



Stanford eCorner

What Is Creativity?

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Using Play-Doh and the Apple iPod as examples, Robert Sutton, Co-Director of the Center for Work, Technology, and Organization at Stanford University, explains that often creativity is simply making new things out of old ones.



Transcript

OK, so let me start out with this question of, "What is creativity?" which seems like sort of like an obvious question. Maybe it's doing something new. I have a doctoral student who's now a professor at UC Davis named Andy Hargadon. And Andy and I spent quite a few years spreading over this. In fact, he talks a lot about this in his new book which is called "How Breakthroughs Happen". The thing that we came upon in every creative act we could look at, essentially it was doing new things with old things. It's not like the ideas come out of thin air. It's finding some old ideas, some old concepts, doing new things with them, blending them together in new ways. And this is an incredibly simple insight but it actually has a lot of guidance about what you should do and how you should organize a creative group or organization. And we'll get into that in more detail, as we go along.

And let me give you two extreme examples, sort of in terms of levels of complexity to illustrate this point. The first one is the way that Play-Doh was invented. So I looked into the inventional Play-Doh for my book, *Weird Ideas That Work*. And what we discovered was Play-Doh was invented or at least made by a guy named Joe McVicker, who had a plant. It was a plant in central Ohio that made white goo for removing soot from wallpaper. Maybe some of the professors in this room are old enough to remember. There was a point where much of the heating in the United States switch from being cold based heating. Which was sort of dirty and smudging to gas and electric. So the problem was that the smudge was going down and this market was shrinking. And the problem Joe McVicker had is what did he do with this goo that was being made from his plant, this white goo.

And he did what people tend to do which is - he called in industry experts, who had a great deal of knowledge about sort of soot in wallpaper and all that sort of stuff. And they told them essentially to do a total quality management movement. Get the thing more efficient, squeeze every penny out of it, Six-Sigma would be the modern term. But then things kept getting worse and worse until he talked to his sister-in-law, Kay Zufall. And Kay Zufall was a nursery school teacher and she gave it to her kids to play with. And she said this stuff is much easier for little kids to squeeze with their hands than the hard modeling clay. And she suggested coloring it and calling it, Play-Doh and the rest is history. He sold the plant to Kenner for a millions of dollars some years later. So that's one example. And to give you a whole another extremely complexity, there's a great case some of you may know about of the case of a guy named, Andrew Wiles.

Andrew Wiles was a professor who solved Fermat's Last Theorem. And there's a movie about it and a book about it, you can look up. But the interesting thing about Andrew Wiles was that he stayed at home working in his study for eight years.

Eight years and he didn't tell his colleagues what he was working on. In fact, they thought he went crazy and just stopped being productive. And I could just see if I wrote on my Stanford annual report. I've been in my room working at home but I won't tell you what I'm working on. Essentially, that's what he did for eight years. And even us academics would get in trouble. This is the advantage of a ten-year system, he had ten years.

But what he was doing during those eight years was, he was using the various work of the mathematicians who came before him as puzzle pieces to solve the problem. So even the case where we have somebody sitting in the room by himself for eight years working on stuff, it's not like the ideas come out of nowhere, it's picking all that came before him and to use the Isaac Newton phrase. The reason he could travel so far was because he was standing on the shoulders of the mathematicians who came before him. And to give you a couple of other examples, I've got pictures for. And this is really sort of simple creativity that made huge bucks. I did some consulting work with People magazine about a year ago. And the most probable thing they've done in recent years in People magazine is a thing called, The Annual. What the annual is, when you see People magazine in the store, they'll be like the best-dressed, the best looking, the most intriguing, and those sorts of issues. What they do is they smash it altogether and sell to you for in a book for \$10. No original content at all.

That's an Annual and they made a fortune on those things. So that's one example. And another example which has more technology in it since this is a Technology Ventures Program operation, is that if you look at the iPod, they went from having no product to having the product out in eight months. And for those of you who know the story, most of it was not original except for the interface and the industrial design. It was nearly all off the shelves stuff. And that's so they could move so quickly. And in fact, I think this is an especially good lesson. If you want to have fast creativity, you don't sort of just lock yourself in the room and only think of your own ideas. Even in Andrew Wiles' case, I'm taking place of some other ideas, some other places. You treat creativity as an import-export business.

That's how it happens fast. And that's also the reason why and I think that's one of the things that happen with ATL, perhaps accidentally or on purpose. One of the reasons I think Silicon Valley worked so well is that there's such sort of porous exchange of ideas. And this will be on videotape but that's OK. To quote our president John Hennessy, one of the first things I ever heard him say when he was our dean was, one of the main services that Stanford provides to Silicon Valley is that provides a place where people can come and break their NDAs or non-disclosure agreements and move ideas around Silicon Valley. So, that sort of the first big idea is that to understand what creativity is. And in many ways, what you need to do to make it happen is you have to have this notion of doing new things with old things, OK? So, that's the first idea.