FOOLING AROUND
CREATIVE LEARNING PATHWAYS

Lene Tanggaard

A VOLUME IN:
ADVANCES IN CULTURAL PSYCHOLOGY

Fooling Around: Creating Learning Pathways

A Volume in:
Advances in Cultural Psychology

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HANDLING THE CREATIVE PROCESS

The Importance of Fooling Around

Jaan Valsiner

Some old ideas can become new. This is the case with the notion of creativity in psychology. Traditionally conceptualized in the narrow framework of the amazing things that poets, composers, painters, and scientists do, creativity research had reached an *impassé* in its efforts to locate creativity within the confines of personality characteristics.

Now is the time for change. The "New Look at Creativity" that is rooted within the sociocultural tradition of psychology and elaborated in the present book finds creativity in each and every moment of our everyday lives. We are creative when we move around in the streets, dance tango, fool around with our self-images while shopping for clothes, or resist pregiven recipes while cooking dinners. We are being creative even in our bedrooms, where we perform the difficult tasks of falling asleep or waking up through arrays of sleep inducers and alarm clocks, not to mention the time we spend in the state of sleep. All our actions at night—ranging from what we later

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call nightmares or dreams—are arenas of creativity even if we may barely remember what we have done.

As the coverage in the present book confirms, we are being creative everywhere—even in settings that are meant to stifle creativity. Schools may be one of those settings—despite efforts to prove that the introduction of "creativity" classes would guarantee that the main bastion of formal education becomes an arena for promoting creativity. Schools educate pupils to be loyal to the knowledge that is approved by the given social institutions and carry extracurricular agendas for young people to find their place in the given structure of a society (Carretero, 2011). As such, they may limit—rather than enhance—creativity. Formal schooling is expected to prepare educated clerks for government offices, rather than social activists who may attempt to change the current social order.

However, limiting creativity in schools need not be universal—as one can see in the present book (see Chapter 6, this volume)—school practices can be turned around and become gardens where creativity can be thoughtfully cultivated. The recipe here appears simple—empowerment of the learners leads to trust in their readiness to accomplish tasks beyond their current capabilities. They learn by doing—and what becomes established that way begins to function as generative competence in any other area of life they experience.

The present volume—and its parallel in the work by Glăveanu (2014) as well as the volume *Outside the Box: Rethinking Creativity From the Perspective of Cultural Psychology* (Glăveanu et al., 2014), which brings together an internationally representative cohort of creativity researchers—constitute a powerful multipronged exposition of the New Look at Creativity. Its starting point is in the move to pay attention to the processes of acting in everyday life—rather than classifying products of human actions into classes of "creative" versus "non-creative." One cannot explain the process on the basis of its outcomes (Valsiner, 1987), but the outcomes can be explained by a direct look at the dynamic sides of the ongoing activity and its immediate context. This orientation is carried through in the present book from the beginning to the end. Sciences of human ways of living need to stick to the explicit focus on the processes of living—or the melodies of ordinary lives (Zittoun et al., 2013).

Tanggaard's look at creativity seems simple—but only at the first glance. She defines creativity in a straightforward way: "Creativity is the particular dimension of potentiality in everyday life which is 'not yet there' and which cannot always be imagined beforehand." This definition continues the general direction of the study of development that Baldwin set forth back in 1906 (in his "positive postulate"): "That series of events is truly genetic which cannot be constructed before it has happened, and which cannot be exhausted backwards, after it has happened" (p. 21).

Creativity as a process is at the core of development. Both Baldwin and Tanggaard emphasize the same general need to look at what is through the lens of what-is-not-yet—through the focus on the process of becoming. Surprisingly, that lens has been underutilized in psychology.

Psychology is a slow learner—in the past 100 years, no grand breakthrough has turned the social practices of research from pseudo-empirically documenting what is (Smedslund, 1995) to the study of the processes of how innovation could emerge from the mundane flow of life experiences. Between 1906 (Baldwin) and 2014 (Tanggaard), of course some voices called for a change of perspective—those of Vygotsky (van der Veer & Valsiner, 1991) and Prigogine (1973). These voices were turned (creatively) into mundane ideologies, even if glorified by the Nobel Prize awarded to Prigogine in 1977.

