

Transcript

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Derek Bruff: This is "Leading Lines." I am Derek Bruff. A few years ago, I learned about a board game called Monarch and the game players compete to be the heir to the throne. Through feeding and taxing the citizens of their fictional kingdom, players collect weapons, treasures and followers in an effort to build the most impressive court and win the favor of the dying monarch.

The game is cleverly designed and has really amazing art, but what makes it different is that all the characters are women. The dying monarch is the queen and players are princesses striving to show their wisdom and strength.

This game upends some traditional stereotypes and it does so quite intentionally. The designer is Mary Flanagan and when I looked her up I was surprised to learn that she is a professor at Dartmouth College where she runs a game design and research lab called Tiltfactor.

Flanagan and her team design games for social change, like Monarch, and they investigate their effects on player's beliefs and behaviors.

I had the chance to visit Dartmouth this August, and I reached out to Flanagan to see if I could stop by her game lab and learn more about their work. Flanagan was off campus but Tiltfactor's Senior Game Designer, Max Seidman, was on hand to give me a tour on the lab and to talk with me about games and learning.

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Max Seidman: Tiltfactor is Professor Mary Flanagan's game design and research lab here at

Dartmouth. Here we do three things; we study games, we make games and more specifically than that, the games we make are all for social change. That can mean a whole host of different things.

Some examples are, we've got Pox and Zombiepox, which were some board games that we made at the request of Mescaline Valley Health Initiative awhile back, to encourage players to get vaccinated.

Derek: Wow. OK.

Max: As we make these games, we have the goal in mind and then we do research to see are they doing what we want them to be doing. The research, beforehand too, will figure out how they're going to do what we want them to be doing.

In the case of Pox and Zombiepox, we did a study where we compared Pox to Zombiepox, to a iPad version of Pox and to a control version of the game, or control condition where they can play the game. We found that after playing players have more positive attitude towards vaccination in the Pox and Zombiepox conditions, but we found that that wasn't the case in the iPad version.

This is a great example where we verified the efficacy of the game. We knew what the game was doing. We knew that it was encouraging people to get vaccinated then more positive attitude afterwards.

We learned something interesting about narrative. We found that the Zombiepox version players had more empathy towards people with infectious diseases than the vanilla version. That zombies narrative did something. We found something about the mediant. We found the iPad version actually didn't have those effects.

Derek: All three games had the same mechanics?

Max: Yes, all three games, had the same mechanics, are played identically.

Derek: Zombiepox had a different theme.

Max: Different theme, yup. The iPad version was still played like a board game between two

players. In addition, if you go and find the iPad version on the app store or compare to the Zombiepox version we've made, you wouldn't see, but the study versions were different to make them more controlled.

For example, in the iPad game, it's a cooperative game where players are trying to contain the disease in all cases. In the iPad game, as you expect, the disease is played by the computer. It automatically spreads and infects people.

In the board games versions, you have to play as the disease as well. For the study version of the iPad game, you actually had to play as the disease. We broke some digital game conventions there.

For example, you had to choose which characters you wanted to put the various tokens on just like you would with the board game. There are no sound effects, none of the bells and whistles that you would expect in a digital game.

Similarly in the commercial Zombiepox version, the people who die turn into zombies and can then spread the disease. In the vanilla version, the people who die cannot spread the disease.

Derek: [laughs] That's usually how it works.

Max: We're trying to keep it as controlled as possible. We learned a whole bunch of interesting things there, with the last bit being that the digital version didn't have an affect.

Derek: Interesting.

Max: That launched a whole bunch of separate research. It was the core, "Is the game doing what we expect it to be doing?" Secondly, "What have we learned about that? What can we tell other people about this process?"

We have learned that digital games don't always have the same effect as non-digital ones. That's one area of social change is public health. Another big area for us is social biases. That started a while back with -- it was probably 2010 or 2011 -- for a project that eventually became Buffalo in Awkward Moment.

