

The eLearning Coach Podcast #56

How to Develop Your Creativity

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Connie: Welcome to The eLearning Coach podcast, online at the elearningcoach.com. I'm Connie Malamed, bringing you ideas, tips, and best practices for success in creating effective learning experiences. Hello learning people. Welcome to episode 56, which is all about creativity. There is a myth that creativity is a gift that you either have or you don't. This episode pokes a lot of holes in that myth. I'd say it even blows it away. I'll be speaking with the author of developing creative thinking skills, Brad Hokanson. He's a professor in graphic design at the University of Minnesota and he teaches in the area of creative problem solving. Brad has a diverse academic record, including degrees in art, architecture, and urban design, and received his PhD in instructional technology. He's published research in the fields of creativity and educational technology. You can find the show notes with links to resources and a transcript at the elearningcoach.com/podcasts/56. Here's our conversation.

Connie: Hi Brad, welcome to the eLearning Coach podcast.

Brad: Hi Connie. How are you doing?

Connie: I am doing well and I'm excited to talk about creativity. I'm going to start out with a nice basic question. How do you define creativity?

Brad: Well this is actually a question that comes up a lot for me. I run into people and they ask what I teach and I tell them and that's the first thing they say is, "How do you define creativity?" Or they often say, "You can't define it," but one thing a lot of people believe is that creativity is hard to find but there is a generally accepted definition and I use it. It's got some variations. Most people in the creativity field tend to focus on this definition and I recently heard Sir Ken Robinson on television say that, "It's the ability to develop ideas, products, and things that are original and valuable." Something that's original and something that's new to the world. It's unique, perhaps or it's rare and valuable, it's something that's workable, it's applicable, it fits in terms of what you're doing and that pairing of words is really the thing that sort of helps define creativity. New and useful, novel and applicable.

Brad: You can change those words around a lot but that's basically what creativity is and then recently within sort of the academic press, there's been this evolution of say ... and by the way, that's what happens within a specific context. So that if something, like I said, that's applicable and just normal in Baltimore is going to be completely different and unique if you're doing it in Bangkok. Context gets to be important and that also means in terms of profession or in terms of even social context. That's sort of the basic start with creativity.

Connie: That is a great definition. I've also heard that if you can't count on originality, that also it's the blending of ideas in a unique way.

Brad: Well that actually gets to the originality part, is that a lot of times people talk about creativity being kind of sparked by combinations of two ideas in someone's head. This goes with this or this is in a new situation but it's that something that's new in that specific venue and most of our education deals with those things that are valuable or applicable or things that are really specific in terms of, this works, that doesn't, that's what we're going to do but it's that original part, it's the novel part that we don't look at as much.

Connie: That is so true. Do you think that today, in today's working world, that creativity is becoming increasingly important?

Brad: Well I think that there's a couple ways to look at that. I think it makes a lot of sense in terms of, is this going to be a driving skill that people really need? And usually what all the surveys that go out there and they always end up ... They ask business executives like, IBM does one every other year or something like that. They come back and they say, "The skill that most people need in terms of a manager or an executive is that they're creative and they're able to respond to new and different situations," and with the changes in the world and technology is changing all the time, we're facing new and different problems as we go forward all along.

Brad: If you've got a new problem, you're going to have to find a new and different solution. You're not going to be able to do the same old thing because it's a whole new problem. That's the first part and the other thing with existing things that you're working on, the only way to get transformative change, because everybody looks for that, is through finding new ideas that work and transformative being something that changes a substantial quality or capability

of what you're doing. You've got to put new ideas in there and those are creative solutions and without the creativity of new ideas, the only improvements that you're going to get are the incremental.

Brad: I can get this thing to be two percent better. Oh gee, that's great and that works for a while but at some point, you're going to need to make that 25% leap or 50% leap to get past that original solution. That's part of the basis in terms of why creativity is always something that's going to be worthwhile and it seems to continue to go on in terms of industry and you're looking for people who are creative, that can come up with new answers. It's not necessary they have all the information, it's, how can you put all these different things together in a new way?

