Educational Fantasy

- Lindsay Grace, October, 2009

I was reading Chris Crawford's book, Art of Computer Game Design, and I came to his point about games and fantasy. In short, he reminds us that part of the appeal in games is their relationship to fantasy. It is not so much that every game needs to involve some mystical orb or sacred sword, but that games appeal to us when they release us from the ordinary experiences of everyday life.

That is not to say that a game that involves aspects of ordinary life can't be engaging. Much as in the acclaimed television show The Sopranos, the intersection of ordinary life with some fantastic scenario can be very interesting.

This is probably one of the greatest single challenges facing educational game design. How can the practical matters of education intersect the enveloping fantasy we expect from games?

If you think about some gut reactions to educational games, the problem becomes clear. To some people, it's a little bit like sugar free candy. What's the point? But, like sugar free candy, there are a bunch of people from education, medicine and other well-intentioned disciplines expounding their merits. There are even people who are so enamored with the idea that they themselves find the sugar free educational games engaging, because they are thinking about all the good it's doing for them. But really, it's not about whether it is or isn't an educational game. It's about what you learn.

No game is without education. Since the first directions were imprinted onto an arcade machine, digital games have offered some degree of education. What's that verb we use with games? Oh, yes, we *learn* to play games.

So the question remains, why is it so difficult to get educational games consumed? Which games have hit that perfect recipe and how did they do it? Consider these case studies and their relationship to the winning formula for any game.

Oregon Trail

Oregon Trail has long existed as the de facto success in educational game design. Rich with engaging experience and strategy directly tied to its educational goals, the game is, to most people, actually fun to play. It succeeds at one very important goal: it is fun on its own.

As with a healthy dessert, young players don't even care that the game may be good for them; they simply want to play. As a concept, it is actually an early mixed genre game. Part role playing, part action, part strategy, it appeals to a variety of players for varied reasons. To succeed you must balance your inventory; the hunting game has a twitch response; and a little luck is also crucial. Most importantly, you are never asked to learn something to continue -- instead you are inspired to learn to survive.

It is as though the game were first designed to be entertaining, and secondly to be educational. Like an inspired chef, the designers set out to build something tasty but mindful of what is good for you too. It couples the educational aspects as natural as any role playing game teaches you about its fantasy.

Logo

Logo has often been considered an early creative tool, but a game? It is perhaps more fair to call Logo an exploratory game concept. It is a user-modifiable graphical environment designed to entertain. In classic design, Logo is more of a toy than a full fledged game, but it illustrates one point beautifully. Education doesn't have to be designer-lead. Designers can construct environments that educate the students on their own time, under their own constraints.

This isn't anything new. The video game world wasn't the first to introduce the sandbox to schools. This notion of an educational environment paced to student needs is exactly one of the major selling points for digital-game based learning. Yet, if you look at a large number of educationally oriented titles, what you find are very structured experiences.

Many educational experiences follow the traditional tiered path of matriculation. The student learns something, proves their competencies and graduates to a greater challenge. It's as though certain educational games are pursuing a 1950's educational model with 21st century tools.

Logo succeeds at inspiring a kind of inquiry based learning experience. Inquiry models encourage students to propose hypothesis and investigate their own hypothesis. In Logo, much of the lab experience was exploratory. Students propose individual questions like "what happens if I use this command five more times?" and "how can I make the color of a line change slowly?" The questions were often lead by their owner's interests. If a student wanted to spend a full hour investigating color and computer programming, they could. If they bored of color, but wanted to learn more about geometry, they could continue in their chosen direction.

A contemporary game that employs the inquiry model well is *Wolfquest*, a National Science Foundation funded game that allows learners to role play as a wolf. In hindsight it reads like a sure fire win -- children role play all the time. They usually construct role play based on a few observed rules (e.g. wolves hunt rabbits) and a few imagined ones (e.g. wolves eat dragons). If you construct a game, allow them to role play, and provide only the true parts of the role play, then the children will learn as they play.

Wolfquest marries the everyday with the interesting, in much the same way The Sopranos series marries the mundane with the challenge of running a Mafia family. In theory wolves have all the things a secondary school student would be interested in: violence, mating, territory and a fight for survival. These are the same things The Sopranos offers. But, take the same premise and apply it to an educational home economics course and the appeal dwindles. Few contemporary audiences fantasize about the magically world of clipping coupons and buying diapers.

