

>> From the Defense Acquisition University this is the "Learning Circle."

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>> This is the Learning Circle. I'm Anthony Rotolo and my guest today is Julie Dirksen. She's an independent consultant and instruction designer whose specialty areas include instructional design, behavior change, and cognitive psychology. And she's the author of the book, Design for How People Learn, now in its second edition from Peachpit Press. Very exciting news. Julie, thank you for coming on the "Learning Circle" today.

>> Thank you so much.

>> I'd like to ask you today about the idea of digital habit formation. It's an area that you've been speaking about these days. But let's begin with some definitions. We've all heard the phrase, "creature of habit," things like that. But what is a habit when you break it down?

>> Right. So there's a -- obviously a number of different competing definitions for what exact we mean when we say the word habit, depending whether you [inaudible] the dictionary or Wikipedia or some of the academic papers. In fact, there's an academic paper that does nothing but sort of break that actually down and look at eight or nine different definitions that academics are using for habit. The common elements tend to be that it is an unconscious or automatic behavior or nearly unconscious or automatic behavior that's triggered by being in a particular context or by a particular event. And that it's something that's usually done in repetition in, you know, you get a consistent behavior in response to a particular trigger.

>> You're describing those patterns of action that are prompted by certain stimuli?

>> Yeah, absolutely. So if you've got a particular habit around -- it could be what you do when you wake up in the morning. Like if you get up, you go straight to the cupboard, and you start working on coffee. And that's your morning habit. After a while, you know, you do it initially as a conscious behavior. But after a while [inaudible] it could -- becomes an unconscious behavior. And the benefits of unconscious behaviors is that they don't require a lot of energy to make them happen. And which is why they're interesting for us, because we want you to respond frequently to a particular stimulus and have, you know, develop this degree of unconscious competence with the behavior so that you're sort of automatically doing the right thing without having to think very hard about it or expend a lot of effort to make it happen.

>> That's the easiest way I would say. We all want to form good habits. But how does that process happen and why sometimes doesn't it happen?

>> Mm-hmm. Yeah. So there's science going on about this, but I think that a lot of these answers are still to come. It's been particularly being researched in the healthcare spaces because obviously a lot of our healthy, you know, healthy behaviors. A lot of disease is caused by unhealthy behaviors and things like regularly taking your medication is a very important behavior. If you got a chronic illness or something like, you know, high blood pressure or, you know, forms of heart disease or whatever. And so there's a lot of interest in those areas around what is the actual science of habit formation. And the answers are still kind of vague to a certain extent. There are some practices that we know are important and work. We've all heard the idea that you need to do something seven times or it takes 21 days to form a habit or, you know, things like that. And it turns out that when they actually look at the research there's nothing that clear or definite out there. They looked at habit formation for, I think it was exercise habits, and the length of time that it really took to get to that level of automaticity [sic] varied in the population between somewhere between like 21 days and 300 days, which is pretty wide range.

>> Yes.