Connie: When you're thinking in terms of creativity and teaching creativity, what are some of the characteristics that you're looking at that tell you, yes, this solution is creative?

Brad: One of the things that you look at in terms of a creative problem that somebody has solved or something like that in terms of the work that they're doing is how many times you've seen it or how expected is it and I have to train teaching assistants to sort of be able to evaluate things and I always tell them, "It's a three step process. If it's something that you've done all the time, it's probably not creative in terms of the challenges we're given. If it's something that looks a little bit unusual to you and it's rare or unique, that's sort of in the middle range and if it's something that you've never seen before and it solves the problem, that's really something that's much more creative," and the other thing about, how do you see if somebody is creative? How do we notice people that are creative that we're talking to and it's like there's this set of traits in terms of people that are creative.

Brad: Some are pretty normal. Usually they say, if you're moderately intelligent and you have kind of good observational skills, you have a capability to be more creative and creative people tend to be open to new experiences and they have broad interests like, they like this and that. They like cooking and ballroom dancing or something like that and the other thing is that they have this capability to accept a couple of different things in their head at the same time. They can accept ambiguity.

Brad: That could work or might not work or this is the worst possible idea. Let's try to make that work and see where that gets us. They want to surmount the obstacles in terms of a weird idea and they want to take risks in terms of moving something forward and then one thing that seems to come up is that people who are creative also tend to have this level of confidence about what they're doing or they're very flexible in their decision making in terms of, well we could try this or we could try that and that might slow them down a little bit but at the same time, it also allows them to be open to different changes about what's going on.

Connie: That's really interesting. Somebody might be asking, "What are the benefits of improving my creativity? Why should I even bother?" What do you think?

Brad: Well there's sort of these personal benefits in terms of being able to experience new things and do new things and get more opportunities to do things because you're known for coming up with creative answers. On the other hand, they've tested people starting in the 50s, testing students, little elementary school kids, and what they found is, people that were more creative tended to be more creative throughout their life and they also tended to be more productive in terms of patents, starting businesses, developing artworks, doing things that tend to be more inventive and developmental and then what they found is that the creativity was three times stronger than intelligence in terms of recognizing achievement throughout the lifespan.

Brad: I always tell people it's sort of like thinking about basketball players as ... At a certain height, it might be like 6'8 or something like that, then what starts to differentiate good basketball players, what starts to differentiate the stars, is their basketball skill and not being a little bit taller and the metaphor goes back to intelligence. It's not necessarily about knowing more, it's about what can you do with what you know? How can you address that differently? How can you apply it better? How can you try out different alternatives in terms of what's possible and what everybody else knows?

Connie: In your book you mention evaluating creativity. What are the metrics of creativity that psychologists measure?

Brad: Well there's a number of different metrics that people use in terms of measuring creativity and in terms of the tests that I use, we utilize the most commonly used

tests. First one is fluency, second one is originality, third one is flexibility. Then there's a couple others, one of which might be elaboration. Fluency is the first one. If I give you a challenge to say, what could you eat for dinner? And give me as many answers as you can in a minute or so. The number of answers that you'd come up with could be described as your fluency and so that, you can simply count that. How many answers can somebody give in a given period of time?

Brad: Now, those answers might all be the same as what you're used to and those answers might be other things that you have on your regular recipe chart or they might start getting a little bit unusual. That next metric, originality, looks at the idea of how unique or rare are those answers that you just gave. There might be some things that you add to your fluency list that you don't eat very often but that most people don't think you should eat at all or if I asked the question, what could you eat for dinner? There's a lot of things that you wouldn't want to eat but it is possible to eat it. That originality, the rareness or the uniqueness of the answer is sort of that next measurement and that number is usually considerably smaller.

Brad: When you try with fluency, what you do is usually at about 10, that's when you start having new and original answers. The third one is flexibility and it could be like, what are the different types of answers that you could give? For example, if the answer to fluency was, I could have a cheese pizza, a sausage pizza, a pepperoni pizza, a mushroom pizza, or a pizza with grass on it, whatever kind of grass you want to use, those would all be the same type but if the answer was, pizza, pizza, pizza, pizza, and a hamburger, that would mean that you have two different types of answers. The idea is, you want to have different types of answers and you want to have a wider variety of answers and through the larger number of answers, you'll get more original and unique answers.