Tanggaard gives a systematic look at creativity as a process:

> Three creative learning pathways described in this book are key to developing and refining creative actions among participants in human living:
>
> 1. fooling around, playing with things and materials at hand;
> 2. digging deep into traditions as sources of inspiration; and
> 3. learning from, managing, and surviving resistance.

The coordinated unity of these pathways creates the conditions for the creativity process to proceed. None of the three pathways alone produces novelty—we can fool around to fill our time with trivialities or dig deep into the orthodox interpretations of human life since time immemorial. These actions do not lead to creativity. Neither does the deconstructionist stance—resisting all existing perspectives because of some overarching demonic marker—be that of "exploitative," "hegemonic," "chauvinist," or simply "wrong." Deconstruction is only productive if followed by reconstruction—a new version of whatever it was that was deconstructed. In the present book, that is the study of creativity—moving from museums to the flamboyant and smoke-filled places where artists search for solutions to problems of humanity that can never be solved, but that can be expressed as a result of the pain and pleasure of the act of self-expression. Tanggaard makes an even bolder statement:

> Creativity = actions that contribute to the valuable renewal of existing practices.

The focus on practice is central. It serves as a vehicle for the generative process orientation that runs through this book and all the New Look at Creativity contemporarily coming into being. Everything begins from fooling around—experimenting on—and beyond—the borders of the currently known and accepted (Marsico, Komatsu, & Iannaccone, 2013).[1] Thus,

human beings constantly cross borders—from the currently valued to the currently dubious. The latter becomes valued in a new way.

The key here is valuable renewal—how is the value of whatever form the renewal takes established? It emerges in the processes of handling the world—the move ahead to the future through action leads to the emergence of value of whatever is acted on. A 6-year-old child in an African village—while escorting a foreign anthropologist through the garden he has been weeding—tells the adult, "Do not step on this, it is our food." The foreigner sees grass whereas the child sees food. It is not just a meaning difference, but one of value that has emerged in the course of handling the grass that becomes food.

This book follows a number of other books in our series that have captured some facets of the generative processes of creativity. Zittoun's (2006) focus on ruptures and their repairs belongs to this area. So does Gillespie's (2006) ethnography of creative seekers of renewal of their photographic practices in India, guided by the "tourist act." Carretero's (2011) look at the social practices that lead to internalization of patriotic feelings explores the opposite of the creativity as exposed in the present book. Yet opposites often are united—the processes of teaching history can be analyzed by the general scheme of creativity processes advanced in this volume. Examples of how creative solutions emerge in the context of vocational school in Switzerland (Perret & Perret-Clermont, 2011) provide further support for the ideas expressed in this book. Linking educational processes with the theory of dialogical self (Ligorio & César, 2013) and comparing general issues of borders in education (Marsico, Komatsu, & Iannaccone, 2013) are all efforts undertaken in the present book series to advance the new focus on the processes of cultural construction of educational settings.

Tanggaard's book—representing the New Look at Creativity—is good to fool around with, especially as it leads us toward pragmatic solutions to major theoretical problems in psychology. Creativity—constant innovation in our practices—is one of these solutions. Cultural psychology—with all its interdisciplinary openness—has advantages over the traditions of psychology here. We bring renewal to the valuable study of human lives.

Jaan Valsiner
Aalborg
September 2013

NOTE

1. Baldwin (1906) labeled it in a more obscure way—persistent imitation—or imitation that goes beyond the model provided by the existing world.

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FOREWORD

In a recent television show, the high-end, world-famous Danish fashion designer Henrik Vibskov (http://www.henrikvibskov.com/) said that the basis for his creativity literally lay in his own fooling around (Blachman, Danish Radio, April 16, 2013). He argued that failures and fooling around are dazzling aids in the creative process because they suggest ways into what cannot be imagined beforehand and what cannot be thought of in advance. This fooling around is one of the creative learning pathways often forgotten but highlighted in the following. As the Danish poet Piet Hein said, "Creativity is the ability to solve problems which cannot be described before they have been solved."