>> So, you know, the answer is it depends unfortunately for a lot of those kinds of things. There are some specific strategies that we can point to that help, certainly help quite a bit. And they fall into different categories. One of the big things with habit formation is tying it to something in your environment. So, for example, if I want to take my vitamins more regularly, if I already have an existing habit in -- there's something in my environment that I can tie it to, I can put my vitamins right next to the coffee in the morning. So, if going and getting coffee in the morning is a habit, which it is for me, that's one of my first things, is I sort of stagger into the kitchen and get myself some coffee. By having something available there in the environment where the vitamins are sitting right there and having some available time because I've got to wait for my coffee to brew so I have a few minutes, you know. I have a minute or two there to actually, you know, remember to take the vitamins, and, you know, having that as a regular thing. So by chaining this current habit, a new habit to a current habit, and also by kind of putting an environmental queue into place, I make it much more likely that the habit occurs. One of the primary researchers in this is a researcher named Peter Gollwitzer who has done a lot of looking at what he refers to as implementation intentions. And implementation intentions are sort of prewriting the script for what you're going to do in a certain instance or circumstance. So what he has is a very simple formula. If X happens, I'll do Y. But you plan it ahead of time because a lot of times the things that -- let's say we're trying to break a bad habit, for example. A lot of times you have to, you know, exert willpower to make that happen. And if you're trying to figure out what to do, that takes effort and then you have sort of less effort left over to actually do the action. Or, at least, that's the theory behind it. And so what he'll do is he'll have this formula, if X happens equals Y. So, for example, you're trying -- let's say somebody's trying to quit smoking. There are a number of things that will derail you when you're trying to quit smoking. You might get stressed out and crave a cigarette. You might get bored and crave a cigarette. You might be in a social circumstance with other people who are smoking and crave a cigarette. It might be that you always had a cigarette after lunch and so you're going to crave a cigarette at that point. And so what you want to do is you want to have a plan in place for when those things happen. So you could say, okay, if I crave a cigarette, I'll distract myself. But that's not very specific. They tend to work better -- or at least the theory is that they work better if they're more specific. So if I crave a cigarette because I'm stressed out, I'll call my sister because she's promised to help me quit smoking. So that's my specific plan for when I encounter that trigger in the environment. I'm feeling this craving. I'm kind of stressed out. I want a cigarette. And so I already know what my action is if I have that stimulus. I'm going to call my sister. If I crave a cigarette because I'm bored, I'll play Candy Crush on my phone.

>> Mm-hmm.

>> That's my specific plan. I've made it ahead of time. If I crave a cigarette because I'm in a social circumstance, I'm going to chew gum and I'm going to make sure I always have gum with me so that that becomes an answer. If I crave a cigarette because it's after lunch, I'll take a quick walk around the building. And so I have my plan in place. So then you don't need to kind of figure out what am I going to do about this craving? When you actually have it, you already know what you're going to do. So executing on the action is easier than trying to figure out what I'm going to do and then executing on it.

>> Well, you've kind of previsualized yourself --

>> Yeah.

>> -- in that circumstance.

>> Mm-hmm.

>> And would it be fair to say you're creating like a multiplicity of replacement habits?

>> Yeah. A lot of times what we're trying to do, either when we're forming new habits or when we're, you know, getting rid of an old habit, is we are trying -- we've already got a behavior and response to that trigger. We're trying to replace it with a different behavior. So we were talking about this yesterday when I was presenting on this topic here at Learning [inaudible] the issue of getting people to participate in social networks. So we've set up a really nice social network at work. And a number of different organizations have had the problem where you use the social network and then nobody shows up [laughter], you know? Or nobody uses it or get [inaudible] little things, but it just doesn't really kind of catch on. And there are a number of really significant habits that kind of come into play with -- you'd be creating that, a good vibrant social community. So, for example, if I have an article that I want to share, do I e-mail it to a colleague and -- or do I show it to the person sitting next to me? If I have a question, do I lean over the cube and talk to my compatriot or do I instant message somebody? Those are habits that we want when we start to think about creating a social network, that we want to replace the behavior that's associated with that trigger because the problem is you're only interacting with one or a small group of people in those. And the whole value of a social network is that if I get an answer to this question, it lives on the social network and then everybody else can see the answer to that question, too. And you start to kind of expand that value. So instead of just me getting the value of an answer to that question, I can share it with my whole network. But what I need to do is instead of -- when somebody feels the impulse to ask a question, we need to figure out how do we get them to recognize that that's an opportunity to make use of the social network. And instead of leaning over the cube and talking to their co-worker, they sit down and they type it into the social network space and see if they can get an answer there. And so there's a lot of obviously complicated things in that because, you know, in order for that to be a persistent behavior we need to make sure that there's somebody actually is going to answer that question in the social network so that it doesn't feel like an empty effort. Because I know if I talk to the person, they're, yeah, they're going to at least respond to me even if they don't necessarily know the answer. But if I go into a social network and I type it in and nobody responds, then I'm, mm, probably not going to do it next time. And so if we start to look at one of those little behaviors around things like social learning and where are the habits, how do we get people to recognize the trigger, to do an alternate behavior in response to that trigger, and to make sure that that alternate behavior is reinforced when they actually do do it.