These were games to combat gender bias in science, technology and dream math fields. Specifically, Awkward Moment plays like Cards Against Humanity, the PG version. It was made at the same time, so they both ripped off Apples to Apples.

Derek: [laughs]

Max: In it, you draw an awkward social situation like you see your friend coming down the street towards you, you wave like crazy and call her name. It turns out it's not your friend.

Derek: Gotcha.

Max: Everyone has done that, right?

Derek: Right.

Max: Everyone has a hand of reactions that range from silly to serious, appropriate to completely inappropriate for the situation. My particular favorite for that one is "fix your hair." You do the wave and then turn it into running your fingers through your hair.

One player plays as the judge. They actually are given criteria, "most appropriate," "most likely to work," "funniest," that sort of thing.

They choose whichever they think is funniest or most likely to work, whatever. That player who played that reaction, of course, gets the moment card and that's a point. This was targeted at middle schoolers, so a lot of the middle school moments are middle-school-targeted.

What we found here is a subset of the moments, around 30 percent, has something to do with gender bias, bias in STEM, gender bias in STEM, or other sorts of bias. Those are things like you see a store at the mall selling T-shirts for girls that say, "Math is Hard." This was ripped from the headlines a while ago. I think it was JC Penney.

Everyone gets to react to that. Those range from that which is fairly light to slightly heavier, not a heck of a lot heavier. We found that after playing this game, players tripled their associations between women in science. The question we always had asked, "How do you measure these things?"

In a perfect world, all of our measures would be behavioral, like stage a bias incident and see if they intervene sort of thing. That's very hard to do for certain topics. In "Pox," actually, the ideal case would have been we see if they go get vaccinated. Longitudinal studies are expensive, and this was an unfunded project.

We made it from Mescaline Valley Health Initiative. Instead, we did Attitudes. In Awkward Moment we used a very clever measure that Dr. Jeff Kaufman came up with. We had six psychologically validated neutral faces, three men, three women. We said, "These are common characters in a new game. Match the character to the profession."

Derek: Oh, wow.

Max: The group who didn't play the game that matched one of the women to the scientist profession around 20 percent of the time. The players who did play the game matched around 60 percent of the time, which is exactly what we wanted.

Derek: Wow.

Max: We also found other cool things because we always are finding other...

[crosstalk]

Derek: What was the time frame on the pre and post there?

Max: That wasn't pre-post, that was hanging control versus game. It was immediately after the game, but it was compared to players who didn't play at all. This was the game with middle schoolers.

One of the other interesting things we found, which speaks to the efficacy of the games in general, is after playing, players took other people's perspectives much more. They were in the other perspective mode. There's some interesting tests where you draw an E on forehead for that one.

If you draw it so that it's the right way for you, you're in your self-perspective. If you draw it the other way, you're in other perspective.

Derek: Someone to call someone else a loser, too. [laughs]

Max: We found that players -- let's see -- for adults, I think it went from something like 40 percent to close to 100 percent of the players were in other perspective after playing the game, which makes sense because, in these tabletop games where you're thinking about what the other players are doing, you have to take their perspectives.

Derek: Oh, sure, because you're not imagining yourself in some situation that may involve other people, but you're also interacting socially around the table and trying to figure out, "How can I get a vote from this person?"

Max: Exactly. What are they going to think funny? What are they going to think is appropriate? That's true in most games even if they're not doing this particular mechanic. What is that other player going to do on their turn?

Even more striking, we found, because that was in adults. In kids, we found it jumped from something like 20 to 80 percent which is even more impressive seeing as kids are very bad at taking other people's perspectives. They don't do that a lot. That's Awkward Moment, and Buffalo is even more interesting.

It's a whole bunch of other things we found. More important to Awkward Moment, and a lot of our papers came from this. What happens if you put more biased moments in the game? You can make a more effective game.

Derek: Right, because you said about 30 percent of the encounters.

Max: We did a version where we said 90 percent. That overloaded it. People immediately figured out what was going on in the game. It wiped away all of the effects.