Connie: And what was that fourth dimension?

Brad: Fourth dimension is called elaboration and the idea is that you can add on specific details and one of the things they recognize is that some people will look at an idea ... They'll have one idea but then they start adding more and more and more details onto that and the creativity is coming in the details as opposed to the specific numbers of answers like, I want a pizza with chocolate and chorizo and beans and cheese and no tomato sauce but all of these details coming up to

something that's a very unique construction. That elaboration actually is another metric that you can say, wow, this person, at one point, isn't creative but on the other point, it kind of comes back later when they're adding a lot of details.

Connie: One thing that I found fascinating in terms of how the brain may work is the fact that you get more creative after about 10 ideas. I don't know how accurate that number is but why do you think it works like that?

Brad: One of the things that's important is usually when people go to solve a problem, they come and they go through answers and solutions both to problems or just simply answers that they've come up with before and that they've used before and so those are the first things that come up because we're trying to be efficient in our thinking. The brain is a little bit lazy let's say at times but in order to get to those other answers that are pushing our brain or pushing our thoughts out to other dimensions, you try those answers first. If you're trying, what could you do with a paper clip? You'll come up with oh, I can use it to hold paper together or I can use it to clean out my ears or I can use it to put together some wires but you don't get to, I'm going to build a sculpture out of this paper clip until you've used up the other ones first.

Brad: You try out the simpler ones that you know first and then you get to the ones that are a little more unique. In terms of the courses I teach, the thing that's most essential ... The one rule in my course is that I try to get them to remember that the only wrong answer in the course is one answer and the goal is to get them to get up to 10 answers. Students and other humans can come up with a wide range of ideas but usually will come up with whatever the first one is. They'll say, I'll do that first and so the process is, you have to always force them to have multiple ideas and you're trying to get them to pick the ideas and to work on ideas that are less likely to be done by someone else, so that's a little more original and it's a little more flexible in terms of what's going on and then it's an ongoing practice in terms of becoming more fluid with your ideas.

Connie: That really makes sense because the brain is going to go for the low hanging fruit first. It's just efficient that way. Interesting.

Brad: Exactly.

Connie: I would say that there's a general idea that people have that you're born creative or you're not and whenever I teach a design thinking or visual design workshop, I try to have people remember back to how they were when they were children, just for a few moments, or to think of the children that they know and how creative children are but people kind of forget that.

Brad: Yes.

Connie: And they think that some people are creative, some people aren't, and that it cannot be improved. What is the evidence that creativity can be worked on and can be improved?

Brad: One of the interesting things about that is that is the same question as that, can intelligence be improved? And both, research has been fairly strong in saying that both of those traits actually hold that you can become more intelligent, you can become more creative, and they're both sort of developed skills that people have. There is a lot of research that says you can develop the creative skills of people in terms of doing things and you can do it through training, probably education and training.

Brad: The training becomes more important in terms of trying to get people to accept those ambiguous ideas, to come up with more ideas, to try more things, to be more, let's say, courageous in terms of the ideas they're moving forward. Generally, one of the stable things about the creativity research field is that creativity can be improved. There are meta analyses of training processes that say, here are some things that you can do to make people more creative, one of which is developing divergent thinking. One of them is also about, how do you improve critical thinking in terms of evaluating things and observing them. That's sort of a well proven idea about creativity.

Connie: Interesting. Since you mentioned divergent thinking, can you talk a little bit about the connection between divergent thinking and creativity?

Brad: Sure. Most people also recognize with creativity, in creativity they say, there are two types of thinking that have to go on in creative thinking. There's divergent thinking and convergent thinking and just like we started with, it's something that's original and something that's valuable. The divergent part is finding the original answers, the convergent part is, how do you find something that's

valuable? You're focusing on the one idea and the story I tell my students, the undergraduates, and the idea is, convergent thinking is like, when you're in college and you meet somebody and focus on that one person and you're doing to get married and you're going to live the rest of your life happily ever after, that's convergent thinking basically.