>> How would you describe the effect where people, until they do it, they don't see the benefit of it. Like you mentioned the fact that you've got a persistent record now of the conversation that you can refer back to. That might not have occurred to you when you're trying to form the habit because you're not seeing the value of it until you do it for a while. And now you realize, oh, I've got these conversations I can backtrack to if I need to find out what was said last month.

>> Right, right. Jane Bozarth has it in her book, which is an excellent book, called Show your Work, which is this idea, it's kind of working out loud so that everybody can benefit from what you're learning about your job or what answer's you're getting to questions, or things like that. And she has a quote in there, and it's not -- she didn't originate it. And I'm going to forget who actually said the quote initially. But it's the idea that e-mail is where knowledge goes to die. So if I e-mail a question and I get an answer to it then I can still search on my e-mail when I need that question answered again if I've forgotten or something. And so that's a little bit beneficial to me. But it would be much better to have that information live out on a network. I can still go search on it if I need to be reminded about what the answer to that particular question is. But then everybody else could benefit from it, too. And so the bigger broader question is how do we do that? How do we sort of do this sort of work out loud thing so that, you know, that the -- instead of, you know, if you have one person who's an expert in the organization on something, instead of that person answering individual questions hundreds of times, they answer individual -- you know, they answer questions to the whole group a few times and then you get to -- you know, everybody else gets to benefit from that. And really good, successful online communities have this resource there if you need to know

something about oh, how do something in Storyline or even some visual design ideas for eLearning. You can totally go to like the [inaudible] Learning Queue Rows Community because not only are there lots of people who will be -- happily jump in and help you with problems or questions, the search on previously asked questions will frequently give you all sorts of great information.

>> Right. It's the principle of having an FAQ.

>> Mm-hmm.

>> You start documenting common questions and you don't have to keep answering them.

>> Right. And, you know, formal FAQs are great, but they're somewhat limited.

>> Yes.

>> But the ones where it's, you know, it's been a discussion area and people have asked like the crazy grid little exceptions and gotten kind of good answers to it. Then like the resource just keeps getting better and better --

>> Right.

>> -- over time.

>> I've had -- I'm sure we've all had that experience where you're having a problem with technology and you find someone is asking just like you, you know, this is happening. And then they get an answer that's not quite right and then they ask it again. And it gets more specific. And you're actually homing in on your own problem. Very, very powerful.

>> Yeah.

>> So we often think about triggers, things that happen that sort of set us off with our behaviors, our habits. What is the role of triggers? Do habits need to be triggered in order for an action to happen?

>> Yeah. It's usually considered to be part of the definition of habit, so I'd say that almost always triggers are kind of a crucial component. We're not always aware of the triggers for particular habits. One of the stories I tell about this is I have a very cute little dog. He's a Schnauzer. And he has -- goes out in the back yard and then he comes in. And if the weather is bad or it's muddy, you have to kind of wipe his feet off before he runs all over the house. So we worked on this habit where he comes inside. There's three little steps right inside my back door. He sits at the top of the steps and wait because he'll get a little treat. And that gives me an opportunity to kind of clean the dog off before he takes off into the rest of the house. And so we have this nice -- it's a nice habit. The dog knows that he should wait there, and he knows that he's going to get a treat. And a few months ago I was coming up from the basement and the dog just happened to be sitting in that spot. And, sure enough, he got a treat because all of the cues were in the right place and I didn't even think about it. I reached over and I got a treat and I gave it to him because I was actually cued by the environment in that instance. Even though it was a habit supposedly for the dog, it turns out that, you know, it had become a habit for me, too. Without even thinking about it, I reached over, I gave him a treat because he was, you know, all of the environmental cues were in the right place. I was standing in the right place. The dog was in the right place. You know, the treats were right there. And so it was one of those things where I didn't even realize I was doing it until after it was already done. So we have a number of these kinds of things that are habits. I was reading some of the research literature and they were referring to a particular study where they can get people -- people who go to a lot of sporting events, for example, they can actually get people, without even realizing it, to talk louder by showing them images of sporting events. So they're used to raising their voice at these events because they're loud and you have to talk louder to be heard, and, you know -- or, you know, or express enthusiasm or