Derek: Wow.

Max: Perhaps not the perspective-taking ones, I don't think we measured those in that particular study, but it did take away the bias reducing effect. This shouldn't surprise people, but it does. If a game is loaded with "impactful content," it can overload and backfire. Buffalo, same project, actually has been shown to reduce bias in general.

Derek: You put the broccoli in the mac and cheese.

Max: [laughs] Here's the broccoli.

Derek: You don't just serve up nothing but the broccoli.

Max: Right, exactly. A little bit of broccoli is nice. Just broccoli is not mac and cheese anymore.

Derek: Right.

Max: Buffalo is a fun one that's super light. Can you name a British princess?

Derek: Diana. That was easy.

Max: You get the cards, two points.

Derek: Yay!

Max: Whoever has the most points at the end wins. We've shown that this game reduces players prejudices, in general. It was targeted towards women in STEM. We found it actually reduces prejudice across the board using a couple of measures -- the Universal Orientation Measure and the Social Entity Complexity Measure, both of which are measures of non prejudice.

Derek: I looked into Buffalo. The mechanic here is that the adjective and the noun will combo together in interesting ways. Where you might have to think of way...

Max: ...Counter stereotypic pairs.

Derek: That's great.

Max: Obviously, we seeded the deck with a lot of feminine, and also just female cards. We also seeded the deck with a bunch of sciences. In addition to the various female scientists you are going to have to name, you are also going to have to name nerdy athletes.

That is a counter stereotypic pair. Generous CEO is another counter stereotypic pair. Even if

you can't name them, often times somebody at the table will be able to name them. That is the mechanism here.

We actually haven't done a mechanism study. We don't know exactly what it is, but we are pretty certain it is about the recall ability. When you or someone else names them, that's useful. The inability, when you are stumped that can make you feel a little bad about that, or it makes you feel, "I know this person. There's somebody in my head, I just can't name them."

Derek: Sure.

Max: That again brings up the [inaudible 11:25] that lack.

Derek: Mm-hmm.

Max: That's Buffalo. That's the biases. We are doing a whole bunch more projects on biases. That's one of our biggest areas.

Derek: Buffalo, like Awkward Moment, that counter stereotype pair... Is that what you said?

Max: ...counter stereotypic pair.

Derek: ...counter stereotypic pair.

Max: Sure.

Derek: That's great.

Max: I don't know if that's right. That's just what Jeff says and I believe him.

Derek: I like that phrase. Anyway, that might only come up 30 or 40 percent of the time. I mean there is a randomness to it.

Max: Way less. I think 10 or 20 probably. I haven't actually done the math. The decks have 200 cards each. They will certainly come up during the course of the game. We are pretty sure that one of the reasons it's working, is because of that perception of randomness.

We can't be preaching to you, as the creators of the game, because these decks are random.

You could've drawn anything. How did we know you were going to draw a female scientist. There happened to be three or four female cards and six or seven science fields.

Derek: Can you tell me about Monarch? I actually own that one.

Max: Yes. Sidestep, Buffalo and Awkward Moment. They are these cool games. We found they were doing something. They looked good. People had fun with them. What do we do with that?

The typical research lab says, "We publish the paper. We are done." But, not Professor Flanagan. She wants to get them out in the world because they are doing great things, and they are fun.

Derek: Right...social change.

Max: Eventually, we formed a side company, called Resonym, that publishes the table top games. It turns out that it is expensive to make table top games. They also don't make you very much money. You can sell them, make some money, and then use that to make the next drone.

Derek: This is why Kickstarter isn't used to fund board games. It is a risky financial venture.

Max: Yes. It doesn't take quite as much start up funding as to make a digital game, perhaps. Monarch is actually Professor Flanagan's brainchild. She came up with the concept of this game. We did do a little bit of research on it, but it wasn't one of our grand funded projects.

