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Oregon Trail and the Evolution of Educational Games

The underlying goals of education is to provide students with the skills and knowledge that they need to become contributing members of the work force and to society. To ensure that this goal is met, educators, government officials, and administrators continually monitor the ever-changing economic, social, and global aspects of the world so that they may update the curriculum in schools to help students face the new realities of the time. Thus, in the late 70s, when it became evident that computers would not just be restricted for corporations and the economically elite, schools drastically changed their philosophies to incorporate this new technology.

One way that educators introduced computers to the students was through educational software games. One of the most popular educational games that has ever been used in schools and in homes is the Oregon Trail Series. Released in 1979, to public schools all over the US, Oregon Trail was students' perennial favorite. In the following case history, I will explore the issues of the accuracy of the simulation and its educational benefit. But first, I shall give you a detailed description and history of the formation of this simulation.

Oregon Trail was the brainchild of three undergraduates at Carleton College in Minnesota. In 1971 Don Rawitsch, Paul Dillenberger, and Bill Heinemann created a text-based role-playing game, which focused on the experiences of those who crossed the US to get to Oregon. Don Rawitsch is largely credited with the content of the game. In an interview given in May 1999 to the Stanford ESC program, Mr. Rawitsch stated that "The three of us (Rawitsch,

Dillenberger, and Bill Heinemann) were completing our practice teaching in Minneapolis, and they (both math teachers) were using a computer system in their classes. I was teaching U.S. history and asked them the fateful question, "Can't we do something with the computer in my class?" Out of this question came the creation of what is now known as The Oregon Trail.

The original Oregon Trail was a multi-user game where up to 16 students were able to play simultaneously. Each student played the role of a leader of one of the wagons in the wagon train. The students had to navigate their way through rivers, forests, and forts with the hope of making it safely across the country to Oregon (A more detailed description of the game will come later).

In 1974 Don Rawitsch received his degree and then gained employment at the Minnesota Educational Computing Consortium (MECC). MECC was a newly formed state organization that was looking to integrate computing into the school's curriculum. It had only been in existence for a year when Mr. Rawitsch joined the team.

While at MECC, Rawitsch installed the text-based Oregon Trail game that he created as an undergraduate, onto the MECC computers. Oregon Trail soon became an office favorite. Through the help and insight of Wayne Studor, co-designer of games such as Time Navigator and Super Munchers, Rawitsch and Studor were able to revamp the game so that it could be commercially viable. Thus in 1979, MECC and Apple produced the first graphic based Oregon Trail game titled *Elementary Volume 6*. It was released for the use of all public schools in the US only. Due to the growing popularity of the game in schools, MECC, Apple Computers, and The Learning Company released the first commercial version in 1985. The 5.5 floppy disk was sold for a unit price of \$29.95, and was meant to be played on the Apple II's and IBM's Tandy Computers.

Oregon Trail: A History To Remember

Expansion and exploration has characterized the American culture throughout its existence. Fueled by the philosophy of Manifest Destiny, the boundaries of American culture have stretched far beyond the borders of the North American continent.

One of the periods where the United States gained its greatest amount of land was during the western expansion period of the 1840s and 1850s. On account of the overcrowding in cities and the new acquisitions in the West, the United States government encouraged citizens to move westward. One of the most popular routes travelers took to access these lands was the Oregon Trail. This 2000 mile trek, stretching from Independence, Missouri to Willamette County, Oregon, took four to six months to complete, and was filled with diseases, hardships, and violence. The Oregon Trail simulation tries introduce students the obstacles and the triumphs that these early settlers experienced.

The original game starts out by asking the user to select an occupation. The selected occupation will determine how much money the user will start out with. For example, if a student were to select the occupation of “blacksmith”, she will receive a starting balance of \$800. This starting balance is important because the first thing the user must do is buy supplies for her long journey. As the captain of a covered wagon, the user must buy items like oxen, clothes, bullets, axles, wheels, wagon tongues, and food.

After taking care of her occupation and supplies, the player begins her journey. While traveling, the player must make many decisions that will affect the outcome of the game. Some of these decisions include the following: talking with other travelers, bartering items, rationing of food, determining the travel speed, buying supplies at forts, and hunting. Because each choice has benefits and consequences, therefore the user must weigh each option carefully. In addition,

the player is challenged with random obstacles that the user must figure out how to navigate such as snakebites, illness, bad water, and robbery.