It is the fantasy that appeals to players. Yet, even home economics can be an engaging educational experience if the fantasy is oriented correctly. Managing the life of a Sim in *The Sims* provides a basic education in home economics. Players must earn money and spend their limited resources on the items and experiences that make them happy. Like Logo and *Wolfquest, The Sims* allows players the opportunity to self-direct and experiment. While the education in *The Sims* may be largely based in a capitalist perspective (i.e. earn and consume), the education is delivered through an engaging fantasy.

Fantasy Sports

Fantasy sports teams rely heavily on an education. Picking the right teams, forming the right alliances, trading the right players typically involves some research on what those people do. Most interestingly, it allows the players to synthesize hypothesis and test them out. That's a dream of many biology curriculums. As a player in a fantasy team, you are not only asked to examine information based on all the qualitative and quantitative data available, the game lets you use your hunch. The cost is low because it's only a game, but talk to some fantasy sports champs and you'll notice their confidence is high.

In teaching digital art we often have this dilemma. A student wants to learn how to use a new great piece of software, but the cost of mistakes seems too great. This is particularly true for computational art classes (often involving new technology) and game development courses (involving 3D animation tools or game engines).

Sometimes the student is their own worst enemy, lacking the confidence to do something other than the way it is prescribed. That's a problem easily combated in game environments. Where a 3D model that is rigged incorrectly means enduring a clunky animation and hours of backtracking, games offer something better -- an explosion. Even when disaster is not illustrated by an explosion, it is often indicated by something that remains entertaining and safely tucked behind the qualifier -- it is only a game. Just as some development bugs result in comical in-game behaviors, game errors are entertaining.

Students using well constructed games to experiment have the luxury of formulating new, on the fly experiences. If someone is doing really poorly in a fantasy league, they may present themselves with a new challenge; produce the lowest ranking team in the league. The education then transitions from the 10 habits of highly successful players to the model of poor performance. Both are educational and both can be taught in an open, fantasy rich environment.

Brain Age

What is clearly missing from this list are brain games. It could be argued that these games are fantasy-rich too, in that, much like self help literature, the fantasy of how the game will change you is its engaging fiction.

That's not to say that such games aren't at all effective (there is plenty of research supporting this claim), but most of these games avoid traditional notions of fantasy. They exist like a Turing Test; a player does something on one end and hopes for results on the other. The result is part of the fantasy, as it not reality when the player first engages in the game. The aesthetic character of these games even aspires toward the fantasy of improvement, as characters in white lab coats liaise the player and the education.

The fantasy for such games is not strong. A player does not immerse themselves in the imagined world of ordinal numbers and logic puzzles. But, consider how once such logic puzzles were incorporated into games like *Onimusha* or *Tomb Raider*. These games were not educational by definition, but they immersed logic puzzles in fantasy environments. Deriving the order of sliding tiles or the physical relationship of three disparate objects provided an episodic education. The educational value was delivered when the player was allowed to continue their quest, and the educational content was specifically useful to the fantasy environment.

Herein lies the dilemma: such games delivered an education that was only specifically useful within their fantasy. Just as knowing all the stats about the Transformer you just purchased, or the Thundercats theme are useful when participating in their respective fantasy worlds, the usefulness immediately diminished outside the fantasy.

Fantasy-rich educational games face a complimentary challenge. They must offer a fantasy that is engaging in the now and useful in the future. Knowing that Transformer's stats may have been useful in gaining social status as a child, but its long term usefulness comes to question.

Conversely, keeping your brain sharp may be useful in preserving your social status at work and home, but withdrawing to flip through flash cards is not terribly engaging in the present. Since fantasy is neither the present nor the future, it can serve as an engaging bridge between what a person has and what a person wants. As users of educational games may be trying to stave off Alzheimer's, learn a new language, or simply pass Biology, it is the game design's responsibility to bridge that gap with

fantasy. Fantasy can remove the anxiety of failure, encourage exploration, and facilitate our educational goals.

Returning to the Lessons We Have Already Learned

The concept of immersive educational fictions is not new. Like the educational embedded Grimm's fairy tales like Hansel and Gretel's Gingerbread house, participating in the fantasy affords an opportunity to learn. The fantasy also converts the educational experience from a moment in the mundane classroom to hours in the vibrant world of the imagined. It is what transforms a game about learning your colors into the sugary sweet Candy Land.