In the game, you play as the daughters of the queen. Your mother is dying. She is going to pass on the crown to the most worthy among you. You prove yourself worthy by governing the lands. It's a counter point to the stereotypical princess story. Those trappings are in there, but you also get a lot of the important...let's improve the actual queendom for all of the residents or all of your underlings.

Of course, you all play as women. The research we did is affecting gender bias or gender identity in general. We brought it to some all boys' boarding schools. Dr. Koffman's research says you are reading a story in first person, and we are trying to get you to empathize with the main character.

That character has an out group from you. He did research where that character was a woman and the readers were men. He did research where that character was from a particular university and the readers were from a different university, any sort of out group.

If you tell people up front, and reveal that the character goes to this university, that makes it hard for you to connect with that character and take their experience. The outcome is experience-taking is what it's called.

If you delay that reveal, you read a chapter, then at the beginning of the second chapter you reveal what university they go to. It's too late. You have already connected with that character.

Even more interestingly, you can get readers to be more likely to do things that character did in the delayed reveal. I think one of the best research they did was that readers were more likely to vote if the character voted in that delayed reveal.

You can also build more connection to that character and reduce bias. In one of the gender ones, the players showed more empathy towards the character. I think they showed less gender bias in general in that delayed reveal.

In Monarch, we had these middle schoolers play. They were all boys. In one condition, we stacked the deck such that it wasn't clear immediately that you were women. In the other condition it was clear immediately. There were some gowns in the deck that we had come up earlier or later.

There are some cards that refer to the players as sisters, and we had them come up earlier or later. We found the same thing. In that delayed reveal, from watching we wouldn't have expected this. There was kind of a pushback.

When they drew those cards, "Sister, well, I am not a sister." Once they figured it out, the game continued smoothly. The measures afterwards found that they were more likely to rate themselves higher on traditional feminine traits after playing the game, than the boys who got that reveal immediately.

Derek: When you taught the boys the game, you didn't tell them the backstory?

Max: We definitely scrubbed the gender out there. We probably just did, "The monarch is dying."

Derek: "You are the child of the monarch."

Max: "You are the children."

Derek: You just gender-neutralized the story.

Max: Exactly. I don't remember exactly how we did it, but we definitely did. Those are some of the big areas of focus. Some of the other stuff we've done are games to combat climate change. We have been able to get people to recycle. We've done games to promote bystander intervention in sexual assaults on college campuses.

We've done games to crowdsource data collection for libraries and archives. I could talk about any of those. These are some of the other things we've done as well.

Derek: That's great. Well, let's maybe sit somewhere.

Max: Let's take the classroom over there.

Derek: I can ask a few follow-up questions.

[music]

Derek: After our tour of the Tiltfactor lab, I sat down with Max Seidman to discuss more Tiltfactor's research in games and social change. A quick note before we go to the interview... Max talks about a game called Replay Health, a simulation designed to teach players about the healthcare system.

We discussed that game at length in the last episode of Leading Lines, during my interview with Dartmouth sociologist, Kimberly Rogers. Check out that episode if you would like more information on Replay Health and how it works in the classroom. Now here is my interview with Max.

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Max: I took Professor Flanagan's Game Design Class. Dartmouth has two, maybe three, game-related classes. Mary teaches at least two of them.

One of her classes is Game Design Studio. It's basically, the students are challenged to make a game a week for the 10-week term. It's a crash course in what we do at Tiltfactor. They're all socially-focused in some way. Games that fully...

Derek: They make a game a week?

Max: Game a week. They are, mostly, tabletop games. I think one or two of them can be mock-ups of digital games. They play test them, they rate them, they bring them in, they present them, the students play them, and they move on. Over the course, they get a few chances to revise some of the past ones, which is fun.

I had always loved, particularly, tabletop games. I played Catan when I was probably 7, Puerto Rico when I was probably 10. I'd always been playing tabletop games as well as digital games.

I never thought there was an opportunity to have a career in making them. I took Professor Flanagan's class probably my freshman year, maybe my sophomore year. After that I said, "How can I get involved?" I volunteered with Tiltfactor. This was when we were still in the other space.