The player wins when she reaches Willamette, Oregon. At this point the player accumulate points based on how fast she arrived to Oregon, the health of her wagon party, the supplies left over, and her occupation. Those who chose occupation that resulted in a lower starting balance received more points than those who started with a greater balance.

Oregon Trail: Educator of the Masses?

There is no formal agency or group that designates which software programs are educational or not. Each individual company does its own categorization. As with movies, the rating/category helps determine who will use and purchase the product, and what the consumer believe they will receive from the product. Therefore, if a company markets a particular software product as educational, most consumers will believe that the product will provide them with new knowledge and/or skills. However, there has been a lot of criticism surrounding educational games and their use in schools, and the Oregon Trail series has not escaped this criticism. Many critics argue that the Oregon Trail marginalizes many minority groups, and that students don't actually receive the stated educational benefits, because they are more motivated by the competitive aspects of the game rather than the educational.

In the user manual it lays out the rationale of the program. “[Oregon Trail] is an attempt to give students a better feel of what the journey west was like for the people who attempted it”(MECC p.3). (See attachment: the 1977 “Learning Outcomes from the Oregon Simulation” that was distributed to teachers using the program in their classrooms for more information). However, Bill Bigelow argues that Oregon Trail fails in providing an accurate picture of those who traveled west. In his article, “Cultural Bias: A Critique of the Oregon Trail CD-ROM,”

Bigelow contends that, “The Oregon Trail maneuvers students into thinking and acting as if they were all males”(Bigelow p.84). More strongly articulated Bigelow brands Oregon Trail as “...sexist, racist, culturally insensitive, and contemptuous of the earth. It imparts bad values and wrong history.” This is a surprising accusation since in 1992 Prides’ Guide to Educational Software awarded it five stars for being “a wholesome, absorbing historical simulation, and multiethnic” (Bigelow p.84).

However, despite his emotionally charged statements, Bigelow does raise many valid points about the exclusion of experiences of women, African Americans, and Native Americans from the Oregon Trail simulation. Each minority group viewed the journey differently, each made very different choices, and each had varying results at the end of their journey. However, the simulation does not provide student with this information. Instead it provides them with little to no information about their life, and if it does provide information, it leaves the student with a skewed perception of their life on the Trail. In the following paragraphs I will highlight some of these oversights and misrepresentations.

Women’s experiences traveling west were very different than that of men. Women did not decide whether or not to go on the trip, but they were a vital part in maintaining a family life and resolving conflicts between travelers. More often than not, women had to perform chores after walking all day long through the dust and heat. They also had to worry about keeping their family fed while traveling the trail. Many women took a certain pride in springing culinary surprises such as preparing a birthday cake or a batch of cookies. Women also had to step out of their traditional role of homemaker when circumstances demanded it. They drove wagons,

herded livestock, yoked oxen, and sometimes even took a turn at guard duty. Yet, in the simulation the aforementioned aspects of women lives were excluded¹.

African Americans also traveled west, but they too play minimal roles in the simulation. During the period of the Oregon Trail, slavery was prominent and well established in the United States. However, in the simulation there is no mention of slavery. This is despite the fact that the game starts in Independence, Missouri, which was a slave state at the time.

Not only does the game exclude slavery, it also does not recognize that there were many African Americans who traveled the trail. Or at least it does not present it in a way that students would recognize this fact. An example of an actual African American Oregon Trail traveler is Moses "Black" Harris. Harris was a wagon train guide on the Oregon Trail after spending years exploring and fur trapping in the mountains. In 1836, Harris helped guide the Whitman-Spalding Party to Oregon. In 1844, he guided a wagon train of 500 people over the Oregon Trail to Fort Vancouver, a train which included George Washington Bush and the Holmes and Ford families.²

There are many more stories of African Americans traveling West. In fact, certain laws that were passed during that time period validate the significance of African Americans traveling to Oregon. The "Lash Law," created in Oregon County in June of 1844 which "required that blacks in Oregon -- be they free or slave -- be whipped twice a year until he or she shall quit the territory," It was soon deemed too harsh and its provisions for punishment were reduced to forced labor in December.¹ For a law like this to be written there must have been a visible population of African Americans migrating west.

