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Creativity, Uncertainty, and Beautiful Risks: a Conversation with Dr. Ronald Beghetto

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Everything in life is writable about if you have the out-going guts to do it, and the imagination to improvise. The worst enemy to creativity is self-doubt.
– Silvia Plath
[Creativity] is not about thinking outside the box, it's about thinking creatively inside the box.
– Ronald Beghetto

Introduction

This ongoing series of articles, highlighting the work of respected creativity scholars, has explored many facets of the phenomenon of creativity. Previous articles have examined issues ranging from the neuroscience of creativity, to social and cultural dynamics or design perspectives on creativity, to creativity in business contexts, and organizational or team cultures for creativity, among many others. Our goal is to traverse the complex landscape of creativity research with these scholars acting as expert guides, allowing us to see how creativity intersects with how people live, work, play and learn. In this article, we continue this exploration through the education-focused perspective of noted creativity scholar, Dr. Ronald Beghetto.

Dr. Beghetto is an internationally recognized expert on creative thought and action in educational settings. He serves as

Professor of Educational Psychology in the *Neag School of Education* at the *University of Connecticut*, and directs the graduate program in *Cognition, Instruction, Learning, and Technology*. He is also the director of *Innovation House*, a space for undergraduate students at the university, from any major, to come together and learn how to respond productively to uncertainty by addressing complex challenges and making a positive change in the world. Further, he is a Fellow of the *American Psychological Association*, the editor-in-chief for the *Journal of Creative Behavior* (the oldest and longest standing journal devoted to creativity research), and serves as a creativity advisor for *Lego* Foundation.

Dr. Beghetto's research focuses on promoting creativity in everyday teaching, learning, and leadership practices. A central theme in his work examines how making small changes to existing teaching, learning, and leadership practices can offer new ways of thinking and acting. His interest in creativity as a topic was sparked early in his career, as a classroom teacher. In fact, he had not thought significantly about creativity, until a group of his students approached him to coach them in an extracurricular activity called *Odyssey of the Mind* (a creative problem-solving competition for K12 students). As Dr. Beghetto noted:

> It was a really interesting, humbling, and existentially disruptive experience for me. Here was a group of students, like all my students throughout the day. But after the school day ends, these kids were seemingly completely different. They're generating these wonderful ideas. They end up winning the state championship—we go to the world finals, and I'm the state coach of the year. It was all them. But it was unsettling to me, in thinking "How could this be the case? Why can't what was happening in this after school extracurricular experience happen in my everyday classroom?"

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Dr. Beghetto could not find a way to reconcile these questions. He had a sense of the possibilities, but did not fully understand creativity enough to know how it could look, particularly within the constraints of the everyday classroom or the academic curriculum that teachers deal with. So, as he put it:

> That started my journey. As I started learning about creativity and reflected on my own personal journey, it brought some realizations. My dad was a jeweler, and an inventor who had a couple of patents. But to see him share out his ideas, little prototypes, to extended family, and literally be mocked—I recalled how painful it was to watch…how it really stifled someone who was a creative person.

As Dr. Beghetto reflected on his own and others' experiences with creative expression, he realized that sometimes, even well-intended people could stifle it. He described an experience with one of his undergraduate college professors in a poetry course. While poetry had been an important personal outlet for him, the professor gave him a kind of harsh, somewhat shameful feedback, as he described it:

> My favorite poet at the time was John Keats and he said something like, "You're no John Keats…what you wrote is a pile of saccharine BS." He was correct. I was no John Keats, but my poetry had started from a very personal space. My dad died when I was 16 and I started writing poetry to make sense of the nonsensical and the pain I was experiencing. I realized that creativity is this really personal thing. It's a powerful thing, but it's also a very fragile thing. It's filled with all these really interesting contradictions and paradoxes. So, I began trying to understand what that might look like in school, and what are some of the things that maybe even well-intended teachers are doing, which might inadvertently suppress creative expression. What kind of conditions do we need to establish, and what is creativity anyway?

