Ubisoft Game Makers Podcast
Graceful Failure: Learning & Video Games
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JAN PLASS
Now, if you think about life. If every time we fail… if we got punished for that, that wouldn't be realistic. And so games teach us that in a graceful way, where failure is just part of learning.

CHARLES-ADAM FOSTER-SIMARD
This is Charles-Adam Foster-Simard from Ubisoft, you're listening to the Game Makers podcast, where we take you behind the scenes to learn more about how games are made.

In today's episode, we're going to explore the subject of learning and video games. For me, this topic brings back a lot of memories of playing as a kid. On the one hand, I remember my mother sort of complaining when I was playing video games instead of doing activities that were, in her opinion, better for me, like reading or playing outside. On the other hand, I felt like I was getting a lot out of my video game experiences. Sure, I did it because it was fun, but it wasn't purely entertainment.

Neopets encouraged me to learn basic HTML in order to make my shop look good. I was learning about history in Age of Empires and Assassin's Creed, socializing with my friends and thinking about strategy and resource management during a game of StarCraft, or even just learning to be creative and curious about the world and about a bunch of different topics when I played RPG games with rich worlds and complex narratives like Morrowind. So what's the deal? Are video games actually good for you? Can you learn by playing games, even games that aren't designed to be educational? And how worried should we be about screen time?

Well, I have a feeling the answers are probably somewhere in the middle, but to find out more, I talked with Dr Jan Plass, a professor in the Steinhardt School of Culture, Education and Human Development at New York University, and Paulette Goddard Chair of Digital Media and Learning Sciences. Dr Plass is a researcher in the fields of

cognitive science, learning sciences and design, and has written extensively about learning in video games. He joined me from his office in New York.

Dr Plass, thank you so much for joining us today.

DR. JAN PLASS
It's my pleasure, thank you for having me.

CHARLES-ADAM FOSTER-SIMARD
I want to jump right in and just ask you. So, based on all the research that you've done in this area, what are the general benefits of playing games according to what you found?

DR. JAN PLASS
Right. So gaming, or better play, is something that has been long recognized as an essential way of learning in early childhood and beyond, and where any childhood educator, child psychologist will tell you how important play is for children and their development. The stigma in games comes from our view, which is a pretty old view of games as something that is antisocial, is done by people to avoid life, it doesn't connect you to others… But what we have to think about is that games create community. Games create what we call affinity groups of people with like interests, and people feel seen with those groups. People feel recognized with those groups in ways they often aren't in their, let's say, middle school.

And so it's also a contribution to identity formation. Through games, people develop an identity and understanding of who they are and what their role is in life. And I'm talking about games where there is role playing, when there are multiple players that band together and that play together to achieve a common goal. And one of the biggest resistance, reasons that we have is what we call displacement theory. We think that games displace friends, displace reading, are disconnecting us from real life, and even some people now make an argument: boredom is an important thing. And of course, games are something that you do when you're bored, so you don't experience boredom.

And all of those are very valuable and valid points. But they don't completely mean we can't have our children play games. They just mean we have to treat games like any

other medium. Which is, we need to, as adults, as parents, think about how much should our child play versus watch TV, versus to other things.

CHARLES-ADAM FOSTER-SIMARD

So it can be a complementary activity without necessarily replacing other things that are also good for you.

DR. JAN PLASS

Yeah, it should be. I mean, every time I see my kids play on their games, I have the same immediate response as a parent, right. They're on their computers. They're playing games. I'm thinking, oh, you could be outside doing this or that or the other thing. And, in reality, remember your childhood, right? Were you filling every minute of your time reading books or doing valuable things, or did you find other ways – did I find other ways of really wasting my time in youth? Because we don't know the value of it yet as much as we do when we're older and here, at least, we have an activity where you are social, where you do something with others, and where, as we can talk more about, there's actually a number of valuable developments that can come out of that.

CHARLES-ADAM FOSTER-SIMARD

Now, you talked a lot earlier about the importance of connection, and I think coop and multiplayer games, also, where as you play you're interacting with others and building community in a very direct way, are there other types of games that can still be a source of learning? And what can those games teach us about life, even when they're not, maybe co-op games. And specifically, I'm thinking about games that maybe aren't specifically educational games. You know what I mean?

DR. JAN PLASS

Absolutely. And I really like how you ask a question, because learning is something that we have to define in a very broad and expanded way. Right? If we think about academic learning of math and science and arts and humanities and language, that is something where we have ways of doing that. We have games that are specifically doing that, or we go to school or do it in different ways. But there's still a number of things that games that weren't designed specifically to teach you something, that they still help us develop.