Brad: Divergent thinking is, your parents know that person and they would like you to date other people and so the idea of dating the field, meeting a lot of people, and trying to find the right person, that's divergent thinking. Divergent thinking is the skill of having multiple ideas. Convergent thinking is focusing on and developing one of the ideas. Usually what happens in education ... Most education focuses on convergent thinking. Find an idea, work it, focus on it, get it extremely detailed, and make it work extremely well and there's a limit to doing things without going the other direction in terms of coming up with new and original ideas that might be valuable or that you can make valuable in the end.

Connie: I'm just wondering if, when we're coming up with a creative idea, whether ... We're taking pieces of schemas from all over the structure, rather than going within one network, we're going within multiple networks.

Brad: What they've seen in terms of MRIs is usually what happens with creative ideas is it's like cross brain ideas. If different areas of the brain are connecting, that combinatory thinking happens sort of across areas of the brain.

Connie: And it feels like that. One interesting thing, Brad, is that when you're having a creative idea and you know that it's the right solution and you know that it's right, it can be when you're making a graphic or just coming up with a solution to a problem, something inside clicks and you know it's right. I just find that fascinating.

Brad: Yeah, there's a recognition in terms of what's going on, whether it's something that's brand new or not and Sternberg talks about this. One of the things he keeps putting forward is that, if you have a good idea, part of the traits that you need to have as a creative person is you need to be able to take your ideas out and represent them and sell them to other people, convince other people that they're workable. You have to basically translate your wacko idea out to someone else.

- Connie: That is so true. Brad, let's talk a little bit about how a person can improve their creativity. What are two or three exercises that people can practice to improve their creativity?
- Brad: Okay, the thing I use in the class is, trying to do that alternative uses task and I always give them an ongoing exercise that they can do and I try to have them do something when they're brushing their teeth every day and the idea is that, when you're brushing your teeth, you need to brush longer. That's what your dentist says and so I tell them to find something in the bathroom and try to come up with 10 different uses for that object and they have to keep brushing their teeth until they've come up with 10 different uses for that object like, here's a towel, what can you do with the towel? Your teeth will get better for a while and then your skills will get better and then your teeth will kind of decline a little bit but they'll have gotten good for a while. Just getting them to come up with multiple ideas is really important.
- Brad: The main exercise that I use in my class and this is both the online class and the face to face class, is I give them a series of 'differents' each week. In other words, I say, "This week you have to go eat something different and next week you have to wear something different. The week after that, you have to figure out what your significant other does all the time that they always do that you never do and do that," and the whole idea is building that practice is in the book, the idea of doing something that's completely different and getting in the habit of varying what they're doing. It's like, what's the challenge for this week that I can do—and you share it with other people.
- Brad: They have a good time doing it and after about five or six weeks, they get into the habit and they have this level of courage that also develops as like, I didn't know I could do that and people weren't that really worried about what I was doing in public. My friends think I'm crazy but they also now think I'm the creative person that they know because I'm doing all these inventive things. I think the pattern gets to be is, what are the small things that you can do, the choices that you make, that get you out of your ordinary rut? That get you out of your ordinary habits? Keep the good habits. You could probably lose the bad ones, but the main thing is, how can you get into the habit of changing what's going on in your life as opposed to simplifying it and making it more stable?

Brad: For example, can you change the screensaver on your computer so that it shows a series of pictures and you remember things with each different picture that makes different connections with you. When your computer switches off and you get different pictures that give you a brain spark to work on in terms of the given idea. I mean they're methods with creativity but getting into the habit of doing something different, doing something that's unusual, is really important.

Brad: There's a researcher, Robert Epstein, one of his main points is that people have more creative ideas when they're relaxed and they're not necessarily watching and oftentimes they're distracted by other things like, when you're waking up in the morning or when you're in the shower, and the idea with what he says is, you have to always be able to write things down to record what you're doing, to record those thoughts so that first thing in the morning I wake up and I've figured out how to solve world hunger but by the time I get up and brush my teeth and get ready to write it down, I've completely forgotten everything. People are like that and so how do you make sure that they have that capability? His point is, always have the capability to write things down, say with a notebook by the side of your bed or you keep your phone there so you can record something quickly or even, I suppose have an underwater marking pad in the shower, so you can write ideas down there as well.