With questions looming large, Dr. Beghetto began exploring the nature of creativity and how it is supported *and* suppressed in schools and classrooms. This led him to consider the question of, "What are the possibilities? What could we be doing differently in educational settings to really allow students to have their creative voice?"

Grounding Creativity in Education

One key area that he has examined, is the importance of defining creativity in order to understand and operationalize it for educational settings. He realized this need for definitional clarity early in his career (Plucker et al. 2004), and commented on how:

> Many researchers hadn't done a good job of defining what creativity means. Or at least of communicating that definition, particularly in education. So, a lot of my work has been focused conceptually and theoretically on, how we define our terms and get really clear about what it is and what it isn't. And from there—what are the possibilities in the educational context?

As Dr. Beghetto began learning more about creativity as an educational psychologist, he started seeing parallels that the construct shared with learning, particularly in how the field of education defines learning. He situates his definition of creativity as directly compatible with the very nature of learning—in that both involve change, and constructivist perspectives have a synergy with creativity. This led him to question, "why aren't people who are endorsing constructivist perspectives—which is basically a synonym for create—also recognizing this component of creativity? There is a conceptual, theoretical, logical connection between much of what people are trying to do in education." This suggested to him a synergy between creativity and learning, simply with different terminology.

Thus, a key goal of his has been to understand the similarities and differences between projects in education, such as different views of learning or classroom environments, and new and existing work in creativity. Dr. Beghetto's well-known, 'Four C model of creativity' (with James C. Kaufman) articulates four levels of creativity, envisioning creativity with a developmental trajectory. By suggesting four dimensions of creativity, and different gradations of these dimensions, their model expanded the concept of creativity beyond prior ways of viewing it. The model also situated it in ways that allowed people to locate classroom creativity within the broader field of creativity studies (Kaufman and Beghetto 2009).

Dr. Beghetto recognizes the intertwined nature of his scholarship and practice as a site to help people see that they are already often being creative in their daily lives:

> People just haven't named it. So, part of this is naming it, when you're seeing creativity in your classroom, or when you're doing something creative, it's about recognizing that, yes, this is a form of creative expression, based on how it's been defined in the literature. That's a central theme in my work, in helping people reclaim their own creativity and not needing to appeal to expert judges all the time. Instead, it's about recognizing that this is a fundamental human capacity that we all have.

Dr. Beghetto defines creativity in ways that are consistent with agreed-upon definitions, describing it as a contextually defined blend of originality and meeting task constraints or meaningfulness. He noted how this applies quite aptly to education settings:

> It's not about thinking outside the box, it's about thinking creatively *inside* the box. Which works well in educational settings because we're really *really* good at defining and specifying the task constraints down to an almost ridiculous level of detail. But we're not that great about creating spaces for originally meeting those task constraints in different and unexpected ways.

Put simply, this definition allows different ways of meeting pre-established criteria. Or, as might be defined in a learning setting—the assignment, activity, or task. This is well-aligned with the Novel, Effective, Whole (NEW) definition of creativity, that we have referred to in previous columns (Mishra et al. 2013). A creative idea, process or product is *novel* – it brings something into the picture that either did not exist before. It must also be *effective*—or useful, logical, understandable, or of some value to others in a context. Sternberg and O'Hara (1999) note the value of task appropriateness, in which creative things are sensitive to context; or as Mishra and Koehler (2008) term this third construct, *wholeness*—or an aesthetic sensitivity to specific purpose or context.

Creativity is often applied as a term in research, or across everyday life, without any clear definition. This openness may cause it to be confounded with simple originality, or mistakenly thought of as involving total lack of constraints, as Dr. Beghetto described:

> Some slogans like "think outside the box" imply this unconstrained originality or unconstrained deviance, which connotes a negative aspect to creativity. But no teacher wants unconstrained originality. That's a recipe for chaos, right? Every teacher is taught to plan. Why would anybody want to invite complete unconstrained uncertainty or originality into a learning space?