Then, after that, I became an intern. I did some work for Tiltfactor. Buffalo was when I was an intern. Awkward Moment was not me, but I was involved. Pox was the game I worked on when I was volunteering. After that, I was getting ready to graduate.

I was looking for stuff in human-centered design because I was an engineering major at Dartmouth and did a lot of the human-centered design-focused stuff. When that happened, Tiltfactor was being approached to do some medical games that I got involved in.

I became a game designer on that. Then, there was another project and another project, and here we are. It's been five years now since I've been here full time. It's been a while.

Derek: That's a career, I think.

[laughter]

Max: Hopefully.

Derek: I'd love to hear a little bit more, maybe, about RePlay Health. What are the mechanisms in a game like that that are meant to educate, inform, or promote change?

Max: RePlay Health was based off of a simulation, ReThink Health that was made by the Verbal Foundation, I think. They had this very intricate simulation that was based on lots of big data. They gathered what things change in a community if they impose taxes on smoking, what things change in a community if they do this, what things change in a community if they do that.

It's really interesting. They would gather community health stakeholders together to play with the simulation, see how the healthcare cost change, how does quality go up or down. It's a very intensive experience.

Not only does it need to be customized for the location, if they want to actually base it off a fact, but also it's a simulation. It's a hard thing to use because there's lots of really interesting data going on there.

Derek: There the simulation is meant like when you run a computer simulation and you want to see what's the weather going to be in three days. You're actually doing a lot of modeling there and you have people help to plan out, to see what the dynamics are.

Max: They can do things like allocate funds. They can say, "OK, what if we put funding in this initiative and that initiative, how is that going to change our healthcare quality and cost in 5 years, in 10 years, whatever."

RePlay Health was built to basically be a more embodied, more about the feeling than the numbers. That's one of the things that we find games do really well, in general. It's not about the specific numbers, for example in Pox. Herd immunity occurs in reality at something like 85 to 95 percent of the population being immunized, depending on what the disease is, obviously.

One of the early decisions with Pox was that can't be our end goal. It's not fun, but it's not

also important. We are not trying to convey that percentage to them. We're trying to convey that the concept is important.

Derek: It doesn't matter if players walk away knowing that herd immunity occurs at 85 percent. It matters that they walk away valuing herd immunity.

Max: Right. They walk away thinking, "Oh, if I get vaccinated, I'm not just protecting me. I'm protecting everyone around me, particularly the people who can't get vaccinated."

Similarly, in Replay Health, we think health where the numbers are really important and we said, "What if we centered on the values and the concepts more than the numbers?" We wanted to do things like convey that health is not only good by itself. Health is only good in that it lets you do the things you want to do.

We wanted to focus on concepts of systemic problems. Lack of healthy foods to eat oftentimes. Food desert is a systemic problem, not a personal problem. We wanted to shift players' thoughts away from the personal causes of health towards the systemic.

There are a whole bunch of little things in there, as well. We wanted to talk about how finances work. We wanted to talk about a whole bunch of different types of interventions going on. What goes on in the game is, like I said...

[crosstalk]

Derek: It sounds like the goal there is a little more educational in nature than some of the other games you described where you were trying to change people's perceptions or change their biases.

Max: I would argue that it's all perceptions, that with RePlay Health we were trying to change perceptions of who's at fault for bad health, for low quality of health.

There were some educational elements, and I could talk about some the initiatives that we modeled in the game, and how those were actually educational because they actually may be introducing new concepts to players that they've never seen before.

Derek: How do you measure benefit with a game like RePlay Health?

Max: As I mentioned earlier, behavioral measure is always the gold standard. Sometimes we're able to do that. Sometimes we aren't. For something like this, there's not much of a way you can measure how much a player attributes the causes of health systemic versus personal other than psych surveys.

In addition to our media creation folks and our game expertise, we also have social psych expertise, and our social psychologists basically find or invent measures to measure this kind of stuff. I would actually have to dig up some of the measures for RePlay Health.