Connie: I have heard everyone, so many people say that they get their best ideas in the shower and I do think that there is some room there for some kind of innovative note pad, like you're speaking about. A waterproof one.

Brad: Yeah, exactly. Yeah.

Connie: Can you tell us one or two stories of people who have improved their creativity, something maybe you've observed or heard about or one of your students experienced, where through the practice of creative habits, they were able to make a leap ahead?

Brad: Well so I've got one individual example and I've got one group answer. I always ask for a response from students at the end of every term and say, well how have you used this stuff in other classes or in work in real life? Well one student came in and he said, "I've got this job and my boss gave me this assignment to come up with an answer for a problem that we have. Figure out something to do, we need to solve this." Well, remembering the class, he said, "I'm going to

come up with five ideas. I've got five ideas and I'll give them to my boss," and so the boss said, "I've never seen that happen before. I've never seen anybody come up with more answers than when I only asked for one," and they implemented three of them and ended up saving the company money and making more money as a matter of course. The guy was like, "Just coming up with more ideas, learning that from class and actually applying it really made a lot of sense."

Brad: The other one that I've had real good luck with is I use ... You've heard of formalized brainstorming and they got this set of rules. I've got something that I've been working on. I learned this from some people in Denmark called the idea relay and it's where people in a group get together, five or six, and they all have a problem to work on and the first person outlines the problem, then they pass it to the person to their left and they write out an answer to the problem, then it goes to the next person, they write an answer to that same problem, and it goes around the circle and everybody gets consulting from five different people and then they kind of review them at the end and they find out, wow, I didn't know that or, here was a really great idea that comes up and they've started implementing that in terms of their organization.

Brad: This is with a county government here in Minnesota and they really found this thing to work out extremely well and that they utilize it in their workflow and it sort of formalizes the brainstorming process and records it and gets everybody to address a problem that they're working on.

Connie: I love that formal brainstorming technique.

Brad: Yeah, this one works well.

Connie: When we're going to solve a problem, we speak of the problem as the problem space. Can you talk a little bit about the solution space and ways to push the envelope within that, so you go beyond your limitations? This really applies to any kind of performance problem where people are trying to figure out, what can we do to solve this performance issue?

Brad: I think this idea of a solution space is really important because usually what happens is we're kind of constraining what we think could happen in terms of solving a problem. The other way I see that coming up is in terms of comfort

zones. These are things that are in my comfort zone or these are the things I think can work the solution space and that's where we look for possible answers to the problems we encounter. It's really self-limiting. One of the things that I always also hear in that same terms is something like, everybody says outside the box. Oh yeah, that's the class where you teach people to do things outside the box. For a long time I thought that came out of cardboard boxes but it's actually, there's a psychological problem called a nine dot problem where there are nine dots and they're sort of in this box and of course you're supposed to connect the dots by using four interconnected straight lines without lifting your pen off the paper.

Brad: The box we put ourselves in is the assumption that you have to stay inside the box created by the nine dots and the problem can only be solved by going outside of that specific box. The assumptions we make and the solutions we expect have to be within a certain area, the solution space, and we don't think that other solutions could exist. We have to kind of recognize and look for solutions that sound unusual at the beginning or unworkable at the beginning, that are good in some areas but not in others and we have to fix them before we throw the ideas away first and this is an ongoing practice in terms of how do they do something different. How do you get to 10 answers in terms of what's going on but how do you get to answers that are not what you expect?

Brad: What are things that are completely different than what you're expecting? It's the same thing as those original questions like, come up with more answers, come up with different types of answers, come up with unusual answers, that will actually stretch the solution space because in most cases, that solution space is a lot larger than we think it is. Here's the only things we could think of and the only things that we can do, and you have to look on past that.

Connie: Great guidelines and advice there. Can you make some recommendations for how we can create or develop our own ongoing creativity plan?

