EPISODE 17

[0:00:00.1] NA: Thank you for tuning in for the La Vie en Code podcast. I'm your host, Nicole Archambault.

[INTRODUCITON]

[0:00:01.0] NA: Welcome back to La Vie en Code, a podcast dedicated to the self-educated web developer. I'm your host Nicole Archambault. On today's episode, we're going to have some fun talking about games and how we can develop games that people actually successfully learn with.

We've been talking about ed tech for the entire month of September and ed tech is really the intersection of education and technology.

I really love this topic deeply. I think it's something a lot of others will love too upon realizing the incredible potential to use your new design and programming skills for good. Last week on episode 16 which was the three fundamental theories of educational technology.

I introduced you to some of the approaches to learning that have been developed by pioneers in ed tech as we know it like Jon Pierre Jay and Seymore Pepper. For any listeners not familiar with the concept of theories, basically, these pioneers and many since them tie together the different ways that people learn.

They identify them as groups known as theories. In this case, we're discussing and identifying them as behaviorism, constructivism and constructionism. If you didn't catch that last episode, just know that educational technology is built on the foundations of any one or even a mixture of those theories and others that we didn't even get to talk about.

There are lots of theories out there about how people learn and some of which they build off of one another and some branch off in an entirely new direction. If we're building programs or applications for people to learn with, we can also leverage those theories to maximize student learning.

For example, with behaviorism, the belief is that students learn by responding to their environment, adapting their new behaviors and that this new behavior can be reinforced through feedback with obviously an added benefit of being measurable.

We found that students respond very well to these types of programs with increased learning comprehension. Education and learning can be taken in an additional step to really create this robust engagement-based learning environment for students.

That extra step is either to encapsulate the entire platform within a game or to add some features of gaming into our software which otherwise known as games and gamified learning, respectively. As a student of web development, you've probably come across some form of gamified learning in your education so far.

You've probably learned with videos and reading, you've probably been practicing what you've learned and perhaps in your own code editor, you know, you've been working your own code editor or maybe you've seen in embedded test driven development environment like with Tree House or with Free Code Camp.

All of that is educational technology at work. What happens once we start adding features of gamification to the educational technology applications that we create? In short, effective learning with less cognitive effort. That's really what we're going for. Today, we're going to talk about games, gamification and how they can help people learn more effectively while having a lot more fun than traditional learning, typically affords us.

We'll highlight some of the key traits of games and gamification, discuss what goes into designing and developing a good educational game and I'll also profile some popular educational games out there along the way and hopefully send you back out into the world with a solid understanding of why and how games can change the world.

Okay, let's go.

[EPISODE]

[0:04:31.0] NA: My personal connection with educational games started as a kid as it probably did I imagine for a lot of listeners. My grandfather who is now 85 years old and he'll be with me at the Grace Hopper Celebration of Women in Computing actually in October on Wednesday.

If you run into me, he'll be with me. I'll talk a little bit about, more about that closer to the date. My grandfather was the key factor in my early exposure to educational technology because he ensured that I always had a computer to learn with.

Even if he didn't himself know how to use it fully. I was probably about seven or eight years old when I got my first computer. It was a Macintosh Performa and along with it, I received this game called Number Munchers. I've included a link in the show notes to Number Munchers which has a web based version, now housed on the internet archive.

Be prepared to stay and play for a while especially if you like numbers or probably even if you don't, truthfully. The basis of Number Munchers though is that you have a number muncher which is like this little green monster looking thing with a big mouth and eyes and two little legs to run around with.

As the name suggest, they eat numbers but only if they fit the criteria of the particular level you're on. If they don't fit the criteria, you lose a life and the numbers are all on a grid, I think it's like probably eight by eight or something, maybe it's smaller than that.

You can move one square at a time and press space bar or double click on a square to eat the number inside of it. Once all the numbers that meet the criteria are gone from the grid, you win a level and you move on to the next one.

That seem easy enough, right? Well, there are also troggles, which are these other monsters that eat the numbers. If you run into those troggles, you lose a life. If they move and if they run into you, you lose a life.