whatever. But people don't realize they're doing it. So if they show you a picture of a field they talk at normal volume. But if I show you a picture of a crowded sporting event they'll actually raise their voices. So we have triggers -- in that case it was a visual trigger of the event. We have all of these triggers built in for a lot of these automatic behaviors that we already have. So part of the process of kind of helping people form new habits is to take these unconscious triggers and sort of raise them up to the level of conscious awareness so that people are paying attention to, okay, I remember now. I'm seeing this trigger and, yes, I thought about the behavior that I was going to do in response to this trigger. And so, for example, let's say you want to just add a little bit of additional exercise into your day and you decide that what you really want to do is take the stairs more instead of the elevator. So what you can do is you can actually set a little script for yourself in your head where you picture yourself reaching out to push the elevator button and say, okay, when I'm doing that I want to think about should I be taking the stairs instead? And sometimes the answer will be no. You might be at the Sears Tower and it's a hundred floors. And, of course, you're not going to take the stairs instead. But in a lot of cases it might be. So try and -- what you're trying to do is sort of set a little reminder for you so that we can picture yourself pressing an elevator button, and that acts as your trigger to stop and think, is it an opportunity for me to take the stairs instead? So you know what stimulus you're going to incur, you know, that every time you take the elevator you're going to be looking at pressing an elevator button or standing in an elevator bay. And you can try to kind of like set a little reminder for yourself there to kind of consider that decision and think about taking the stairs as a way to add some additional physical activity into your day.

>> And you're pretty visualizing that if X than Y time of situation again?

>> That's very -- that's right. And there are a huge number of apps on your phone right now that want to be your trigger for you. And you can certainly do that for yourself. I put stuff in my calendar or I put in reminders for certain things that I know that I want to do. And so I've kind of created an artificial trigger. So rather than having to remember specially, you know, that I wanted to do this thing once a week, I can actually just put a calendar invite in my thing that says, hey, here's the 15 minutes where you go do --

>> Right. And then you're getting a reminder pop up --

>> Mm-hmm.

>> -- which is --

>> Right.

>> -- the artificial version of remembering.

>> Right, yes.

>> Right.

>> Absolutely. There's a nice app called Hotseat which is specifically intended to deal with the problem of sitting too long. You know, it's the whole sitting is the new smoking thing --

>> Yes.

>> -- where people, you know, sit for hours and hours at their desk and don't move around and that that's bad for you. And so what it does is it asks you to set out some activities that you want to do during the day. And it might be you're just going to bust out at a triangle pose- -- you know, yoga pose, for a few minutes where you're going to go climb the stairs, or you're going to, you know, do whatever. You get to decide what activities you want to do to break up your sitting during the day. And it's a nice app because it gives you the little reminders

periodically that, hey, you wanted to go do this thing. But, additionally, it integrates with your calendar. And so one of the things they did is to try to not only do it as sort of an encouragement thing or a reminder, a trigger, they also want to reduce the barriers to use. And so what it does is it looks for open time on your calendar and tries to pitch the minders to the open time so that it's not prompting you in the middle of, you know, a phone call or a meeting that you can't possible get up and do a little yoga. It tries to find some open time on your calendar to nudge you about those kinds of things.

>> That's excellent. Hotseat.

>> Mm-hmm.

>> I'm going to have to look for that. Now we all have good intentions so there's this role of intention. And the road to Hell is paved with good intentions. We know all that. But we encounter resistance and there's been great books written like, The War of Art which is all about resistance. Do you know that title?

>> Mm-hmm.

