

eGames for Health Communication

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[Erin Edgerton] Thank you for joining us today for this edition of Health Marketing and Interactive Media. I'm Erin Edgerton, your host, and I'm talking with Dr. Debra Lieberman. Dr. Lieberman is a lecturer in the Department of Communication at the University of California at Santa Barbara and a researcher at the University's Institute for Social, Behavioral, and Economic Research. Focusing on the processes of learning with interactive media, she specializes in the areas of health communication, interactive games for learning, and children's media. Welcome, Dr. Lieberman. Thank you for joining me today.

[Dr. Lieberman] My pleasure.

[Erin Edgerton] I'd like to begin today by defining games. What exactly is a game or an 'e-game,' as we refer to them at the CDC?

[Dr. Lieberman] When we're talking about interactive games using technology, a game in my definition is an experience that has some rules, an activity that has rules, and has a challenge to meet a goal. So, it's that challenge that really gets people invested and engaged in the game and it's a wonderful way to get people invested in health messages.

[Erin Edgerton] I think there's a growing movement to talk about serious games or games for health. Can you talk to us a little bit about the target audiences for games and different formats? Do they have potential to reach more than young adolescent males which I think is the stereotype that they hold?

[Dr. Lieberman] Games are reaching all demographics, all age groups. In fact, I believe that the largest growing demographic is middle-aged women, who are playing online casual games and just computer games. And the elderly are starting to get involved in games. I heard the other day that the Nintendo Wii platform, which allows you to move your body as a way to interface with a game, there's a bowling game that's become really popular and a lot of seniors have Tuesday night bowling leagues playing on the Nintendo Wii.

[Erin Edgerton] I think that's very exciting and holds a lot of potential and I know that you've been looking at this field for some time. As a media researcher at the University of California, can you tell us about some of the research that may or may not support using games and interactive games to communicate messages?

[Dr. Lieberman] There are research studies going on around the country in a variety of areas. Your straight-forward, stereotyped image of what a game is, where you're looking at a screen and you're twitching your thumbs and you're manipulating a character through different worlds. There're several games like that that are a whole lot of fun with 20 or 30 levels of game play that could really last for months as you get better and better at the game and it's still challenging and fun. And that research is going on in games such as Remission, which is a cancer education

game by HopeLab, a nonprofit organization. And that game is targeted to teens and young adults who have cancer and it is meant to increase their adherence to their treatment plan and therefore improve their quality of life and their health. HopeLab conducted a large scale study and found that indeed the game was achieving those goals. In the early to mid ninties, I was involved in developing Nintendo games for diabetes and asthma self-management, as well as smoking prevention. And we received federal funding to conduct clinical trials of those games and one of the findings in there was that the diabetes game we developed, when diabetic children and teens took it home for six months and could play it as little or as much as they wanted, there was a dramatic drop in their urgent care and emergency room visits related to diabetes. They were averaging two and a half visits per child per year and that went down to a half of a visit per child per year, a 77 percent drop. And there are studies going on in different areas - using games for physical therapy. There are games where you use a camera to focus on the player and then the player's image is on the television screen. And that's the iToy interface. And they have games where you're washing windows, popping bubbles, spinning spacemen around in outer space, all kinds of fun things. Even a game that's really meant for exercise, called iToy Kinetic where you are doing kick-boxing, so you're using upper and lower body movements. But in physical therapy, that's been used to get stroke victims who need to regain use of let's say one of their sides of their body to play this game, the window washing game, and if you can wash all the window, including the far- reaches, you've won the game, but that also extends their reach and gets their muscles moving and they've found remarkable increases in the dedication to physical therapy and the outcomes of physical therapy because the game was the motivator. Again, it's that challenge to reach a goal.

There are some games that were just made for the general public for entertainment and I'm thinking about Dance Dance Revolution and games like that on a dance pad. And the medical and health researchers are going to town with that one because just out of interest and involvement just naturally, the customers are exercising more, they're losing weight and ther're are tremendous outcomes for lifestyle with DDR, as it's called. So those are a few examples and there are many more.

[Erin Edgerton] As more people become interested in games for these uses, are you seeing increased interest from the commercial sector at all?

[Dr. Lieberman] Somewhat. I know there are a lot of developers and publishers who come to our annual Games for Health Conference and some of them are working for projects that are developing games for health. They might be privately funded or federally funded projects, but now the development community is thinking that there really may be a market for this.

