

Dr Roni Reiter-Palmon

Research on how framing a problem can drastically change how creative you are

Speakers:

Nick Skillicorn – Innovation and Creativity Expert and Host of Innovation & Creativity Summit

Dr Roni Reiter-Palmon

Expert Interview transcript:

Nick Skillicorn: Hello everyone and welcome to another expert interview on the innovation and creativity summit 2017, very happy to have Dr. Roni Reiter Palmon with me today, Dr Reiter Palmon is the co editor of the well regarded journal, the psychology of aesthetics creativity in the arts, quite a mouthful and is a professor at the university of Nebraska Omaha specializing in the study of creativity. Dr Reiter Palmon it's wonderful having you.

Roni Reiter Palmon: Thank you. It's wonderful to be here.

Nick Skillicorn: So for people who don't know about your work, can you give us a brief introduction as to how you got interested in creativity and what you are actually studying.

Roni Reiter Palmon: sure. So I was introduced to creativity as a graduate student, I did not know anything about it before I came to graduate school, my adviser Dr Mike Mumford was working on doing creativity work particularly looking at creative problem solving and the thought processes associate with that and then in our first meeting he said you should look at problem construction and problem identification and I went okay and when I went out and read what was out there, I fell in love with it and I have been doing it ever since. So one of my main area of studies is still some 30 years later understanding how people identify problem that need to be solved and how to construct them in a way that can be solved creatively. I am also interested in the back end of the creative problem solving effort how do people evaluate ideas and determine which ideas should be implemented and identify creative ideas to be implemented. I am interested in that at both the individual level and also at the team level we have additional complexity of taking individual cognitive processes and putting them together at the teams. So if people think about the problem differently, they will approach the solutions in a different ways and it's important to know where they are coming from, they also will evaluate problems very differently if they have different goals for solving the problems. So understanding how that works at the team level and what happens when you have those diversity of ideas is very very important.

Nick Skillicorn: And you are approaching this from a neuroscience basis, a psychology basis, what's your read

Roni Reiter Palmon: Psychology, cognitive psychology for the thought processes and when we move into the teams and also personality characteristics at the individual level and when we move into the teams, we have also issues of social processes and teams, how do people share information, how do they interact and communicate which allows them to facilitate those creative problems solving efforts in the team

Nick Skillicorn: Can you run us through some of the research that you have done into how these creative processes happen, let's start at the individual level and what we found

Roni Reiter Palmon: Absolutely, so I have done quite a bit of work on problem construction, problem identification, early work has suggested that creative people tend to engage in problem construction naturally, so they spend time thinking about what the problem is, working things out before they actually solve the problem. What we have tried to do and have shown in my own work is that when you instruct people to engage in problem construction by simply giving them the instruction of here is the problem, before you actually solve it, try to think about it, write down here on this piece of paper or on the computer screen different ways you can restate the problems starting with how can I or how can we or thinking about the different goals that you may have for solving the problem and the different constraints that you may have for solving the problem which are two important aspects of a problem representation or how we think about a problem. We find that just doing that and having them think about the problems in different ways, it's important to remember that it has to be in different ways and different perspective, allows them to come up with more creative ideas, we have tested this a number of times in the lab and have been successful in doing that. Taking this a step further some more recent research we have found that when we ask people after that initial step of come up with all these different ways you can think about the problem also asking them to kind of converge not just diverge so pick the ones that are the most important, they tend to even perform better, so they are more to come up with more creative ideas, more creative solutions to the problem than the people that are not asked to converge. We also found out that how individuals conceptualize the problem and the creativity of the problem of conceptualization, once they already do it; those that come up with more creative ways to conceptualize the problem also generate more creative solutions to the problem.

Nick Skillicorn: I think a lot of the people that are listening to this can relate to it perhaps you can give an example of what you mean by framing the problem in different ways.