This book aims to throw light on creative learning processes, meaning the processes through which creativity comes into being. It does so based on qualitative studies drawing on interviews, yearlong field-studies, and observations from everyday life similar to the previous example taken from a television show. It is based on the idea that creativity is the particular dimension of potentiality in everyday life that is "not yet there" and cannot always be imagined beforehand. Accordingly, studies concerned with everyday life creativity need to follow processes and pathways unfolding because they

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cannot, committed to studying the processes of something coming into being, solely base their conclusion on what is there already.

As such, in the present context, creativity is understood and researched as potential becoming along certain creative learning pathways. There is a striking need for such approaches in today's creativity research. As stated by Kahl, Da Fonseca, and Witte (2009) in an article on creativity research comparing earlier and newer approaches in the field, "Recent postgraduates place more emphasis on investigating creative products compared to their predecessors in the 1986 sample (Wehner et al., 1991); however, research on creative processes is less substantial in the current sample" (p. 5).

As such, while studies of creative processes are nothing new, they seem to be less prominent today than just a few decades ago. Most current researchers focused on creativity tend to measure it retrospectively, counting, for example, the number of patents in companies, citations among researchers, papers published, or products that came into being. Hence, creativity is closely connected to outcomes, objects, and production. The same tendency can be found within innovation studies. However, current researchers and practitioners ask for more process-oriented studies as most innovation research tends to focus on the end product and, moreover, ignore the complex and messy aspects of everyday innovative processes, including those in which new ideas are killed during the initial phases (Ingerslev, 2013). Of course it is not wrong to focus on products or end results per se, but in this book, I will look at creativity from a more prospective angle, giving creativity a forward reading, seeing it and studying it as a kind of making, resulting in things and new forms of practice (Ingold, 2013).

To study creativity as processes of coming into being, I will argue that we need to study everyday life as it is lived in the streets, in the supermarket, on TV shows, at art galleries, in school, at work, and when eating, drinking, playing around, sleeping and so forth (Brinkmann, 2012). This requires qualitative approaches that can study processes unfolding and, in this case, creative learning processes expanding what are there already.

Having underlined the need to study processes concerning the prospective nature of creativity, the coming into being of something is extremely difficult to research and not least to capture in words. Therefore, I hope the reader can live with the somehow unavoidable retrospective nature of giving an account of these vivid, complex processes in a book, hoping that frozen words, illustrations, and pictures create lively images of the actual processes described in the following pages.

BEFORE CONTINUING—SHORTLY SAID

To say it briefly, my root point of the present book is that creativity is based on three substantial learning pathways and activities in everyday life:

1. fooling around, playing with things and materials at hand;
2. digging deep into traditions as sources of inspiration; and
3. learning from, managing, and surviving resistance.

Most people perform these activities every day, not thinking about them as processes laying the groundwork for creativity to flourish. The present book develops and presents this everyday life-situated understanding of creativity and suggests possible means of working with creativity and learning in pedagogical and educational contexts based on the three key principles or aspects laid out previously.

Before continuing with the hopefully stimulating inquiry into processes of creative learning, I must pause for a moment and voice my appreciation of the support given to me along the writing of this book. I owe my thanks to many people.

Great thanks go to the various editors and readers who have encouraged me over the years to write about creativity and to all of those who have participated in the research interviews that have contributed to this book.

I must thank Kåre Egholm Pedersen, my husband, for being an attentive listener throughout the years and for being the support of my life. My children, Jonathan and Gustav, are important, too. They have made me believe in the importance of creativity, and they show me every day how to live life with joy. Furthermore, a big thank you to Professor Svend Brinkmann for being a great colleague and for encouraging me to write a book in English, and to Professor Jaan Valsiner for having been such a dedicated reader of earlier drafts of the book and for writing an inspirational series editor foreword.

I also want to express my gratitude to Professor Vlad Glăveanu for having read and commented on the last draft of the book and for having contributed to Chapter 11. Furthermore, it would have been impossible for me to write Chapters 6 and 7 without the help from my good friend and co-writer, Christian Stadil, without whom life would be less funny. In the same breath, I extend many thanks to our common "calendar manager" and great supporter Allan Levann. In addition, there would be no book without the inspiration from my former and current PhD-students: Lena Lippke, Nanna Friche, Rikke Langebæk, Charlotte Wegener, Dan Nørgaard Laursen, Rasmus Hjort, Steffen Ernøe, Lars Brinck, Karen-Lis Kristensen, Lotte Evron, Kristian Dahl, Birgitte Petersen, Anne-Birgitte Døssing, and Anne Engholm. Furthermore, I must thank all the students with whom I have discussed creativity during the course of lectures and teaching.