[Erin Edgerton] People are talking about a shift in games, similar to the movement towards Web 2.0 and social media. Now that people can have a shared experience and connect with others around the world, how do you see this changing games?

[Dr. Lieberman] The social aspects of games are very exciting for health because we know that when people communicate with others and receive social support, they are better able to cope with illness and they have more motivation to engage in healthy lifestyle and prevention. So, the social aspect is key for us in the health field trying to make good games. Online multi-player

games have a great potential because there is chat and sharing and talking along with playing the game, so you develop friendships and communities and it's possible, of course, to develop a support group around a disease or a condition or a prevention kind of thing, like walking or healthy eating. If the game was a reason for people to interact with one another, it could extend out in to chat. There are virtual worlds, like Second Life, where it's really up to the participants to decide what kind games they want to play or what kinds of media they want to post in that world. And an area that excites me a lot is mobile gaming where you have either a cell phone or other kind of mobile technology and you're really out in the world but your mobile technology is a support or a stimulus or catalyst for game interactions with other people.

[Erin Edgerton] For public health professionals who are interested in incorporating games, whether it is to communicate health messages or to model healthy behaviors or even to help train responders for emergencies, what are some suggestions you can give them in terms of how to get started?

[Dr. Lieberman] First, come up with a plan that is based in reality, has some realistic goals. You've got to kind of go back and forth between what is the technology capable of doing and what are our health goals with this game or professional training goals and find that intersection where the technology can support your goals. Secondly, is to understand your audience. What games do they like to play? How do they interact? What is their social interaction all about? What motivates them? And then, find someone who is a specialist in health promotion theory, behavioral health, who also understands interactive media and can advise on how to use the wealth of theory we have in our field and research findings, to build on those, and to create really good interventions that work.

[Erin Edgerton] When CDC applies health communication theories, we're interested in not just informing or educating, but in actually changing behavior. In addition to using theories, what are some other strategies for designing positive games or for using games effectively?

[Dr. Lieberman] First of all, do no harm, as the medical profession says. One reason a lot of community leaders and parents are concerned about games is their image of a game is something that's violent and stereo-typed and is teaching all the wrong things. And we want to make the case that yes, that's a very powerful environment for learning and we can see that violent games teach aggression and hostility and fear, but we can flip that around and avoid those kinds of lessons and put the good health lessons in and it's equally as powerful. The reason it's so effective is that it's like experience. Media are closer to actual experience than we might think. We have real emotions and we have strong feelings about characters. We identify with the characters that we're playing so we feel like we are in the action, and the stories seem real to us, so the learning is experiential and that's what we're learning in the social science field now, more and more there is a reality to games.

Another thing we're learning is that we don't really need to have the highest production values. If you have a good story, good characters, and/or good game play that's really engaging, it doesn't have to be a Hollywood production, it just has to be a good game. So, that can lead to behaviors such as more exercising with the dance pad games. The issue of transfer is an important one. Will people, what they've learned and what they're rehearsing in the game, will

that transfer into real life? We're finding some mixed findings in the research. With the dance pad games, the transfer is pretty strong. In fact, people who never exercised, didn't usually exercise and they started playing dance pad games, not only do they exercise in the dance pad world, but then they go out and do other things- there's more walking and running and so forth. There's also a kind of learning of just putting your self-care in the front of your mind. It's not that you've learned something new. Most of us know what we need to do to stay healthy, but the game puts in the front of your mind, gives you that sense of efficacy that you can do it, and that's where something like the diabetes video game that I worked on I think boosted self care among the children and teens was because they were remembering more easily and they were more motivated to do what they already knew how to do. So, many ways that we can learn and research is showing us that it can be done.

[Erin Edgerton] What are some suggestions that you can give for making an interactive game engaging? What makes it fun and how can we really get people involved?

[Dr. Lieberman] A game is especially fun when there's challenge that is neither too hard nor too easy. There's that wonderful zone where you're stretched, but you don't give up. So, you want to make sure that your game is in there and test it with your target users or players, and you may even ask them to contribute ideas about what would make the game more fun for them. Humor, story, suspense, really just challenging puzzles, things that just get us interested and especially a lot of interactivity where the player has a lot to do, a lot of control over what's happening, a lot of decisions to make so that the state of the game really reflects their accomplishment. In fact I would say that nowadays people want to be able to do something with the screen and not just watch it. So, the more interaction and involvement and a sense of agency that you can give your player, the better, it's much more fun.