Roni Reiter Palmon: Sure actually one of the things that I use is an example in my class is and it is I have to give credit to a doctor bear here, it's an example from his work so I am plagiarizing not really, I am using as an example but a very simple one, there are mice in my basement, how do I conceptualize this problem, now the conceptualization of the problem really leads you down the parts of different solutions. So one way to conceptualize this problem if there are mice in my basement is to say how do I get rid of the mice. Well if you want to get rid of the mice, one solution is to use mouse traps and another solution is to get a cat but you can conceptualize the problem very differently. You can conceptualize the problem as how do I prevent mice from getting into the basement in the first place. Now the solution is one of how do I find how they are getting in and I seal those ways and so forth, a cat again might be a solution here as well because they may not come in if there is a cat in the house and the third one that actually the business student in my university came up with is how can I catch the mice and make money out of them. Okay so I am

going to create a mouse circus, that's a different way of conceptualizing this very simple one sentence problem of there are mice in my basement, the problems that we encounter in business and everyday life tend to be complex with multiple goals, multiple issues, multiple concerns and multiple parts for solving there. There is no one correct answer which allows us to conceptualize them in different ways.

Nick Skillicorn: So you are suggesting that before you start generating any idea, you spend this time asking yourself different questions and then you try to find the best questions or you try to find multiple questions.

Roni Reiter Palmon: so what we are finding is that if you start thinking about the different questions that you can raise, you start thinking about the problems from multiple perspective and that gives you a broader understanding of the problem and potentially a more broader way of conceptualizing it and therefore addressing multiple goals at the same time which gives you not just a better solution but typically a more creative one

Nick Skillicorn: And is this the only something that works at an individual level or is this something that teams can do together as well.

Roni Reiter Palmon: That's a good question, so we have very little information about teams with regards to this, my own research in one study that I have done suggest that doing it at the team level also facilitates coming up with creative ideas. We need more work but there is some evidence to suggest that it works at the team level as well.

Nick Skillicorn: So what I find fascinating about this is that there seems to be a lot more research about how to actually get the best out of these idea generation sessions that's what you are looking at as is the times before and after that session happens and how that can actually affect what happens during that session

Roni Reiter Palmon: That's absolutely correct. What we are finding is that this problem identification and construction has a very important effect on channeling people to develop certain ideas and completely dismiss others. If I go back to the mice in the basement example, If I ask you how to catch the mice, you are not thinking about sealing the basement and if I am asking you about how to prevent them from coming into the house, you are not thinking about the mouse trap so how we conceptualize the problem really has a very strong effect on the ideas that are considered good ideas, the ideas that are considered at all and which ideas are dismissed.

Nick Skillicorn: Let's take that to the next level then, about asking how do you actually figure out which ideas should be dismissed or which ideas should be taking further

Roni Reiter Palmon: So one of the criticisms of brain storming in particular has been that you get all these ideas but you don't know what to do with them and I think that this criticism is valid in the sense that if the brainstorming session ends with just the generation of ideas and you leave individuals in the session with fifty or a hundred ideas, that is really difficult, it's hard to tell what to do next. A lot of the better brain storming sessions that I have seen included also a face of idea evaluation and either rank ordering and defining what the next steps are in terms of even action items or what idea should be taking to the next level. When we look at idea evaluation, you could think about it very broadly as which ideas are good as which ideas have maybe something there but

it needs more work and then you have ideas that are not just going to work out for whatever reasons. It could be that we don't have the technology to do it; it could be that it's too expensive or it's illegal, there are a variety of reasons why certain ideas may not work and the notion in brain storming session typically is throw everything out there so you get those ideas that are not just implementable. So the first step is to evaluate the ideas in terms of how well they will perform and typically if a goal is to focus on creative ideas, we look for ideas that are both high quality, that is feasible, implementable, that will solve the problem that we presented as well as original enough. So creativity is both high quality and originality, so we are looking for ideas that are both. Some ideas will be that to begin with and some ideas need more work, those are the ideas that we are looking for. So the first step is to evaluate those ideas to determine if indeed we have something there and occasionally we find out we don't and we need to go back to the previous stage and generate more ideas but all the times there are and all we need is only one or two good ideas. Usually organizations don't go around implementing 10 to 15 ideas at any given time, they will start with one or two and they move on. So our work has focused on first of all looking at how individuals and teams evaluate ideas, how accurate are they relative to expert ratings of similar ideas. We are finding unfortunately that they are not very accurate. Although research and idea evaluations suggests that people are very risk averse, they tend to gravitate towards high quality ideas but not original ideas even if they are high quality because they just don't, you know its new I don't know how it would perform which is understandable but my own research in one of the studies in the lab with teams we found that 45 percent of the teams were able to select ideas that were rated by experts as either high quality or both high quality and originality but 55 percent of the team chose that were neither which is dis concerning, those teams received a wide variety of ideas, multiple different ideas some of multiple types of ideas and we are asked to actually evaluate them separately on quality and originality and only then choose. They didn't do a very good job of choosing either good ideas or creative ideas. We followed up with a different study looking at individuals and training them to recognize it, how do you go about evaluating ideas, what does it instead of just giving them the rule breaks, we actually provide them the training and we find out that when we provide them a training, they were more accurately rating those ideas and therefore they should be able to choose more accurately those creative ideas.