Derek: That's fine.

Max: I believe we did a measure that was the person ate a cheeseburger at McDonald's for lunch because, and let them fill in the blank. That's an example of how we might measure things, self versus systemic attribution. We would then analyze what they said. If they said it was because he was hungry, there's a little bit of self.

In the context of health, they might well say, "Because he didn't have access to anything better," or "Because it was cheap." Those are some systemic reasons. We have a whole host of those for all the various things that we're talking about. We also measured how positively players thought of the interventions modeled in the game compared to some that were not modeled in the game.

This is a while ago. I'm trying to dredge up the measures. Some players were more positive towards the ones they that had seen modeled in the game, which is what our goal was.

We were modeling things that we want players to know about and keep in their mind, especially if they're community health stakeholders. They should be aware that they could try to capture and reinvest these savings from healthcare.

Derek: These are things they could propose or support.

Max: Exactly. We did version of Cards Against Humanity called that we called Cops Arrest Manatees, and it was all about making...

Derek: Cops Arrest Manatees?

Max: Yes, Cops Arrest Manatees, and it was making fun of climate change. In Cops Arrest Manatees, like some of the other games, only a subset of the things had anything to do with climate change. Those that did we tried to build them so that they could be made fun of. It wasn't just like we were killing the planet. What are the next cars powered by? Ground up hippies is one of the answers.

What we were trying to get people to do is be more environmentally conscious, but this was actually a behavioral measure. We gave people plastic cups being in the study. This is in a pub. We pour them water, drink some water.

Derek: Play the game.

Max: Play the game. End of the game, "If you guys could just clear the cups off your table, we have a recycling bin and a trash bin over by the front." We see who recycles and who doesn't. We used invisible ink on the cups to tell which participants recycled and which one's didn't. We found the players recycled 25 percent more of the time...

They recycled 25 percent of the time if they had played the game and 10 percent if they hadn't, which is unfortunate that it's that low, but it was a jump.

Derek: That's real behavior change after playing one game. It's a short-term behavior change, but something's happening there.

Max: Yes. On that topic, RePlay Health may or may not work this way, but some of the more traditional board games, the benefit of those is they are replayable. Unlike most other types of interventions, the read this story intervention, hear this lecture intervention, if you give people a game of Cops Arrest Manatees and they like it, they're going to play it again.

You may have a spike after playing but then dribbles off. If they play again, you're hopefully going to get that spike again. That's one of the reasons why we've drifted towards replayable tabletop digital games.

Derek: There, the game is part of it, right? If it weren't fun, they wouldn't do it again. [laughs]

Max: Exactly.

Derek: It needs to be fun, while also having some mechanics with thematic elements that moved in this direction.

Max: The most impactful game in the world is worthless if it's not also fun because people are going to stop to play it.

Derek: You mentioned tabletop and replayable games, you guys do a fair amount with digital games as well, right?

Max: Yes.

Derek: Do you think about those differently in how they might affect social change or education?

Max: Absolutely. This was the Pox study where we compared the non-digital Pox with the digital Pox. We launched a whole bunch of research on what's going on there, why are those things different. Our current understanding is that, even beyond all the obvious stuff, what's going on with Pox and the digital Pox seems to be a construal level theory.

High-construal level means that you're in an abstract mindset, you're paying attention to the big picture. Low-construal level means you are in a very concrete mindset, you're paying attention to the little details.

Both of these are very useful, but it seems that, from our study, players are more focused on the details when you're interacting with digital media and more focused on the abstract when interacting with non-digital media. Obviously, this is very important. We haven't 100 percent found ways around this yet. We also don't know what's causing it, why is this the case.

It's the things we wear. I think one of the reasons why the digital Pox version didn't have the same effect as the tabletop one is because players were figuring on the little, "Where am I putting my vaccinations? How do I vaccinate this community? How am I doing with sickness?"