[Erin Edgerton] You mentioned getting people involved as you're designing the game. How much should you engage with your target audience, building the game, and at what stages should you get them involved?

[Dr. Lieberman] Early and a lot is really the short answer to that. You can't get too much input. You can use focus groups. You could show paper prototypes to people and ask if that looks like a cool game. You could get prototypes at any stage of development. It's all good, really. You probably reach a point where you kind of get the consensus, so you don't need to overdo it if you feel like you've really heard from your target group, but never assume that you know what your target audience wants because you're not your target audience, and they can tell you. A lot of times people who aren't professionals, who haven't really learned the limitations of what it takes to make a game, they're not thinking about budgets, they're not thinking about the effort, they'll come up with ideas that are outside the box that can be really great, so I would encourage a lot of that. I interviewed very young children, ages six, seven, eight individually, and I asked them, "If you could learn from a book or a video or a video game, how would you like to learn?" And after asking 50 children, 49 of them chose video game. And you might laugh and say, "Well of course because games are play and you know it doesn't sound as hard as reading," But then I would say, "Why?" and without missing a beat every one of them would say something like, "Well, with the video game you have the experience" or "With a video game, it will tell you if you're wrong." So they really understood and they were being very serious about how they would learn with a

video game and they really understood that interactivity. So, I think that is the fundamental aspect of it. Have you made your game, you know, interactive and challenging and fun? There are so many ways you can do that, there are so many ideas for stories or challenging puzzles and the like, using multiple modalities. It doesn't have to be visual- it could use sound, it could use pictures, it could use all kinds of ways of interacting, so you can be very creative with a game but I think fundamentally it needs to really resonate with your target audience, be something that they think is cool and fun to do, and have a lot of interactivity so they are very involved when they play the game.

[Erin Edgerton] You mentioned budgets.

[Dr. Lieberman] Ah-ha.

[Erin Edgerton] I'm sure because there is a large range in terms of the type of games that you can have- a video game or an online game, a mobile game or what lots of people are referring to as casual games or small puzzles online. What is the range for budgets and time that goes into producing games?

[Dr. Lieberman] You could make what fits my definition of a game in just a few screens. I'm working with one company that's using an interactive television interface to reach patients, and it's simply a matter of asking a challenging question and letting the user, who becomes a player in this moment, come up with a solution that's a health solution. So, what's the budget for that? It's very minimal if it folds right into what you're already doing when you're trying to disseminate health information. The block buster games that sell for the Nintendos of the world are in the almost 10 to 20 million now to make a mega-hit. But for health it can be a very modest budget, really more in terms of staff time. You're paying for time and not necessarily for high technologies any more. You can use Flash, there are web technologies and there are engines you can buy that sort of have the game elements in them and you add your creativity to it. So, I think it's possible for anyone, even on a modest budget, to put game-like features into their communication about health.

[Erin Edgerton] There's been a lot of talk over the past year or two about virtual worlds. We've mentioned Second Life already. CDC had a partnership with Whyville, a virtual world for a younger audience, and we're definitely looking at a variety of others. Do you consider virtual worlds a game? Why are why not? And do you see this as a trend that's going to be growing?

[Dr. Lieberman] Yeah, it depends really on how much you want to reign in the definition of game, but there could be people playing games all over the place in some of these virtual worlds. I could see somebody setting up a game and saying, "Hey, let's have a treasure hunt. I'm going to give you some clues and you have to go through the virtual world and find something." Or you can even literally post a game in a virtual world and people can come and play it. So, I think what will be interesting will be how many games are generated just by users themselves. Are they making games for each other? The answer is, yes, I think a virtual world has many opportunities to be a game.

[Erin Edgerton] I know that on our CDC health marketing website we have some resources on games and some examples of the things that we are currently involved in. Do you have other suggestions for public health professionals to find resources if they want to get involved with games?

[Dr. Lieberman] I would go to the gamesforhealth.org website. Games for Health is an organization, an initiative, that is meeting every year and having other kinds of specialized meetings around the country, a great place to network. The website has links to great resources, everything from people who design games to bibliographic information and meetings going on around the country. So that's one place. Then the Serious Games Initiative is a similar kind of website, seriousgames.org. Some of the same people are running that. Serious Games encompasses games for learning and games for social change as well as games for health, but they're all in the realm of games that are meant for more than entertainment.

[Erin Edgerton] Thank you for joining me for this edition of Health Marketing and Interactive Media. For more information about this podcast series, please visit CDC's health marketing website at www.cdc.gov/healthmarketing.

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