>> Great book, by the way. What forms does resistance take that we need to be aware of?

>> Right. So when we talk about habit formation there's a couple of big issues that, you know, crop up. One is sometimes trying to take too much on at any given time. So I'm going to tackle a really huge habit or I'm going to work against really ingrained existing habits, or, you know, another problem is habits in the absence of kind of a word or feedback circumstances. So I'll kind of break this down a little bit. The first one is the idea that if you're working against a really ingrained behavior can be very hard. And everybody knows this. Like it's really easy to recognize automaticity because, if you've ever driven home from work and pulled into your driveway and realized you totally don't remember the drive at all, that's an example of automaticity. The act of driving is very automatic for people especially if they've been doing it for a number of years, and especially on a really familiar route that you potentially drive every day. And so that thing -- and a lot of times it's hard to break against those. So if you've ever done the thing where you're supposed to stop at the store or the dry cleaner or the bank on the way home and still find yourself pulling into your driveway having driven all the way home without, totally without remembering that you were going to, you know, get off an exit early and go --

>> I've done that.

>> -- do some grocery shopping. Yeah, exactly. Everybody's had that experience more or less. Is an example where you're trying to change an automatic behavior and it's really hard to do. And you're like, oh, here I am. I'm home already and I completely blew past the thing that I was going to do because it's a different behavior. And if you've ever done the thing where you have to go to another country and drive on the other side of the road, you know how hard it is.

>> I see that in movies and I'm like deathly afraid of being in that situation.

>> I can't do it. I can't do it. I've been in circumstances where I could drive, over there driving on the other side of the road, but every single time we make a left turn I think we're going to die. So it just --

>> Yeah. I recently was watching National Lampoon's European Vacation and there's a scene where Clark Griswold is just stuck in a roundabout for hours.

>> Yeah.

>> In other words, he cannot get into the left lane or what it was.

>> Yeah [laughter]. Yeah. So that's a case where we've got a highly automatic behavior. When you're trying to counteract against it then it's really, you know, it's really tough. And to a certain extent what you want to do, which is -- relates to the other point of having things be too big. So, for example, if you want to completely change the way that you do time management from the way that you're doing it right now that's not a single habit of a single behavior. That's a lot of really big complicated behaviors.

>> Yes.

>> It's how are you capturing time? It's how are you allocating resources? It's how are you going about your day? Is it -- it's how you're interacting with e-mail. There's a whole slew of kind of complicated behaviors in there. And so there's actually a lot of stuff that suggests if you shrink it down to one or a few small things that you focus on initially -- and they talk about keystone habits which is the idea if you can find some certain habits that help you kind of feed into bigger habits. So, for example, for time management you might want to focus just simply on getting your to-do items out of your various places where they live. You know, if you're writing them down in a notebook and you've got them in your e-mail and somebody sends you something on LinkedIn and you've got stuff on your whiteboard -- if you've got your to-do items in like a bunch of different places that makes time management harder because you're not triaging them all at the same time. So that might be the single habit that you want to work on initially in trying to get better at time management, is I just want to get these all into one place. So I'm just going to work on that habit. And even that habit has some little sub-habits that are built into it. So, for example, let's say I decide that all of my to-do items are going to go into an app on my phone. I need to remember to -- and make sure I have my phone with me. I need to remember to open up the app. I need to remember to record things. I need to remember -- you know, like there's a lot of little things. But you want to keep it sort of small when you're trying to tackle a new thing. So changing everything about the way that you use time management all at once is probably not practical. You probably want to find the thing that's going to get you in and then you can build on that.

>> Yeah. It's like -- well, it takes energy and to tackle all those areas at once is like waging wars on too many fronts, right?

>> Mm-hmm.

>> You've got to --

>> Yeah.

>> -- focus on one area and win that war. I know I'm very grateful these days for Cloud-based tools because that helps solve that problem of the universal in-box. If I'm working on my desktop it's good to know that whether it's Evernote or another app like that, that it's going to be there for me on my phone. So there's this role of the technology helping you also I think. But your point is well-taken. You've got to focus on one area at a time.