Even though the African American experience was not fully explored, there were African Americans in the game. Users had an option of speaking with an African American female

² End of The Oregon Trail Home Page

<http://www.endoftheoregontrail.org/women.html>

¹ End of The Oregon Trail Home Page

<http://www.endoftheoregontrail.org/blakbios.html>

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named Isabella. However, she only had two lines that disclosed any personal information relating to her experience on the Trail:

1. "I'm Isabella. I am traveling with the Raleighs and their people. My job is to keep after the cows and watch the children. My husband Fred is the ox-driver—best there is."
2. "I was born in Delaware. My fathers used to tell me stories of Africa and promised one day we'd find ourselves going home. But I don't know if I'm getting closer or farther away with all this walking."

On the positive side, including Isabella in the game showed great cultural sensitivity on the part of the game designers, for in the 1970s there weren't many software programs that incorporated African American characters. However, Isabella's words hardly encompass the experience of African Americans on the Trail. As Bill Bigelow analyzes "Isabella offers provocative details, but they hide more than they reveal about the identity and culture."(p. 86). Her words do not tell her story. Is she a slave? Does she want to go on the trip? What hardships did she face on the trail? What is her life like on the trail? All these questions are left unanswered. If MECC's purpose for the game was an "attempt to give students a better feel of what the journey was like for the travelers who attempted it" the simulation should have provided the user with the option to make certain decisions based on the perspective of Isabella and other African Americans.

Another misrepresentation of minorities in Oregon Trail was that of the Native Americans. Many westward travelers did encounter Native Americans as they migrated. Yet, how the game deals with the experience of Native Americans during this time does not give a holistic and accurate view of their plight. Through playing the game it is evident that the

designers wanted to create a more three dimensional Native American character, and avoid the traditional stereotypes. To achieve this goal, the makers really emphasized the important role that Native Americans had in helping the settlers travel west. They magnified the Indians' friendliness and usefulness to the point that children playing the game could hardly see Native Americans as people who also had their own experience on the trail. The following quote from a Native American character illustrates the MECC's emphasis on passiveness/friendliness and their failure to dispel the traditional Native American stereotype.

“The Pawnee are the enemies of the Sioux. I would not hesitate to kill any Pawnee I met. But I have never killed a white man. All I ask from the white man is to leave me alone, leave my buffalo alone.” (Oregon Trail Version 1).

This statement exemplifies the conscious choice the creators made to showcase the passiveness of the Native Americans towards the settlers. However, the game fails in its attempt not to stereotype Indians as the “blood thirsty heathens” that they have often been portrayed as. Nowhere else in the game does a character talk about killing another human. This is despite the fact that white settlers did perform violent actions towards Native Americans, African Americans, and even other settlers. By placing the quote about not hesitating to kill a Sioux without giving any contextual details about the relationships of the Sioux and the Pawnee, the game reinforces the savage image of Indians that has been prevalent in America throughout its history. Without the contextual information, children are left believing that Indians will kill anyone, unprovoked, just because of their tribal associations.

Other places where the simulation integrates Native Americans into the game and tries to showcase their “friendliness/passiveness” towards white settlers is through crossing rivers and bartering items. Using an Indian guide was one of the best ways to cross the river. Also by

bartering with Indians, players could get the items they needed for their journey. However, by painting Native Americans in this light children might be left with a skewed vision of Indians. Students might view Indians as beneficial tools that could get them across river or trade items with them, but the students won't make the connection of what the Native American experience on the Trail was like.

In general, Oregon Trail presents the minority experience in almost a trivial manner. They are present in the game, but they are used more like tools to help the player get to a certain outcome. There are no real insights into the lives of women, African Americans, and Native Americans, all of who were parts of the history of the Oregon Trail. The user does not have the opportunity to make decisions based on the perspectives of the aforementioned minorities. If the over arching goal of the game is to accurately portray those who journeyed on the Trail, the designers should allow the user to assume the role of a female character, white male character, African American character, Native American character, and any other group that traveled the trail. If these options were included it would aid students in understanding the historical basis of certain conflicts between whites, blacks, women, and Native Americans, for students would have a more three dimensional view of the particular minority.

Besides the marginalization of the minority experience on the trail, some critics argue that students are not motivated by the educational aspects of the game, but are instead motivated by the arcade/competition base aspects, and thus the educational benefits are lost.