Such misconceptions about creativity have led to the separation of research from practical discussions in education. Part of Dr. Beghetto's scholarly project is to help educators become part of the discourse on creativity, and to address pragmatic classroom questions such as, "in the context of your classroom and all the constraints, how can you create opportunities for you or your students to meet those criteria, which you can't just throw out? How can we leverage the capacity in that space, for you and your students to actually do things that can make a difference?"

A Dynamic, Complex Phenomenon of Judgment and Belief

In dealing with creativity as a phenomenon—in classroom settings, research paradigms, or any situation—Dr. Beghetto believes that we need to be more aware of its complex and dynamic nature, honoring the phenomena for what it is. From a research perspective, we increasingly have technologies and the tools to better represent the complexity and dynamic nature of creativity in research designs and measures. One aspect of this involves recognizing that creativity is influenced by all kinds of situational factors.

Dr. Beghetto emphasized that creativity is a judgment that people make about something, including a self-judgment, which then changes as people engage in a creative activity or task:

> We should be measuring the beliefs people have about their own confidence in resolving a task creatively, including the decisions that are made about whether something is more or less creative…which is much more dynamic than how I and other creativity researchers have traditionally rendered those judgments. I study self-beliefs because I think creative self-beliefs are an important mediator between creative potential and creative achievement or creative behavior.

Dr. Beghetto's work in the realm of creativity and self-belief has demonstrated the vital nature of a person's beliefs about their own capacity for creativity. His work suggests that in order for a person to move from creative potential into creative action, they must have confidence in their ability to think and work creatively and value the process of doing so (Karwowski and Beghetto 2018). This is of course complicated by dynamic psychological and situational components that emerge whenever individuals engage in creative endeavors (Beghetto and Karwowski 2017). At the heart of it is the ability to evaluate. As he says, though:

> Creativity is something we all have the potential to demonstrate. We can act that way, we can think that way, but it's not a static thing that only some people possess. It's a quality that we or others evaluate by saying, "wow, that's new and different and meets the criteria." So it could be you yourself judging or it could be an audience.

A key point here is the realization that creativity is a judgment we bestow on people, behaviors, products, artifacts, ideas, or experiences. It may be judged subjectively or it could be judged by experts—but it is always a judgment. Once this becomes clear, it opens up the construct to a certain amount of human subjectivity. Dr. Beghetto notes that the only way

something can be judged as creative is if one deals with uncertainty. He commented that:

> You can't know something's creative from the outset. You have to be able to step into uncertainty and try to resolve it in a new and different way. So, uncertainty serves as a catalyst for creativity.

It is necessary, then, to embrace a certain level of ambiguity in our work if we are interested in creativity. This can be challenging for traditional educational systems, which are often designed to minimize uncertainty, as he notes:

> That's why schools have a problem with it, because teachers are taught—when you plan a lesson, predetermine not only the criteria for success, but also what the kids are going to do, how they're going to do it, and what the final product will look like. So, they are taught to get rid of uncertainty in classroom contexts.

Dr. Beghetto suggests that this is because we have not fully explored the dimensions of uncertainty:

> …there is good uncertainty, and bad uncertainty. Good uncertainty allows a highly structured, supportive environment where kids get needed help and instructional supports, the criteria are crystal clear, but there's still some uncertainty on—how are they going to meet those criteria? What are they going to come up with to do that? That's a truly creative curricular experience.

These uncertainties bring us to the importance of teaching for creativity, and the ways that teachers can build on what they are already doing in the classroom, rather than seeking to reinvent the wheel.

Teaching for Creativity

Given that uncertainty is a core factor in creative work and environment, it follows that there is an inherent outcome unpredictability that educators must embrace. Dr. Beghetto uses this as a key concept when he works with teachers, to help them bring forward their own creativity (Beghetto 2018). He believes that many people already are doing creative work without labeling it as such. He aims therefore to get teachers to consider making small changes in their current or existing work to allow for more creativity. This is a purposeful move away from deficit thinking (e.g. thinking there is something wrong or un-creative in what we are already doing), and toward considering what is right with it, and how it might be tweaked to open up more possibilities. He commented:

> I talk about the concept of lesson unplanning. It's not about starting all over again, it's about starting with what you already have, which may be an over-planned lesson, where you've predetermined what the outcome is, how to get there, what it'll look like when you get there and the criteria. All that is fine when you're initially introducing a concept and rehearsing it. But once students have it, consider whether you can start removing pieces? Maybe have them come up with a different way of meeting the criteria, or come up with their own problems? So, we as educators maintain the criteria…but what if we allowed students to come up with the ways they're going to meet that criteria?