>> Yeah. There was a piece of research that I was looking at just the other day that was done in the U.K. with parents about encouraging healthy eating behaviors for the kids. So it's really the parents providing, you know, food for their kids and being more healthy about it. And they had three behaviors that they were working on. One was healthy snacks; one was more fruits and vegetables with meals and things like that; and one was less sugar beverages and drinking more water, zero-calorie kinds of things. I think they didn't recommend artificial sweeteners but, you know, but just drinking more water as opposed to [inaudible] allergies or something. And of the three particular behaviors they would only start one a week. They did actually have all the parents attempt all the behaviors. And they didn't notice too much of a follow-up because they at least had some time to get the initial behavior established. Interestingly enough, the one that they were sort of most successful with, the most persistent with, was actually the drinking water behavior which, if

you think about it, is the one that sort of requires the least amount of advanced preparation -- you could pretty much always get water kind of anywhere you are -- as opposed to eating more fruits and vegetables or healthy snacks, which means you have to have those things in place in order to make sure that your, you know, when it comes to snack-time you've got a healthy snack for kids. If you've got nothing but potato chips in the cupboard, then you're going to have a hard time with the healthy snack being there.

>> It's tough as an adult, like when you're in that situation --

>> Yeah.

>> -- where you're on the go and it requires preparation to eat more healthy.

>> Yeah. So thinking about kind of how can you shape your environment ahead of time to make sure that you're as well supported as you possibly can be is usually an important part about the habit, the habit formation as well. The last big barrier, and one of the biggest issues with habit formation, is whether or not there's anything that's providing you feedback, positive feedback. In Charles Duhigg's *The Power of Habit* book, one of my favorite bits from that is he was talking about encouraging brush with toothpaste to be more of a habit for people. And this was -- when this was -- this was early 20th century stuff. They apparently added in that sort of minty tingly taste --

>> Yes.

>> -- into toothpaste and it -- that -- the properties of that don't actually have anything to do with how clean your teeth get. It just gives you this nice tingly feeling afterwards as a reinforcement. So that the actual chemicals that they're putting into toothpaste, which are slightly acidic things that cause actually a slight bit of gum irritation, but it gives you that tingly feeling, don't make your teeth cleaner. They're there just to give you that actual physical sensation that your teeth are cleaner even though the two are completely unrelated. But it acts as a feedback mechanism that says, hey, I did something. I can tell that I did this good thing because now my mouth feels clean even though it's honestly an illusion. It's the two things are unrelated.

>> I remember that story. It's a good book. And he rotates through various stories. Alcoholics Anonymous was another one. But in the toothpaste example you're associating a good feeling. Could you call that a reward for the habit?

>> I think in that case, sure, it is a reward. And the question of rewards or feedback for habits is a challenging one because you do need to make sure that there's something that helps you reinforce it even if it's just your own recognition that, hey, I did it. In trying to figure out, you know, would we talk about these social behaviors in like say, you know, the organization sets up a nice discussion board and hopes that people will go and use it and we will collect all this great organizational knowledge and it will be a support system for people. But if you go in there and you're posting stuff and nobody looks at it or comments or more, you know, like responds or anything like that, it's really hard to persist in that behavior in the face of no feedback on it. And so what we want to try to do is figure out how do we make sure that when people start these new behaviors that they're getting some feedback, that they're getting some response --

>> Yes.

>> -- about it. And we -- there's a lot of talk about the gamification stuff. And I tend to view those as sort of pasted on rewards in the sense that if the real reward for posting something in a social network is interacting with somebody --

>> Yes. -- somebody says, wow, that's a great article. Thank you so much. Or somebody had a question about it. Or somebody responds to your question. That's the real reward for operating in a social network. We're seeing these gamified systems

where you get points if you post in the social network. Well, I think that that might be an okay way to kind of get people started a little bit, but fundamentally nobody's going to -- that's not going to be a good persistent way to a useful conversation. So you want to try to figure out not only how do you reward it but how do you make sure that it's an intrinsic reward.