Nick Skillicorn: Its fascinating you say that because you will expect people to have some sort of sense whether an idea is good or not but if you are saying that more than half of people choose ideas which don't have either one of the two positives being the high quality or original, that's saying that the default position for people is to basically for the bad ideas, is there any sort of insights as to why people do that, is it a sort of comfort thing

Roni Reiter Palmon: I think so and I think again what surprised me is that some of the teams chose ideas that were moderate, they weren't bad but they weren't the best either. And again I think it's very hard for us to recognize ideas that are truly good. I think that we can recognize novelty because I haven't seen this before a little bit better but the novelty seems to scare people because if I haven't seen this before I don't know if it will work or not and I think again people don't just sometimes don't have enough experience and or knowledge to determine which ideas are really good and which ideas are moderately good.

Nick Skillicorn: What about the question of how you get people better at accessing these ideas because obviously it's a bit of a depressing thought that people have this tendency to not select the best ideas possible but how do we go about improving that

Roni Reiter Palmon: Absolutely, what we found both with the problem identification construction and idea evaluation is that training helps, if you teach people about how to go about constructing the problem as I said even instructions, to spend time constructing the problem makes a big difference and then if you train them on what creativity means, what does a good solution look like with examples so they have a schemer of what they are looking for instead of throwing them cold into it, that makes a big difference and they are able to recognize it accurately high quality ideas and high original ideas

Nick Skillicorn: Would this be for anyone assessing any type of idea or do you need what's called domain knowledge and domain understanding.

Roni Reiter Palmon: You do need domain knowledge; you cannot be creative without understanding the domain to some extent. There is a debate on the literature whether too much domain knowledge, there could be such a thing as too much domain knowledge right, you are so knowledgeable that you gravitate towards the known solutions but I think not having knowledge and having too little knowledge doesn't actually allows you to really evaluate the complexities or the realities of the solutions proposed, you don't know if the solution is novel if you don't know what other solutions have been proposed in the past, you don't know if it is implementable or feasible if you don't understand the domain. So I think you need to have some basic understanding.

Nick Skillicorn: Let's take it up from the level of creativity then and actually turn it up towards the innovative side which usually happens where there is too multiple ideas working together, what have you found out about how organizations and teams can actually be better at actually getting values out of these ideas.

Roni Reiter Palmon: First of all you need to recognize which of the ideas you can and should implement, that's the first step and part of my interest in the idea evaluation and idea choice. So if you start by implementing ideas that are not creative or not good ideas you are already setting yourself up for failure, one of the things that we find out about implementing ideas, the innovation part of it is that it is very social, there is a lot of negotiation, there is a lot that happens, there is a lot of understanding of what you know anytime you come up with a new idea, some people will not like it. Either because they are worried that it is something new and I don't like new stuff, it has implication for them, I need to learn something new, if I don't do something the old way that I am used to it might faster after I learn it but I am going to have to spend several hours learning it that's going to slow me down, my job isn't going to be necessary anymore if we implement that idea, this kinds of things, they are real implications for real people and it's important to understand what those concerns are and be able to address them in one way or the other and they may not be that you can save somebody's job but maybe you can address it another way. So a lot of the social processes become really really important and leadership issues become very important once you start moving into implementation piece

Nick Skillicorn: What do you mean by leadership teams?