He notes that even a small move of opening up to uncertainty is powerful—because it is in this space of possibilities that creative solutions manifest. Scholars have described the value of habits of mind for creativity like flexibility, open-mindedness, tolerance for ambiguity, and intellectual risk-taking (Harris 2004; Prabhu et al. 2008; Silvia et al. 2009). These habits of mind highlight the importance of giving space for uncertainty in the framing a creative task. Dr. Beghetto reflected on how this is inherent to creativity, and is also part of the value of creative education, commenting:

> There are differences in the goals of education, obviously. There are cultural differences and regional and local differences. But most people agree that the project of education is to prepare young people for the future. The future and the present are highly uncertain, and always have been. So, I think what creativity offers is that we can provide young people with structured experiences with uncertainty, and help them develop the confidence and competence in resolving that uncertainty in creative ways.

He went on to note that many people do not feel that they have the opportunities to practice working through uncertainty in a safe or structured environment, where they can get help when needed. Some of the more rigid and traditional structures of schooling do not necessarily support creative development:

> In schooling, students go from a highly structured environment where uncertainty is basically engineered out—into their daily lives or the unstructured spaces in school, where there is a lot of uncertainty and sometimes cruel, mean, or terrible things are happening. And kids aren't equipped to kind of navigate that, at all. Or to disrupt it.

This underscores Dr. Beghetto's assertion of the significance of incorporating creativity into educational contexts. It provides young people relatively risk-free experiences that allow

them to navigate uncertainty, deal with problems that they care about, and feel confident in their ability to generate solutions that will not just help themselves but others as well. For those who care about creativity, this necessitates preparing an argument about its value for educational practitioners and policymakers. It also necessitates making a case for its value beyond just the individual. As he notes:

> One thing that policymakers need to hear is that there is a value in this, in teaching kids to take what I call beautiful risk…With a beautiful risk, not only do the benefits outweigh the potential cost, but it's about the benefits to other people. It's not just a self-serving risk—you're doing something that has a chance to actually have a benefit to others.

Giving teachers and students permission to take these kinds of beautiful risks is something he views as central to creative learning. In this sense, creativity and uncertainty are areas for learning and change as preparation for students' futures and twenty-first century learning. This brings to mind another construct that we have positioned alongside creativity as important for twenty-first century education—technology (Henriksen et al. 2016).

Technology & Creativity

In speaking with Dr. Beghetto on the relationship between technology and creativity, he stressed that while technology offers interesting possibilities, like anything, it is a tool. And like any tool, technology is not necessarily inherently good or bad for creativity—everything depends on context, application, and purpose. As he stated:

> It's about often how it's used, how the tool is used, not what the tool is. At *Innovation House* at the *University of Connecticut*, we have this beautiful maker space. Now, that maker space could be used just to make high tech macaroni art. Where we could go in and print out all this crazy nonsensical stuff on the 3D printers, and it's essentially macaroni art—something that might be kind of cool but just ends up in the dustbin. Yet, someone could take a stick of chalk and actually do some wonderfully creative things in a very didactic lesson, so it's more about how those tools are used.