If they move over a square, they also change the number in it. Of course, there can be more than one on the grid at a time too and they can eat each other because why not? The only thing

we're really missing here is like a time constraint, right? Thank goodness, there's not one of those and also you could take a time out or pause at any time.

Playing Number Munchers, I learned prime numbers, multiples, division and like so much more from this ridiculous game, eating numbers like a maniac while they're three or four troggles up my ass on the screen and I'd pause it, I'd do some quick math, I'd figure out what I was doing right or wrong and adjust.

I built context very quickly for each level and got used to seeing different patterns, I literally got addicted to learning while playing. As I became better at the game, I became better at doing quick math on the fly, wow, what happened?

Well, Number Munchers was my first exposure to learning with games, right? It was all totally effortless learning for me. I mean, did I have to work to get better at the game? Yes.

I wanted to because it was a game and it was fun. In the process of getting better at playing Number Munchers, I also got better at the mathematics that it taught. By the end of the school year, I was actually ahead in math and unfortunately, that didn't last too terribly long because I've identified really that was one of the big questions I had. What happened, I was so ahead for a while?

There weren't really any good tools out there that weren't book based at that point for or one on one for learning algebra or calculus or basically anything after trigonometry. By the time - I started to struggle at the time that I was struggling, there was nothing out there for those areas.

That's why ed tech, in all areas is like so important. I think I actually fell off in math because I also became too anxious to be able to learn anything more complex than trigonometry which was more visual and contextualized for me in a classroom environment.

I just needed more time to myself to learn at my own pace, to be able to contextualize it and of course, I didn't get that even though it's an important part of how I learned. I might have even been put into special education classes for math if I hadn't jumped ahead early on like I did with the help of Number Munchers to get a good foundation.

Simply because I didn't have much success learning via the methods or timeline that I was given. It's kind of funny because I'm actually revisiting a lot of basic math concepts in my early 30's and seeing them now in an entirely different light.

I want to actually learn them because I've seen that they can be useful out in the real world. The context for needing to know them and now they just need to be connected to existing things that I know already to finalize that personal context and really gain a deep understanding of it.

So, to tie it back into games. Games, when done right can be an excellent way to build your knowledge and understanding of a topic while also having a blast with deliberate practice. Let's dig a little deeper into the concept of games and gamification.

So what is gamification and game-based learning, by definition? Well first, gamified approaches to learning, use game thinking and game design elements to improve learner's engagement and motivation.

The medium itself is not actually a game per se but perhaps a web app or software that utilizes features of games to boost learning engagement and outcomes. Whereas a game-based learning approach, uses an actual game with a learning goal and combinations of some other features of games that we'll talk about in just a minute.

One good example of the difference between games and gamification would be in the NCAA March Madness Tournament versus the tournament brackets that many people fill out while following the games.

In this particular example, the basketball, well, the basketball. Basketball itself is the game and the brackets, they're a gamified version of the tournament. When someone wins the brackets, it doesn't mean that they won the tournament obviously. They're completely separate activities but they're related.

However, they use elements of games to add in an additional level of engagement to the tournament as a whole. When we apply the theories of learning that we discussed last week in episode 16.

The three fundamental theories of educational technology. Games become an incredibly powerful tool for education. The very features that keep games so engaging and addictive for human beings can be used to make education just as enticing with some truly remarkable learning outcomes.

It's not just for children. You know, adults stand to gain a lot from playing games including stress relief, grounding for individuals who wrestle with anxiety and an opportunity for some dissociation that actually benefits us in the long run.

We're going to talk more about in a bit about how games can be used in a variety of different contexts to improve people's lives apart from directly educational topics. As human beings though, we need to be able to step away from reality occasionally.

Not be constantly aware of everything going on around us, it's totally healthy and it's totally normal. If you're a parent listening to this episode, your kids can also benefit greatly from exposure to games. Research has found, that most children just naturally respond to high engagement in inquiry-based learning situations.

My personal experience with number munchers as a kid pretty much fit the prototype perfectly while school board me, it didn't keep me engaged at all, the fast paced nature of the game helped me to learn and master the very same information that school was trying to teach me.