Roni Reiter Palmon: So as the leader of the team. Let's say the team came up with a creative idea that we are now trying to implement in the organization, the leader because of their position where they interact with other members of the organizations with other leaders in the organization, can provide a lot of support for those individuals and the team idea to make it happen. Whether its resources, whether its sending the message throughout the organization that this is important and it's something we want, one of the studies that we just finished is looking at innovation implementations in hospitals, these were very small hospitals that introduced a very particular innovation and we found out that when leaders provide a support for that innovation, it was implemented much faster and they saw better results as a result of that.

Nick Skillicorn: so what else have you learnt from either your studies or studies that you have seen in the last couple of years that you have hold in high regards really has an impact on people's ability to generate their best ideas.

Roni Reiter Palmon: So one of the new concept that is coming up that I find really interesting is the motion of mindset whether people believe that creativity is something that can be trained and learned and improved or is it fixed you know not matter what I am going to do, you can't change it, I think that's fascinating and what we are finding is that people that have this growth mindset are more creative and I think that something that has important implications, that if you truly believe that creativity can be improved, you are actually going to take the steps to improve yourself and be more creative.

Nick Skillicorn: That's actually something that is backed up by I will say the vast majority of the people researching the subject. There is actually an ability to improve your creativity level.

Roni Reiter Palmon: Yes absolutely, we are finding the training in my own studies as well as others the training for creativity particularly if you train the cognitive processes that is associated with creativity, so things like identifying the problems construct, thinking about the problem from multiple perspective, training, the brainstorming process and idea generation process, training the idea evaluation process, we find out that those help and provide a significant improvement and they are not hard to treat

Nick Skillicorn: Those are all things that you can train which are directly addressing creativity, essentially spending time doing creativity exercises or idea generation exercises, are there any other activities or things that can shift your mindset that you can do outside of the direct time that you spend time on idea generation and the ones the one that spring to mind is making sure that you have variety in your life and you are hoping to try new things and you are making sure that you are not always super stressed and on caffeine and focused on problems all the time, what are the ones that you found

Roni Reiter Palmon: Its interesting, I think because to me well yes its openness is important, people don't understand what it means and therefore have to change their behaviors right if I tell you go be more open, what does that mean exactly, and so I am going to go listen to music I am not familiar with and how is that going to influence my creative performance in my job that has nothing to do with music right, so I think that those kind of things are very true and if you are able to create an environment that is conducive to creativity, that's great. Some of them are more difficult to implement, the new research that I find fascinating and there is the effect of nature, just kind of

taking breaks and having vacations, a walk not just any walk but a walk in nature seems to reduce stress on one hand but also tend to improve creativity at least according to some more research that I have seen at conferences and similar as you mentioned stress as a big reducer of creativity, we don't do our best work when we are stressed and we are finding individuals that take vacations tend to come back not just recharged but more creative.

Nick Skillicorn: Fascinating, we are coming up to the end of the interview, I am sure we could keep talking for hours on end, but what I like to ask the experts to leave the audience with is if you have got one tip or one actionable piece of insight that you think can have a real positive effect on effect on people's creativity levels that they can try out this afternoon or this week, what would you recommend they try

Roni Reiter Palmon: My best recommendation is that when you encounter a problem, stop think try to think about the problem from multiple perspectives, if it helps ask other people for their perspective to integrate into your own, think about the different goals that you are trying to solve for what are you really trying to achieve and only then start coming up with ideas.

Nick Skillicorn: Perfect and if people want to find out more about you, we are going to have links to your publications on the screen, but what's the best way that people can find out the sort of stuff that you are into

Roni Reiter Palmon: First of all I am happy to answer emails, so they are happy to contact me via email or if you go to webpage on the university of Nebraska Omaha website, there is a hot link to my CV which includes a list of all my publications, the website only includes a select number and it's not always updated so the CV includes the most updated information and if they are interested in finding a specific article they can either contact me or look for it in their library or online, a lot of my publications are posted on research gate

Nick Skillicorn: Perfect, it's been wonderful speaking with you and looking forward to speaking again with you again with you soon.

Roni Reiter Palmon: Wonderful, Thank you very much.