Much less on the, "Oh, most people are vaccinated. The disease cannot spread any more." I think we're getting that herd immunity realization at the high-construal levels but not low-construal levels.

Derek: When you're in the macro mode, it's harder to see those. When you're in the micro mode, it's harder to see the macro stuff. Something about the digital version can move people into that -- what you call low-construal levels -- micro mode. Can you use that to your advantage? Are there low-construal level learning that you'd like people to have?

Max: There absolutely are but I don't know what they are. Certainly, it's not that high-construal level is good and low construal is bad. It just so happens that many of the things we're trying to affect happen to be high-construal level things.

Derek: In the education world, we talk about the details and the big picture and how students bring to class certain ways of organizing information and knowledge. Often, novices in the discipline have lightly connected networks of concepts, ideas, and examples.

As they develop expertise in a particular domain, they start to put those together in really robust ways -- they're able to see how things are connected, they're able to see that big picture better. If you look at a freshman chemistry class and you start paging through the textbook, it feels like -- what you might call the low-construal level -- it's all details at that point.

It's hard for a novice in the discipline to see how all those detail put together. We're often advising faculty to find ways to take students up to that high-construal level, see the big picture, and see how things are connected and related.

Max: Maybe that means digital textbooks aren't a good idea for that kind of stuff.

Derek: Maybe.

Max: We haven't touched on textbooks so I'm not going to say that is absolutely the case, but for games.

Derek: For instructors who are looking to move their students to that big picture level, to think about an analog game of some sort. There's an argument to be made there, that that could be a useful tool in that case.

Max: We also found -- this one is less significant, I certainly noticed it when we're conducting these studies -- that players lost a lot more in the digital version.

Derek: They were just worse at the game?

Max: They were just worse at the game.

[laughter]

Derek: Wow.

Max: Subsequent studies that don't use riddles and didn't use games also found similar things on the construal level stuff. I was just seeing, "Hmm...they're not doing as well with the game with this detail focus." Perhaps because it is detail-focused.

I've seen that as well when playing digital versions of tabletop games. I certainly personally interact in a way differently than I would with the tabletop versions.

Part of that's because they're different artifacts. They're designed for different mediums but also, it could be perhaps, because I am used to playing games very quickly and unthinkingly on mobile, for example. When I'm playing a strategy game, that's not going to be my favorite.

Derek: Sure, because you need some of that big-picture thinking in order to succeed in the game.

Max: Doing that sort of strategy, whereas a traditional mobile game may be less strategic and may be less of that low-construal level than maybe working in its favor.

Derek: I think some of the mobile games that are super popular aren't asking for strategy. It's all what you see on the screen right now and how you connect colors.

Max: Honestly, most of digital games that are super popular aren't asking for strategy at all.

Derek: Any advice you'd give for an educator who's wanting to bring some games in their classroom, or maybe design a game for a particular purpose?

Max: Oh, boy. Designing one is very hard. We spend our life doing that. My personal understanding of the way games are effective is they make the players feel like they have

agency over the subject matter. This is probably a good thing for education in general. It's a good thing in many circumstances. In some, however, it's not.

It's good for people to feel agency over climate change because they feel less of the helplessness that they get from this massive problem. It's good for people to feel agency over their own biases. The way you're biased is first you learn you have it and then you put up a filter to think before you speak. That slowly trains yourself to never use that bias.

Some things, poverty in others, for example, may not be good to make people who are not in poverty feel like they have agency over poverty. There is a recent game study on the game SPENT, in which players play as someone who's in poverty and try to keep afloat and make decisions.

They found that players have less empathy towards people in poverty after playing. My take on that -- and the reason I think that's probably happening in a lot of the games, too -- is that after playing, they felt like, "Oh, cool. Yeah, I lost but if I've just done a little better, I would have won."

Now, you feel like you have agency over poverty. You feel like people who are in poverty just needs to pull themselves up by their bootstraps. Think about what you're making the players feel agency over.

Derek: That's really great advice.