What makes a game a game truly? We know that games are engaging and they're fun but there must be more to it, right? Let's take a look under the hood at what makes games fun and why we tend to respond so well to them psychologically?

Games typically have a clearly defined outcome or goal and we typically see the combinations of some other key elements as well, games are problem solving activities. Sometimes approached playfully and sometimes seriously.

As an example of serious gaming, consider some of the games created for the purpose of building empathy for individuals with depression or anxiety or simulation games that feature real serious issues that we face today.

However, games are typically created for the purpose of entertainment overall. There are specific characteristics that fulfill this purpose. First, there can be conflict, there may be some conflict between good or bad or evil, moral conundrums or other challenges to face.

It can be collaborative, you can be required to collaborate with other players to achieve a particular goal or complete a mission, it can be competitive, you might be encouraged to push yourself to out cheap other people and it can employ strategy, your approaches to the different problems that you face in the game might require planning.

You know, extensive planning sometimes. I remember when raiding, there was a lot of strategy that went into the fights that we faced, my guild and I in World of Warcraft back in the day when I used to play. It was really exciting and I learned a lot from the process.

You might have to consider fall back options and consideration of possibilities ahead of your current reality. Games can also employ chance, there might be random factors like random number generation or RNG in the game that affect your outcomes.

Random factors are particularly exciting feature of games as demonstrated by the gambling industry. It's very popular, casinos are still a definitely at the top of their game. No pun intended.

Games might also employ a theme or a story. Often times, stories drive all of the above features, conflict, collaboration, competition, strategy, chance and furthermore, they make the experience more immersive and more compelling, aesthetics are another game feature, I am a huge aesthetics lover in gaming, I have been totally dissociating into Legend of Zelda: Breath of The Wild, on my Nintendo Switch since March when it came out.

Stunning visuals can make the experience more engaging and immersive for players, you know, just that alone. Another game feature could be resources. Resources like currency, experience

points, they might be required to progress in the game and they might be earned through a particular means which encourages in turn, players to do whatever necessary in order to earn those resources and progress in the game.

Resource scarcity can even drive competitions, strategy and collaboration. Another game feature is time. Sometimes time is limited, count down timers are particularly popular in many games out there.

Another feature would be rewards and of course, rewards and scoring are really powerful motivators. We are reward driven creatures, we have parts of our brain that literally light up in response to rewards.

We all love to get something in exchange for our hard work but in order for this to be effective, it has to be really directly associated with a particularly activity or activities which can create behavioral changes.

Think behaviorism from the last episode, that's behaviorism pretty much in rewards systems, our behaviors are at work. Another great way that games can engage people is with levels. Levels are also a great way to measure proficiency in skill as players improve about the game, which offers greater challenges, you know, usually for players to keep them engaged. For longer periods of time.

Many games offer challenge, on master modes even, playing through that on Breath of The Wild currently. After the game has been completed which allows players to push themselves even further and again, they're making the choice to do all of this.

Nothing is being particularly asked of them, just suggested in order to participate in the game and move forward in the game, they need to overcome these obstacles. If you've ever played a game then you can probably visualize most of those elements and again, just to kind of go down the list, they were conflict, collaboration, competition, strategy, chance, theme or story, aesthetics, resources, time and rewards and then levels in no particular order.

I will have those and some visuals, some really cool visuals up on the show notes on the podcast page and that's at lavieencode.net/17. No zero before it, just 17. Those are the elements of games but what about this concept of gamification?

Well, gamification takes some of those elements above that we just discussed and applies them to anything that isn't an actual game. Let's talk a little bit more about gamification. I first encountered gamification around 2012 in the form of Tree House and Dual Lingo which are, I'll link those both on the show notes as well.

I found them around the same time and was totally and immediately hooked on them. Now, neither Dual Lingo or Tree House are actually games, they're ed tech platforms with e-learning platforms where learners can learn new spoken languages and web development programming languages respectively.

Now, remember that ed tech doesn't have to teach technology or coding in particular, it can teach anything but both of these apps, whether they're web based or mobile are gamified ed tech platforms.