And there's a lot of research that has been done. Some of my favorite work has been done by Daphne Bavelier. She found with her lab and her research partners that gamers have dramatically increased visual perception. For instance, contrast resolution. A gamer sees contrasts much better than a non-gamer. Or object tracking, which means when you have multiple objects in your visual view, a gamer is much more able to track them. Peripheral vision: gamers are much better on peripheral vision, et cetera. So just the way we perceive information can be dramatically enhanced with games.

Then there is executive functions, which is something we have done a lot of research on ourselves. Executive functions are enhanced. Leadership skills, collaboration. My colleague, Constance Steinkuehler, has done work on identity formation and collaboration and teams in games and has found that it's invaluable what you learn as part of a game that was never designed a to teach you that.

And then you asked about games that are not necessarily just social games. One of my favorite games is Portal and Portal 2, because it is such a way of broadening your sense of creativity, of solving problems that you couldn't possibly have solved in any real life situation, because we just don't have Portal guns. And the game makes you become incredibly creative by solving the problem: how to go to the other side of the room. And so to me, those are just some examples.

And we often summarize those skills under 21st century skills, which is a little incorrect because they have been around for some time. But we have recognized that we need to develop those skills for success in the 21st century society and in work. And that is something that games are actually incredibly good at, helping us develop those things in a playful way. Right.

One other thing that I really like about games, and that is so different from the way we usually learn is that games allow for graceful failure. And graceful failure is something that we use to talk about, when in school you fail, you give a wrong answer and you are in trouble, right? Your grade might be low, or you might just be... you know, the teacher might not like that. In games, it is expected. Now, if you think about life, if every time we failed in a sense of not getting something the way we wanted it to, if we get punished for that, that wouldn't be, first of all, realistic. And second of all, it's not how life works, right?

We try, it doesn't work out the first time, we try again. And so games teach us that in a graceful way, in a way where failure is just part of learning.

And that's really what learning is all about. You try to solve a problem. You can't. You realize you need to learn more in order to be able to solve that problem, right? So that is… failure is part of that. And when schools and traditional forms of learning don't recognize that, then that is actually a problem. And games bring us back to this state that failure is just part of the whole process.

CHARLES-ADAM FOSTER-SIMARD
It says game over on the screen. But of course, the game isn't really over, and it's easy to pick it up again, it's a safe space.

DR. JAN PLASS
Exactly, exactly.

CHARLES-ADAM FOSTER-SIMARD
It's really interesting what you say about problem solving, because I'm finding now increasingly in games, and with emergent gameplay, what we're seeing is many different solutions in games to achieve the same goals, and even developers setting up games in such a way that there are ways of finding solutions or playing the game that they didn't even think about, and that the players actually figure out on their own, which I think is super cool.

DR. JAN PLASS
Absolutely. The games that allow for that, the games that essentially design a system and the player can figure out the system and then find their own solutions within that system… Those are actually the most innovative and creative games and those that players like to play, who find that enriching and freeing, really, to explore, to do things that are the unexpected, and to realize the game actually knows what to do with that in response. And that is when those procedurally generated scenes and content come into play.

CHARLES-ADAM FOSTER-SIMARD

So I'm curious now to ask you the questions from both sides, from both the parent and player side and the developer side, the people who are making the games. So let's start from the parent or the player. Let's say that you are looking at a bunch of different games. What's the best way of understanding the benefits of those games? And kind of finding a game that will be, of course, fun, because that's the point, but also finding a video game that will bring you something in terms of learning or education, or, as you were saying, in terms of even some skills like executive functions.

DR. JAN PLASS
Yeah. So this is actually when it gets a little complicated, because we as parents have to recognize that we need to inform ourselves, and we need to learn about games. And in order to evaluate games, we need to understand them. And there are now a number of publications for parents and blog posts for parents that talk about those things. But there is unfortunately not a simple score that one could give a game to decide whether that game is valuable or not. So I would recommend two things.

One is to actually talk to your children about games. So evaluating a game is not very easy as a parent, but one way of doing that is to really talk to your child, talk to your teenager, and you will find often that this is a very interesting way of connecting with them, because at least my children are great examples of kids really wanting to talk about their play experience and their gaming experience. And when you do that, you will get a sense of what they get out of it.

Is it meaningful to them? Are they connecting to others in ways that is productive and prosocial? Are they possibly creating their own content? Are they doing research on the side to find out certain aspects of their game? Are they maybe forming into communities to have podcasts about their games or to moderate discussions about games or to have tournaments about their game, all of which happens in many gaming communities. And when you see these kinds of meaningful activities, then you know your child is doing something that they care about, that they love, that is interest driven and that they can benefit from.