>> That's a very powerful example. I'm involved in some groups online and I have to laugh. There are some posts that are just almost off-hand you make a remark and it's the most popular posts in the world. And then there's one where I'll do a formal write-up about something and you post it and it's like crickets --

>> Yeah.

>> -- so, you know, you're not getting the reward. It can be very discouraging. But, yeah. I think the social aspects are very powerful. Now, you may have covered this ground a bit. We spoke about how tools help. But you used the phrase "digital habit." I wonder if you care to expand on what that means.

>> Yeah. There really are any number of tools right now that are trying to figure out how to be helpful in this space. Oh, gosh. A couple of those I was looking at. I was looking at Habit List. And there was one called iRunRun. And there are ways that you can sort of set certain goals for yourself and track your progress towards them. Everybody's familiar with things like Fitbits and so forth.

>> Yes.

>> And so, you know, that's a way -- so exercise is something where typically you don't see immediate results from it. So I started an exercise program today, it would probably be about four to six weeks before I would actually notice some of the physiological effects of exercising more because it's the slow burn. And anything where we have that delay for feedback is -- tend to be those behaviors that we struggle the most with. So if I want to eat healthier, I don't necessarily see an immediate benefit from eating healthier. So I have to give up, you know, donuts or whatever it is for some period of time before I finally start to see some results for it days or weeks or months later. Exercise is the same way. I'm going to expend this effort now but I don't see the benefit from it for a while. And almost all the behaviors that we have trouble with have this element of delay or absent feedback. And so a big piece of what some of the digital tools are about is creating a more visible and set of feedback for it. So if I don't necessarily see the physiological benefits as intrinsic benefits of exercise, but my Fitbit tells me that I climbed the Eiffel Tower today, well, that's kind of -- you know, that's nothing. And it's nice.

>> Right.

>> It's not nothing. It's not as good as noticing that, oh, I can climb stairs without getting winded now because that's the real reward. But it's better than not getting any kind of feedback at all. And there are some absolutely really clever ones. I'm kind of obsessed right now with an app called "The Walk," which was done by the same company that did an app called "Zombies, Run" which is running at -- and "The Walk is, again, it -- instead of runners it's walkers. But what it does is it has a whole storyline. There's an international espionage plot.

>> Hmph.

>> You've been given a mysterious package in the Inverness Train Station. But terrorists have released an electromagnetic pulse that has knocked out all of the electronics, so you can't drive, you can't fly, you can't take the train. You got to walk and you got to get this package to. And so, basically, you've been given this bigger picture goal. You've got to get this package and you've got to walk it, I think, 155 miles or something like that. And what happens is, for every few minutes that you walk you get a little bit more of -- the story gets released. So on my app I'll see that, okay, if I walk for four more minutes I get the next installment. And

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then if I walk for eight more minutes after that I get the next installment. And so, basically -- and it's also tracking my steps and it's telling me how much I'm walking. But I actually get this reward that I can't get any other way by walking. And it tracks the motion on my phone, so it knows the -- you know, if you're walking in that time period. And it basically keeps feeding you a little bit more and a little bit more and a little bit more about this story and this adventure. And there's some other little games and stuff that you can do with it. But it essentially gives you -- it's not intrinsic feedback, but it's a really nice for of [inaudible] feedback.

>> Yeah.

>> So that it's something -- it actually motivates you to kind of keep going.

>> That is fantastic. I remember as a kid walking and sort of playing games in my head like someone's after me. You know, pretending. And you kind of, you hurry home. I might have been walking home from school. I was a kid who never got the bus, so I had these long, long walks. So, you know, whatever it was to entertain myself. But that sounds like a lot of fun, that overlay of the story and incremental rewards for -- from walking. Really fantastic. Julie, thank you so much for talking to us about this today. I really appreciate you coming on the show.

>> Yeah, absolutely. It was a lot of fun. Thank you.

[Music]

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