Some of the features of these gamified platforms are achievements, badges, maybe profiles to display your progress publicly, leaderboards that encourage competition and instant feedback on your knowledge so as you progress, you learn immediately so that you can change your behavior.

As we'll discuss shortly, the platform being gamified can be virtually anything. The combination of gamification and learning is as strong as if not stronger than the combination of games and learning. Think about people who don't typically play actual games, what if we were to introduce elements of games into non-game platforms such as an employee training program or an e-learning platform like Tree House or Dual Lingo.

Or mobile apps designed for public health, maybe mental health awareness training and I mean, it's a virtually limitless list of other possible applications really for gamification. The topic can even be serious but the presentation and the means of learning it doesn't have to be.

We can even see gamification in the form of forums where badges and points and stars are given for participation and valuable answers, you know, most valuable answers, people can vote and this encourages folks to contribute their knowledge to the repository while making genuine connections with other people.

Now, what if those forums, let's take it a level people are self-help forums like those for health issues, mental illness or special interest lie grief support. Adding gamification to those forums can actually draw people out of their shells to participate in discussions that they may not want to otherwise participate in.

Occasionally, forums require some participation in like a newbie section before allowing people to get in to the rest of the forum. After getting some points and some recognition, the positive feedback leads people into a more helpful position, you know?

By the time they leave that newbie area, they've made some connections, they've gotten validation and they're willing to share their information in exchange for reputation and also for altruistic purposes.

As a result, many more people can get the help that they need on both sides. From these very important repositories of information that have been gamified. As I'll say again, gamification can be applied to virtually anything.

Can you think even of a passion project maybe that you might have? Something that you're super interested in where you could add some of these elements of gamification just to increase user engagement, to share information and to increase information retention.

I could even come up with something for teaching people about the games that I've played and in order to learn more about the games that I played, they have to go through many levels of them or something and that engagement would help them understand what I'm talking about.

You know, perhaps when you're working on your next web app project, you'll think about adding elements of gamification for the purposes of engagement. I mean, playing old fun too. Now let's talk about the end result a bit more, the benefits of learning with games.

As we've already discussed, games and gamification carries some hefty benefits for learners but let's drill down a bit more and really identify them. This is a package solution that you can offer to your clients really. If you're a freelancer with a client who's pain point is a lack of engagement, either their employees or their customers.

You can even use engagement to provide education for customers on your client's website which naturally will lead them to see your client as an expert in their field and it opens the door for a consultation or whatever action, call to action of their preference. So generally speaking, games and gamification provide a better learning experience with higher information retention, more learning engagement and less mental pushback from learners and it offers an informal low stress, self-paced learning environment which for me was such a huge feature.

I had never had that kind of environment before and it really made me feel like I had found an environment that I could learn and that was safe, comfortable and that my learning just went through the roof.

So that part is huge, having a low stress environment is huge. You also get instant feedback on behaviors which leads to quick change and between those three features basically having a learning, providing a better learning experience, low stress safe paced environment and those instant feedback on your behaviors. This makes for a hugely transformative experience for learners of which I am one.

So that's why I'm here so passionate about this topic. Let's dig a little into the science even behind why gamification actually works. So there are research labs across the country that actually research the effects of different game and gamification models on learning.

One of them is the MIT Scheller Teacher Education Program or STEP and their geek-tastically incredible education arcade that they have there. As a side note too to Professor Eric Klopfer or Scot Osterweil and company if you are listening, I'm in the Boston area. Yes I would love a tour and a chat and I have to say I'd probably be hard pressed to turn down a job just saying.

And that's one of the few organizations for my listeners that I might consider pivoting from the entrepreneur life for, real talk but back to the topic, a lot of the great information that you're hearing from me today actually comes from the MIT STEP programs design and development of education technology course on Coursera among other sources and that course is currently archived.

I believe on Coursera but you can review the course content still, you won't just get a certificate. I will link that Coursera course on the show notes. It has been invaluable for me in learning web development. I wish it were still alive but some of the interviews in that course and the content in it is just incredible and they go much more in depth into the research based science behind learning and learner engagement than I can go in one episode.