Now, there are other alarming sides of things, of course. When your child withdraws from society, when your child doesn't, for instance, do their homework or misses other

important activities, those are alarming signs. But just to be engaged in a game is not. To be meaningfully engaged in a game is one way of evaluating that that game actually brings meaning and learning to the children.

It is a challenge for parents to stay on top of all the developments in gaming. But it is, I believe, a responsibility we have to accept, and we have to take on, similar to us needing to know what kind of movies are our children watching or what kind of websites they're surfing or even what books they're reading. As parents, you don't want that to just happen. You want to be informed, and you want to inform yourself what the right movies might be and the right books and the right websites that are age appropriate, and the right ones for your child.

And we need to add games to that list. We need to add games to something that we need to learn about and inform ourselves about. There's some criteria that we could point to, and what we actually have found is that games are beneficial when they have multiplayer functions, where you collaborate, compete, etcetera.

CHARLES-ADAM FOSTER-SIMARD
So let's talk about the development of the games and on the developer side, like us at Ubisoft. Is there a kind of quick sheet, even though you just said it was very complicated, but are there features or design elements that we know that developers can implement in their games and that promote learning. Or what do you recommend, I guess, for developers to help them increase and improve the learning aspect of their games?

DR. JAN PLASS
Yeah. That's a great question. I think what we need to recognize is that designers and developers have an incredible responsibility towards society when they design games. And that is something, when you build a game, you might not start out thinking that way. You might say, I just want to build a game. And what we have seen – and this is a roundabout way of answering a question about what they should include - we have seen what you shouldn't include. You should, in a game, you should really understand that there are certain features that one might not have given some thought to, are creating racial bias or misogyny, or gender stereotyping, et cetera.

And in recognizing that games are cultural expressions, we need to realize that we have a very broad audience with many different ways along which audiences differ, and that we need to be inclusive in our design. How do we represent the evil character in the game actually matters: what the color of their skin is, what their gender is, et cetera.

So that's still on what you shouldn't do kind of side of things. What you should do is look at the literature that has found value in and I'm coming back to the pro social features that can be included in games like SimCity, where you build something and you think about a system and how you can improve the system. When you design your narratives, convey ethics, responsibility, and similar values. What values do I build into the game? My colleague Mary Flanagan has a program called Values at Play where, together with Helen Nissenbaum, they teach game developers that no matter how you design the game, you either implicitly or explicitly put values into the games. And so you need to be aware of that. What are the values that your game exhibits?

And then, of course, things like team collaboration and the value of that. Creativity… And then another thing that I really appreciate when developers think about that deeply is how to build in the incentive of structures in ways that are intrinsic motivations rather than extrinsic motivations. And by that, I mean, intrinsic motivations is something that's meaningful to the gameplay, meaningful to the player versus extrinsic, which is points, stars, things that are really added on, and where I need to be taught about the value first before I even know what it is. And so those developers who are thoughtful about that, I think, make the game much more interesting and valuable in the end.

CHARLES-ADAM FOSTER-SIMARD
Can you provide an example of intrinsic motivation?

DR. JAN PLASS
Yeah. So, intrinsic motivation in the game, or intrinsic incentive in the game, would be one that advances my skills. So when you are in a game and you, let's say, need to hack a system and you, as a reward for doing that, get now a more powerful algorithm to hack the next system. So now you have gained some skill in the game. It serves the purpose of the game and what you want to do in the game, but you also gain a value.

The game just taught you that knowledge and skills are valuable and get you somewhere.

I also like games that connect the virtual and the real. An example are games where I connect the game to an outside activity and where I encourage people, for instance, to exercise or to walk more or to do other things, and thereby alleviate some of the concerns that we have that you withdraw into a game by bringing it into the world or bringing the world into it.

And I know that's not easy. And I also know, that's not every game can do that. But giving that some thought, I think, is a fruitful way for developers to branch out and design new types of games, too.

CHARLES-ADAM FOSTER-SIMARD
Now, shifting gears a little bit, we find ourselves at an interesting time. Of course, for over a year and a half now, the world has been living through this pandemic, and it's been affecting different places in different ways. And of course, there's been lockdowns in most places in the world, so people are spending more time at home, and there's been some more activity in games and some concerns also, some rising concerns around screen time. What's your kind of take on that?

