaining about prices, and asking for loans so they could get into the beach party. How about a geometry class learning how to make scale drawings? In the ideal world, students would be able to test their scale drawings and make adjustments if their original idea did not work. Virtual worlds allow for just that type of application of scale drawings. Students can design their own house or even their dream bedroom and then apply their scale drawing to what

it would actually look like in Second Life. Isn't this the goal of all teachers, to have their students engaged in learning about mathematics?

Preview

Virtual worlds are an “unregulated collection of people showing off their naughty bits” (Johnson, 2008). This fact makes many administrators shy away from allowing teachers to use this technology to help teach their students. Second Life has created a new Teen Grid that is for students aged 13 to 17. However, if you are teaching high school seniors, the entire class will not all belong to the same “grid”. Teachers also have to be concerned about the Child Online Protection Act which restricts “access by minors to materials commercially distributed by means of World Wide Web that are harmful to minors” (Johnson, 2008). Along with this idea, many school policies are not up to date with new technology. One such policy is the University of Arizona’s policy on the “Acceptable Use of Computers and Networks” which states that the “computer user is to clearly and accurately identify one’s self in electronic communications” (Johnson, 2008). This statement does not mention anything about a student creating an avatar.

Focus Questions

As you complete the following case, keep the following questions in mind: 1) Should schools protect their students from others on Teen Grid? 2) Should teachers be allowed to use virtual worlds in schools? 3) What are the dangers of using virtual worlds in schools?

Case Study

Mrs. Smith at Rydell High School has recently assigned her Geometry class a project involving the Teen Grid of Second Life. Her 1st period class is very excited about the opportunity to use technology in math class. The project, “Creating Your Dream Home,” requires students to create a house to scale. Students are working on this project individually, but are allowed to communicate softly with their neighbor if they have a question. Overall, the students are focusing on their class work.

Some students in Mrs. Smith’s class were already members of Teen Grid and have had a lot of experience using this program and often communicate with others. One student in particular, Kyle, really enjoys using Teen Grid. However, his parents are not aware about how much time he actually spends on Teen Grid outside of school and working on this assignment. He has met a considerable number of people on Teen Grid, so it is not unusual for him to multi-task while working on his assignment.

One day at school, Mrs. Smith’s class was working on their “Creating Your Dream Home” project when Kyle begins talking to another avatar on Teen Grid. The avatar, Lil Idol, who was not a student at Rydell High School, started making some inappropriate comments to Kyle. Unfortunately, Kyle’s neighbor, Abbie went to ask him a question before he was able to hide what Lil Idol had just said to him. Abbie felt very uncomfortable about the comment that she saw on Kyle’s computer screen and told her mom about what happened in Mrs. Smith’s class when she got home from school. Now, Abbie’s mom is at the school waiting for a meeting with Mrs. Smith and the principal of Rydell High School, Mr. Roach. She does not want Mrs. Smith’s class to use Teen

Grid anymore and she wants Kyle to be punished for what her daughter saw on his computer screen. Rydell High School does not have anything mentioned in their handbook about virtual worlds or policies that directly mention using virtual worlds; however parents did have to sign a permission form before students were allowed to use Teen Grid.

Questions for Discussion

- 1) Should Kyle be punished for what “Lil Idol” said to him during school?
- 2) Could this have been prevented?
- 3) What could be said in a policy to protect the student in a situation like this?

Resources

Chaika, G. (1999). Virtual high schools: The high schools of the future?. Retrieved January 21, 2009, from www.education-world.com.

Johnson, C. (2008). Drawing a roadmap: Barriers and challenges to designing the ideal virtual world for higher education. *EDUCAUSE Review*, 43(5), 64-74.

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Robins-Bell, S. (2008). Higher education as virtual conversation. *EDUCAUSE Review*, 43(5), 24-34.