But what you need to know is this, some games provide structure while other games provide more of a canvass for creativity and many do both and both of these things, structure and creativity speak to the most primal parts of our brain.

We naturally as human beings move towards structure as oppose to chaos and embrace creativity whenever it's afforded to us. So game and thus gamification elements and techniques strive to leverage people's natural desires for learning, competition, socialization, achievement, self-expression and altruism, truly.

So if all those elements are like feathers that are playfully tickling our lizard brain then let's put that tickling process now in a rapid cycle because that's what's games basically do and it provides a rapid feedback cycle that keeps us literally addicted to the positive feedback that we're receiving. So yep, games are badass.

They are officially the most fun way, in my opinion at least, to piggyback off of your brain's primal instincts and encourage some really positive behavioral changes in the process. So what if you want to build your own learning game or gamify an existing learning platform or build an entirely new gamified platform? Here are some basic tips from me for considerations when designing or developing your project.

So first off, regardless of whether it's a game or gamification, choose a topic carefully. Perhaps something that you yourself know at least somewhat basically, learners are going to learn from those project and that's what you are setting out to do is for them to learn from those project because they'll likely learn more effectively than through traditional methods.

You want to be sure that your information is correct and not outdated. So do your research and then get to work strategizing on how to help your learners learn that information using your game or gamified platform. So specific to gamification, let's kind of zone in there, if you're aiming for gamification on your platform, take advantage of tools.

Especially the newbies, this is your right tutorial newbies, take advantage of the tools and libraries that are already out there for EdTech applications. So for example, if you're teaching employees basic code, gamification can be paired with a test driven development like on Free Code Camp spot platform for example and if the code passes your test, they get positive feedback.

They're more engaged as a result. In other words you don't have to reinvent the wheel and the process of gamification doesn't need to be a difficult or daunting one. There are already a lot of tools out there that you can use and to ensure that you have an effective gamification concept, be sure it A, captures and retains learner's attention.

B, challenges them. C, engages and entertains them, those are both equally important and four, make sure it effectively teaches them. You know the end result, that transformation they need to receive the information that you are trying to get through to them. So we want to make sure that they're really engaged with this through having their retention captured regulate that can be achieved through maybe making things a little more fast paced.

One way or another specific to your particular gamified application, you want to make sure you can implement timers, you can do things like that, choose based on what you're actually applying it into and see what fits. If you are not sure also, ask the people who are going to be using it and see if they're engaged. Don't guess, use the people and ask them for their opinions.

So let's switch the focus to games. I have never created a game besides probably the quiz apps that usually they end up teaching you in Tree House I think but I have never created a game, a learning game specially. So this is coming from a place of my understanding of how educational technology works and how it ties into creating an effective game.

So if you are creating an actual game, you need to first consider your target player. If they're not typically into video games or even into computers, they need you to consider if they've ever had access to computers and they're part of the world. If they're comfortable to competency, you can't make assumptions. If any of those things are true you may need more of a walkthrough.

Or like a tutorial phase in the beginning to ensure that they are able to follow along without blaming themselves for problems that they encounter along the way due to them not understanding how to play the game. So the next thing that I would recommend for games is that you plan out your game mechanics through the lens of your game as a learning tool.

Again, plan out your game mechanic through the lens of your game as a learning tool. A game's specific mechanics are the rules and the procedures of the game that guide the player and determine the game's response to the player's actions. So in other words, through game mechanics we define how the game is going to work for the people who play it.

And this is really important to remember because when you're creating a game, sometimes you can create it for yourself and not really think about how other people might be learning and you need to offer maybe lots of options for them to be able to go and based on what they choose maybe that indicates their preference.

There's a lot of thought that needs to be put into your game mechanics and they need to be very intentional if it's being used for the purpose of learning. The next thing that I would offer for advice in games is to consider implementing what MIT education arcade creative director, Scot Osterweil calls The Four Freedoms of Play.