DR. JAN PLASS
Yeah, that's a great and important question. And what we need to recognize is that the pandemic has created so many difficulties for society, for schools, for districts, and for families, and that when we look at that as a whole, when we look at that as a system, we need to realize: we're affected in many, many different ways. And we have to deal with the effects of that. And we'll have to deal with the effects of the pandemic for many years to come. Whether or not our children spending more time on screens was actually a good thing or bad thing is something that time will tell.

But one thing is clear, when you are stuck in your apartment and you're supposed to not go out and not to meet friends, if you have a game that will connect you to those friends that you cannot see in the real world, that is actually a positive. And so very early on in the pandemic, I posted a piece of writing where I argue that it's not so much about

screen time, but about screen content when it comes to pandemics, which hopefully we don't have to do all that often.

But when we're concerned about more time on the screen at a time when you can't go anywhere, then that's kind of a self-fulfilling prophecy. What else would you do? And some people started binging on TV shows, and that, to me, is actually far less desirable than to connect with your friends in a game and play a game and solve problems in a game, be creative in games. And so there are many communities that have formed. I haven't mentioned Minecraft yet, which, of course, is a big… an amazing game, playful environment in which so many creative things have happened, and in which players are showing a level of collaboration and creativity and really recreating activities that they couldn't be doing because they couldn't meet in real life in Minecraft.

And so if somebody were to do that, what's wrong with that when they can't go out and see their friends? So we have to… when we just look at the number of screen time going up, that could be concerning. But again, displacement theory would ask, well, what was the alternative? And in many cases, those screens actually enable children to still have a social life, which otherwise they could not have.

And the other thing that is kind of a result of that is we need to recognize that the pandemic was not a test of what digital connections can do but a test of what's missing. Where the digital designs have succeeded, but also where they have gone wrong. And games, as far as I'm concerned, have done much better than social media because in games you had those social connections, you were connected to your friends in affinity groups. Versus social media, have failed us in not helping us decide what was the information you should consume and which you shouldn't consume and have really resulted in disinformation in forms that are actually dangerous to society and even made the pandemic worse. And so games haven't made the pandemic worse. So there's that.

CHARLES-ADAM FOSTER-SIMARD
And thinking a little bit now about the future, I'm curious to ask you what you see coming next. I'm seeing just now a lot of new kind of modes in games, like educational modes. I'm thinking, of course, of the Discovery Tour for Assassin's Creed. The one about the Viking Age is coming out this fall. A few weeks ago it was announced that there would be a new

Martin Luther King Jr. experience embedded in Fortnite. So do you think we're going to see more educational content integrated into existing games or what other avenues are you seeing for these kinds of learning opportunities in our video game?

DR. JAN PLASS
Yeah. I love the games that are professionally designed games that recognize the educational potential and then create educational modes and versions of them. And I think that, especially Ubisoft has been a great leader in that area and has done amazing work. As I said, I love those initiatives. What I actually think of when I think about the future of video games and learning and education is that what games have taught us: that playfulness is such a beautiful state to be in, and that playful learning is such a wonderful way of learning, where it doesn't always necessarily have to be a game.

We can take a subset of those design features from games. So if there's one thing that we've learned is that games create amazing experiences. And so if we could take those ways to design those experiences and apply them to other settings and apply them to maybe things that are outside of a digital game and not necessarily something that you would recognize a game, but that's playful. That is something that I would predict the future holds if that future goes my way. Because one thing we have to recognize is games aren't supposed to replace the curriculum, it's supposed to be in addition to the curriculum. Right. And they can serve in specific situations when other ways of learning don't serve the learners. That playfulness could really permeate the entire curriculum. And the most important message for me is why can't learning be more meaningful and fun like games are and playful along the way?

CHARLES-ADAM FOSTER-SIMARD
Yeah. So not losing sight of the game aspect and that it still has to be fun, of course.

DR. JAN PLASS
That's right. That's right.

CHARLES-ADAM FOSTER-SIMARD
Well, thank you very much, Dr. Plass, for this conversation.

DR. JAN PLASS

My pleasure. Thank you for having me.

CHARLES-ADAM FOSTER-SIMARD

If you want to learn more about choosing the right Ubisoft game for your child, how to accompany children when they play, and what Ubisoft games can be a source of learning, make sure to check out the Social Impact section of Ubisoft.com, in particular the pages on family & gaming and the positive impacts of play.

This episode of Game Makers was produced and edited by the team at Engle. I'm Charles-Adam Foster-Simard from Ubisoft. Transcripts of our episodes are available on Ubisoft News. For more from Game Makers, remember to subscribe wherever you get your podcasts. Thanks for listening !