This view of technology as a purposive tool, dependent on context, knowledge, application, and purpose, is also reflective in some social views of learning, or contemporary theories of educational technology (Mishra and Koehler 2008). But Dr. Beghetto also notes that the traits and affordances of tools do matter, in terms of what they allow users to do that

they might not do otherwise. This clearly has implications for creative potential. For instance, new tools for media creation and sharing have the affordances to let people make and disseminate their own media—which has fundamentally changed how people consume and create content (e.g. YouTube, Vimeo, podcasting, etc.). There is a balance between knowing that technology is a tool contingent on context, and also being aware of how the affordances of the tool may allow for new and different things. This does not imply that technologies do not have specific strengths and weaknesses, but rather that technologies do not determine completely how they are to be used. Instead of predetermined outcomes, technologies provide us with a "zone of possibility" (Dirkin and Mishra 2010; Mishra and Kereluik 2011). As Dr. Beghetto noted:

> I think technologies can augment our experiences in ways that really can allow us to do and think about things differently, which can really help support creativity. So, it's really about, how do we teach people to use these tools in ways that are generative, responsible, and not be afraid of the tools? Technology can be a great partner to creative expression, and augment creative expressions, in really interesting, beautiful, powerful ways.

When technologies allow us to open up our thinking, they become generative toward creative purpose. Dr. Beghetto referenced the work being done by VR teams, like Freud-Me. com (see also Osimo et al. 2015). With immersive VR, people can, for example, use avatars to discuss a problem or issue in their life. They start in their own avatar, but then they may take on the avatar of a psychologist (e.g. Sigmund Freud). In their avatar, they can then see and hear themselves talking about the problem, and assume a completely different perspective in responding to themselves. As he noted:

> This kind of thing is really interesting. Perspective taking is a key aspect of creativity, but it's hard to take in someone else's perspective when you're embodied in your own. But if you could actually, through virtual reality, take on a completely different embodiment, and see yourself, then you could maybe experience taking a different perspective.

Empathy, or perspective taking, has long been noted as not only critical to creativity, but also as one of the more challenging cognitive skills to apply (Kouprie and Visser 2009). This then points to an example of where technology, when thoughtfully applied, could help people exercise challenging intellectual tools and skills for creative development. Dr. Beghetto extends this idea of tools to academic concepts, which he likens to types of intellectual tools, saying, "when you use

technology or tools as a means to some creative end, I think you can be really powerful." But he emphasizes that teachers and students should avoid getting too caught in the distractions or technicalities of tools, but rather to see them in terms of supporting a creative purpose. This is the space where real learning, change and creative growth emerge.

Conclusion

This conversation with Dr. Beghetto offered important insights about creativity, specifically with regard to the challenge of instantiating it in educational contexts. He emphasizes the contextual, dynamic, and task-driven nature of creativity, and suggests this can align well with the task-specific nature of most learning settings. Motivated by some of his early experiences, both as a teacher and a learner, he recognizes the importance of self-beliefs and value judgements with regard to creativity, and the need to nurture self-beliefs in both teachers and learners. He focuses on the fact that creative learning need not upend everything teachers and schools already do—rather that small changes that open up some uncertainty and a space for possibilities in creative teaching and learning. As he noted, "Creativity does thrive in constraints, so it's not like you're giving up your curriculum, but you need to give people permission to try meeting criteria in different and unexpected ways."

Looking ahead to the challenges and the future of creativity research, Dr. Beghetto emphasizes that one of the potential pitfalls for creativity scholars to avoid is the urge to oversimplify the construct in terms of how we study it. The dynamic and multi-faceted nature of creativity means that the field needs to develop more varied, complex and multi-faceted measures and research designs. Dr. Beghetto spoke about the importance of scholarship that aims to measure and study creativity in ways that respect the dynamic nature and complexity of the construct (Beghetto and Karwowski in press). As the field of creativity studies moves beyond some of its early foundations, he noted:

> There's a growing awareness, and it's certainly one that I feel, that creativity is dynamic and influenced by all kinds of situational factors. Not only domain, but it hinges on details of the actual situation. We need to have much more sensitive and varied measures of it...And researchers have to be much more sensitive to the realities of the classroom.

Dr. Beghetto's work helps us better understand this balance between the rigor of research and the messiness and realities of actual learning contexts. Through it, he brings powerful ideas (of embracing uncertainty and taking beautiful risks)

into the fabric of creative classroom practice and educational research alike.

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