The first freedom of play is the freedom to experiment. The second is the freedom to fail. The third is the freedom to assume different identities and the fourth is the freedom of effort. This is

perhaps the biggest one meaning that the learner has the ability to alternate between going full throttle, pedal to the metal effort and periods of relaxation and disengagement.

Where they don't have to be going constantly. So these freedoms they drive engagement and they effectively keep players coming back to your game. So the next piece of advice I have is to have a clearly defined learning outcome and this can be the most challenging part of designing your game truthfully. That's when I've heard when speaking with game designers and developers most recently.

And I would love to hear your opinions if you actually do work in the industry on these topics and if you also worked in gamification, designing gamification platforms. Same deal, I would love to hear from you on these topics but these can truly be the most challenging part of designing the game. It requires understanding that the purpose of games is different from educational videos and plans.

Like lesson plans that a teacher would create for you in a classroom environment and as EdTech review stated in their article of Five Key Strategies for Developing Educational Games, I am quoting here, "A game's sole purpose is to provide hands on education on how the knowledge works in action. A game should have a scenario relevant to the learning objective and game play that enables users to make decisions" that's huge.

Now these learning outcomes that you need to create in there need to be given to the player basically in the form of options and choices that they make. So that's the hands on experience. We're not handing the information to the person, they're making their way to it but their learning, the learning outcomes generally speaking work most effectively when they're also shared with the students or your user.

Your end user should know what they're expected to know and what they're expected to do. So we're possible to work that in as well and make sure that your players are on the same board as you. So this next one might seem obvious but don't make your game too hard. You want to engage users for a long time and not just upfront for a short period of time.

Your game ideally should probably be simple enough for like the user to accomplish initial low level goals but still challenging enough to compel them to want to try again and again and again hopefully. So EdTech review also recommended that article, Five Key Strategies for Developing Education Games, which I've linked among another plethora of great links on there.

That I used both for research, this episode and also just for interest that I came across and they recommend, EdTech review recommends in that article about two to three attempts to complete a level in order to retain a player's attention and keep them engaged. So just don't make it so hard, don't make it a game that you wouldn't want to play I would say.

If you're going to hit your head against it right off the bat then players can't get momentum and get into that positive feedback loop. So consider adding more complex and challenging goals too for players to aim for. This is a really important one for games. A successful game is one that pulls players to come back again and in effect encourages them to become addicted to learning.

Have you ever played a game for example that allowed you to pass with one star but taunted you with the option to shoot for three stars if you really want to sit there and work on high performance. So I ask this because I recently started using an iPad app called Yousician, so like musician but Yousician, to teach myself to play the keyboard and piano.

And this was the exact situation I faced like I could move onto the next level with one star but you could get three stars for playing every part perfectly. Needless to say perfectionist Nicole kicked in and I kept practicing until I passed each level perfectly. I am a true overachiever and as a result though, it wasn't just like, "Yay grats, I beat a game" you know?

I haven't beaten it yet but I actually don't know how you would beat a keyboard teaching app but those stars were definitely putting me on the right track but as a result I was so much more confident and effective in the next level as a result of the self-opted deliberate practice that it took to get those three stars and I sat there and I played until I got it right.

And because I did the next level was a breeze, one star will make the next level a little bit more difficult but three stars, the next one's probably going to be a lot easier because you're already kind of you're more advanced, you're beyond where you should be. That's very intentional

featuring in a game and I give any game really especially Yousician for implementing that because it is a great way to keep people coming back.

So I am damn proud of those stars. This is also probably about the only context in which addiction may carry a positive connotation and even then, I want to say as a game player, don't forget to take care of yourself, don't forget to bathe, walk away from your screen for periods of time at regular intervals stretch move your body and get outside.

Take care of your relationships with other people, you know addiction in gaming actually is a really big issue so addiction of any sort can get tricky when we are activating those parts of our lizard brains because moderation can go out the window very easily. I've been there I think a lot of gamers have. So always game safely.

But the key should being when designing your game and developing it, consider how you can help make it so addictive that you're player can't help a comeback and learn more and above all. Don't forget to make your game fun. Learners appreciate learning through free will provides lots of choices give them options, exercise the problem solving skills.