Since Oregon Trail is not just an educational game, but also a simulation, the creators constructed the game so that almost every aspect of it had some historical basis. Through the use of diaries, historical weather tables, and other resources, the designers were able to place the user in an environment where all their decisions and all the consequences of their decisions closely

mirrored those of the actual Oregon Trail travelers. By placing the students into environment where they had to make decisions as if they were an Oregon Trail traveler, the designers hoped students would "...get a personal feeling for the difficulties encountered by emigrants in the western United States in the 1840s"(MECC 1977 p.4). On the following page, I have attached the frequency table and other historical data that the programmers used to determine the occurrence of a particular event. The incorporation of all of these historical facts and data into the game environment was supposed to help students learn about geography, map reading, historical sites, problem solving, and a general understanding of the experience of a western settler. But did students really see the connection between what they were doing in the simulation to what happened in the past?

I asked some Stanford students who played Oregon Trail in elementary school what they remembered most about Oregon Trail and what did they learn from the game. The usual response that I got from students for the first question was dying and writing messages on the grave stone, getting sick, traveling on the river, and snake bites. When I asked them what they learned from the game the responses came rather slowly. Most students said that they didn't learn anything. Erin Stanton, a junior at Stanford, stated, "I didn't know we were supposed to learn something from game." But she later adds, "I did learn how to use a computer." However, Jessica Kaltman, also a Junior at Stanford, said that "I learned some calculating skills through the rationing of food. And I also learned not to cross the river when it's flooding." These findings are very interesting because they correspond directly to the data Dr. Netiva Caftori collected when she was researching the effectiveness of computer software; for what the Stanford students remembered most about the game were what children in her experiment heavily focused on while using the simulation.

In 1992 and 1993 Dr. Caftori monitored the use of certain educational software at Old Orchard Junior High School. One of the monitored software programs was Oregon Trail. In her experiment she found that left to their own devices the children played the game differently. They were more focused on the more competitive aspects of the game (hunting, finishing the game first, being included on the high scores list) versus the educational aspects (historical sites, types of disease, types of animals found on the trail). For example, part of the challenge is to reach the end of the trail as fast as possible. Children are doing so but without regard for their companions or oxen. The goal becomes so important that players neglect the health of other travelers. Also during hunting, instead of noticing the quantity and types of animals that were being displayed, (which the designers carefully designed so that the children would learn what type of animal are found in different regions of the United States), most children were interested in killing as many as possible, and were indifferent to the specifics of the animal distribution and characteristics³.

Caftori's conclusion was that the game should be used as a supplement to a course curriculum. None of the students that I interviewed used the simulation as part of Oregon Trail curriculum. Furthermore, all used the game while during free time in a computer lab. This could explain why none of the people I interviewed gained all of the educational benefits that MECC cited. John J. Chiodo, author of the article "The Link between Computer Simulations and Social Studies Learning: Debriefing", suggests that ideally teachers would ask the student to answer certain questions based on what they saw in the simulation, and would also debrief the students on the game before the children start. By doing this students would be forced to make a connection between what they saw in the simulation and what actually occurred in the past.

³ Caftori, Netiva "Educational Effectiveness of Computer Software." T.H.E. Journal v22 n1 p62-65 Aug 1994.

If one looks at the revised versions of the teachers user manual one will see that the documented “Learning Outcomes from the Oregon Simulation” has changed in such a way that there are no more explicit statements saying what the students will gain from the simulation. Instead there is a more general problem solving emphasis. Also the manual stress more forcefully the importance of teacher interaction while using the simulation, and pushes for the game to be used as an aid during the time the students are learning about western expansion. The manual also has also included more activity sheets for teachers to use, so that the students can think about other elements of traveling westward that the simulation does not cover. I have attached two of these handouts on the following pages.

Overall Oregon Trail is one of the best educational games out there. It has received many awards from numerous organizations. Its greatest award is that the game still remains popular even after being in existences for over 25 year. However, the game still has areas of its design that need to be looked into and revised. The main area it needs to examine is if it accurately portrays the experience of **all** that traveled the Oregon Trail. As I have shown, the simulation in its current form leaves out or misrepresents the experiences of women, African Americans, and Native Americans. The best solution to this problem is if the simulation allowed the user to pick from what perspective they wanted to view the trip down the Oregon Trail since the race and gender of the traveler altered their experience on the trail. This is the only way to fairly account for the experiences of these different groups and also succeed in the game’s goal of portraying the life of all who traveled the Trail.

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