Max: These are the things that we think a lot about.

Derek: I know folks at my campus who recommend that people play that game, SPENT, in order to take perspective.

Max: It's a great game. It really does a great job. It shows interesting concepts but in some ways it seems like it might backfire.

Derek: It's possible that it could help with understanding how certain things play out but decrease empathy at the same time.

Max: Yes, that's very possible.

Derek: Whereas with something like RePlay Health, you actually do want people to think, “If we do this again, can we do it better? How can we improve our own communities by taking that agency?”

Max: Right. After they’re playing, they’re saying, “We can improve our communities,” which is very much true especially for healthcare stakeholders and honestly for regular people, too.

They should come out of that game saying, “We really need more parks and walking paths. Now that I think about it, the reason I’m at home all the time is because it’s not easy for me to get anywhere to walk around. There’s no sidewalk from Dartmouth to Dartmouth-Hitchcock Medical Center. You got to drive.”

Derek: Right. I’ll end with a question we ask all our guests. Although you’re not an educator, so I’ll just let you answer it as you wish.

Max: I can riff. [jokingly]

Derek: You can riff. On our podcast, Leading Lines, we focus a lot on digital educational technologies of various kinds. Our conversation has actually talked more about analogue space. Do you have any favorite analogue educational technologies?

Max: That’s a good question.

Derek: Let me reframe it. I don’t know about your process, but I am imagining there are points in your game design process where you find a problem in the game. It’s not working the way that you hope it to, and you have to do some creative problem-solving. What’s an analogue technology you use to help your team solve problems creatively?

Max: Whiteboards.

Derek: Yeah?

[laughter]

Max: There’s an analogue technology that we use. The creative process is always baffling to me, and the solution, more often than not, is to sleep on it, go take a shower, go walk

around, go walk some place new.

It certainly works for me and our team. We brainstorm together, and if nobody can come up with it, we break. We come back, and then we come up with an epiphany. I feel like some of our best games are actually things that we've sat on for three years.

Derek: Wow.

Max: The [inaudible 37:39] concept was originally in 2013. We had this concept for a game, but as following incentive process, pools tried, this really didn't work at all. We shelved it. Then last year we came back to it, actually two years ago at this point. I had the thought. I was like, "Hold on, I'll bet this would work if..." We came back to it, and suddenly everything is working.

Derek: Wow, yeah.

Max: Yeah, it's one of those...Time is my favorite analogue technology. [laughs]

Derek: I love that answer in part because it runs up against the artificial constraints we put around education in colleges and universities. Here at Dartmouth, you have what? 10 terms?

Max: It's awful.

Derek: That's your time. You don't have the luxury of time as a learning device, as a problem-solving technology.

Max: Yes. It's been nice.

Derek: Thanks, Max. This is great.

Max: Yes, hopefully that answers all your questions...

[music]

Derek: That was Max Seidman, Senior Game Designer at Tiltfactor, Dartmouth College's game design and research lab. The findings Max shared about construal level and agency are really interesting. I can see a number of applications to the college classroom.

I was also struck by the challenge Tiltfactor has in assessing the effects of the games they design. It's very similar to the challenges educators face in assessing learning in a variety of contexts.

For more on Max Seidman, Tiltfactor, and the games they've designed see the show notes for lots of links, including a link to that study Max mentioned about poverty simulations that don't always create the kind of empathy they're intended to.

It turns out that, in some cases, watching someone else play through a poverty simulation is more effective than playing through it yourself. You'll also find a link to a blog series I'm writing on teaching board games. If you're interested in the intersection of games and learning, you might want to check that out.

To find our show notes, as well as past episodes with full transcripts, visit our website, leadinglinespod.com. We're on Twitter and Facebook too, just search for Leading Lines podcast. We would love to hear how you use games and simulations in your teachings.

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This episode was edited by Rhett McDaniel. Look for new episodes the first and third Monday of each month. I'm your host, Derek Bruff. Thanks for listening.

[music]

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