You know those things will lead your players to make decisions early on and follow through with the consequences of their decisions which in turn encourages changes in their behavior but make sure that it's still fun. You know one path should be a not fun option, it should just be different and as humans, we don't learn as well when decisions are handed to us. So remember that behaviors can be changed as a result of positive and negative feedback.

Whoa buddy, that was an information packed episode. These long form meteor episodes are a labor of love of mine and in case you don't listen to a lot of podcasts, there aren't too many folks that are out there doing them every week like I do, the long forum single topic, single just host talking, however that also means they are not very sustainable.

Because they clearly take a lot of research. In the future, I am planning on getting back to having more guest episodes as well so I can sit back and learn from someone else instead of just sharing all of the information from my perspective for a change and those perspectives are

really, really important anyway. Having multiple perspectives offered at one time even just gives you the ability to compare.

In contrast and build your own context so guest episodes really have an important role in podcast. So I'm looking for guests. I currently have guests spots open for the self-taught student talk segment which focuses on self-taught web development students and that really means anyone who is learning web development through any means other than the traditional classroom based or even boot camp instruction typically kind of falls more under traditional.

I'm pretty flexible still on the definition. I really just want to hear your stories, your successes, your struggles so we can grow together as newbie web developers. I am also looking to bring conversations with black women in web development to the podcast as oppose to just the blog. I have all of one blog post on there by the way.

If I can find some brave souls out there who want to have a talk, have tea about their experiences teaching themselves to code and in the industry specifically too if you are already in the industry this is a vastly under represented group in tech which is why I am focusing on them. So I am really looking forward to opening the mike up and having some folks share your experiences and your perspectives.

Generally speaking though if you have any kind of really cool web development interest or experiences as a self-taught student or just in the industry not being self-taught, I want to hear about them. You know I'm open, I read every email I've received. Feel free to get in touch with me on my contact page which is at lavieencode.net/contact.

So far this podcast has really been centered around sharing my experience, my education, my industry interest so far but I don't want to miss out on the opportunity to learn along with my listeners. So check out the super meaty show links too and the notes from today's episode on the episode page at lavieencode.net/17.

I would love to hear your thoughts on gaming, gamification, how your life has been affected by games really any thoughts you may have on the episode. Please engage with me, you can leave them on the comments on the podcast page again at lavieencode.net/17. You can hit me

up on Twitter @lavie_endcode or post your comments on the La Vie en Code Facebook page @facebook.com/lavieencodeblog.

And please remember, this is a heartfelt and personal request from me, Nicole, your host and web development education guide. If you find these episodes or the podcast in general to be valuable to you, I would love if you could leave a review on your preferred podcast streaming platform. It does not have to be long I would love if it's good like five star review.

But if not, then I would love to hear why it's not. You know the podcast in general has a lot of growth to do but you all know I put a lot of effort into these episodes and your support means everything to me so I read each comment personally. Speaking of which, big shout outs to Scooter Phoenix on Twitter who I've had the pleasure of meeting as recently as code land in April of 2017 this year.

For her awesome review on the podcasts on iTunes, thank you lady and also thank you to user Jennilyn for calling the podcast inspiring during her own Tree House learning journey. I am thrilled that I am able to help people and help bring value to your education. So please, keep these amazing reviews coming. Next week, we will close out EdTech September with some really cool fall tips for learning with EdTech.

People are going back to school so I think the timing is a little bit right. If you are using any kind of educational technology for learning right now whether it would be books video tutorials, structured online courses, podcast episodes, I am going to help you get the most out of it and because as I have right in the tagline of the podcast and the site, I am dedicated to the self-educated here.

So now that you know the theories behind technology and education and have seen all the awesome uses for this technology from a web developer standpoint, I am going to switch perspectives and put myself in the learner's seat and share everything that I've learned about learning with EdTech. So this should be a really helpful episode next week.

For those either currently using or considering using the amazing educational technology out there to change careers, to learn new skills and hell, to improve your life so be kind to one another out there.

[END]