Brad: Well sure, I mean this was a really good thing to be doing with someone else because I think that there's this sort of social contract that develops between two people and usually I pair people up and ask them to come up with ... Start with, what are three things that you can do right now or let's say, today, what are different things that are even just slightly different from your normal habits

that you can do today? And they can share those and then the next step is that, what are the things that you can do in the next week? What could you do different next week that you could do on an ongoing basis in terms of that next week and then, what are things that you could do once a month and so the tasks that I give them say, people that are working downtown, I'm going to say, where could you go different for lunch because they go to lunch every day or if you're driving home today, what could you do different on the way home from work? Can you go one block out of the way and you will see something else and kind of watch what's going on or stop at the grocery store and buy one item in the grocery store that's different from what you ordinarily buy with your groceries?

Brad: You end up buying jicama or something like that or clams or God knows what but you always have to be continually trying and pushing those little boundaries. I mean creativity has no scale limits. It's like it can be this really small item that you change with your life or it can be a really larger item but starting with the small ones means that there's very little downside. You might like jicama, you might not, but it will be certainly a different thing to do but the habit is more important than the specific thing that you're doing. It's like, I'm going to try something different each time. I'm going to try to cook a different thing, I'm going to try to make a different recipe, I'm going to go to a different restaurant.

Brad: We do that ordinarily and we're saying, we're sort of bored of certain things and we try to do things differently. What are those things that you can do in terms of reaching out one time a week? One thing I try to recommend to people is that they build in time for, you could describe it as daydreaming or independent thinking or reflection, in terms of what's going on or investigation of your own ideas. I'm at a university so I put that on my ... and you have to put it on your calendar regularly each week and label it something that's important like, planning meeting or research or something off site but what that does is that means nobody else will get into that specific time schedule and you need that time to specific sit down and think about what you're doing and then on a monthly basis, maybe you plan field trips, like organizing a field trip for work that, we're going to go to a hardware store or we're going to go to a museum in the middle of the work week with your work colleagues because those things will actually help you be a lot better in terms of working and at the very least, you'll also have this better connection with who you're working with.

Brad: Small tasks, little bigger repetitive tasks, and then sort of a larger task that gets to be a very special event in terms of what you're doing.

Connie: Nice. Is this what you call, the habit of variance?

Brad: Yeah, it really is. It's part of that whole model of, how can you do things that still work in your life that are somewhat different? How do you change your clothes? How do you wear something slightly different? Will anybody notice? Probably not. One of the things I always do is I wear the same socks on both feet. They tend to match each other and so I went out and bought a set of socks and I mixed them up and so I wear a different sock on each foot and so the idea is that, no matter what, I'll have different socks on each foot. Now that about five percent of my undergraduate class still does the same thing but it turns out, it's the same level of work in terms of sorting out the socks in the morning anyway and then you can always go back the other way.

Brad: Complete randomization, you could have socks that match on one day and you can have socks that don't match another day, so that you'll keep mixing up the possibilities about what's happening. How do you build differences and variance into your own lifestyle? How do you make things happen differently that give you new cognitive information to make those, like we've been talking about a little bit on the side, it's like, how do you build a connection between different parts of your brain to make something come up that's different?

Connie: Yes, yes and even though the socks seems like a very minor detail, it's a reminder to vary things and to think in new ways. I think that's almost like a symbol.

Brad: Yeah, exactly.

Connie: Well that is really inspiring. Thanks so much for all that you've added to this conversation, Brad.

Brad: I really appreciated talking to you. I think it's been a lot of fun going through this and I know you do interesting and good work with the other podcasts. They're very interesting and valuable in and of themselves and I'm really glad to be part about what you're doing.

Connie: Nice, thanks a lot.

Connie: I hope you found this episode inspiring. The key message that your creative thinking skills can be improved is so important to your work and life. In my opinion, increasing your creative problem solving skills is the best way to make your career future proof. Are you ready to try out some of the exercises that Brad mentioned? I am. I like that you can do so many of these exercises wherever you are. In fact, the next time you see me, I'll be wearing pink polka dot high top sneakers. You can find the show notes with links to resources and a transcript at the elearningcoach.com/podcast/56. Talk to you next time. Take care.