The pictures in the book (except for the picture of football playing in Chapter 6 and the artwork in Chapter 7) were taken by photographer Caroline Jessen, from whom I have learned a lot about creativity. Furthermore, I would like to express my deep appreciation of the research grants given

to me and my colleagues from the Danish Council for Strategic Research (Promoting a Culture of Entrepreneur [PACE]—Unleashing Enterprising Creativity through Novel Pedagogy) and the Danish National Research Foundation (Niels Bohr Professorate). Furthermore, thanks are due to all of the others—Karen Ingerselv who knows more about this book than many others because of weekly running-talking trips in the woods, Laila Brix and Marianne Grosen for believing in me, and too many other good friends to mention; colleagues; and family members, not least my beloved parents, who have made this work possible in so many ways. Let's continue.

CHAPTER 1

EVERYDAY LIFE STUDIES OF CREATIVITY

In a larger perspective, creativity and associated concepts such as innovation, entrepreneurship, and enterprise are now praised as never before in a Western societal context.

In newer books on the topic, creativity is often mentioned as that which will drive innovation in the future.

In his recent book, *Creating Innovators*, Wagner (2012) argues that we tend to forget that human creativity and the ability to imagine new futures is the driver of innovation. Creativity becomes the mythical, black-box process we can only hope for, whereas innovation is often reduced to a matter of patent legislations, infrastructure, and investment in research and development. Even if these factors are vital, they do not hold the key to what makes people want to act creatively and be more creative than they are at present, and it does nothing to suggest how to overcome the fact that spending more money on new, superficial, and unneeded products is maybe not the way forward in the 21st century.

Worldwide, we are facing an extreme exploitation of resources followed by climate and environmental challenges, so creativity is maybe not only

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what can and will drive continued growth and innovation but also what might be needed to radically change and/or question these agendas. We might not be able or wish to keep spending more money driving the experience- and consumer-based economy (Wagner, 2012).

In light of the above, it is important that we learn more about what it means to be creative, also in situations where solving the world's economic problems is not our main priority. Otherwise, "creativity" risks becoming a hollow concept, something that we all agree is important but also something about which we are incapable of taking action in a sensitive and sensible manner. As such, this book concentrates on delimiting creativity, both theoretically and empirically, while directing the reader to other sources for a deeper understanding of terms such as *innovation*, *entrepreneurship*, and *enterprise*.

What makes the present book unique is definitely its situated perspective on creative learning processes based on qualitative studies in everyday life. The concept of everyday life has entered many corners of the social sciences today. Brinkmann (2012) takes the concept as central to qualitative inquiry, arguing that everyday life can be described as a place (e.g., this house), a temporal dimension (what happens at this particular moment), an attitude (the unreflective, practical stance), specific artefacts (objects), an academic abstraction, and a set of experiences.

Brinkmann's conception of everyday life put forward in his book is that everyday life is everywhere, and we live through it like fish proverbially live in water.

To study everyday lives as a research practice means studying people's lives in their everyday life practices rather than studying what they do with oddly constructed tasks set up in research laboratories.

To me, everyday life is not that which is unreflective or is only related to experiences. We can indeed study the everyday life of reflective people and also study everyday life without concentrating on a study of experiences.

The emphasis on the everyday in the present context means that I regard creativity as something people do with things at hand (symbolically and concretely), understood within the analytical framework of everyday social practices in which new forms of human participation unfold. Creativity is movement within and movements of practices making new things and making new things happening in a kind of constant correspondence between humans and the fluxes and forces of materials that inspire, resist, and provoke them.

Greatly inspired by Lave and Wenger's (1991) work on situated learning in social practices, over the past decade, I have sought to develop the concepts associated with this research. Anchoring my work in a range of empirical studies, I have shed light on terms such as *learning trajectories* (Elmholdt & Tanggaard, 2008), *boundary crossing*, and *identity changes through*

learning (Tanggaard, 2007). On the basis of studies concerning students who move across contexts in and out of the educational system, I have become especially interested in how people are allowed (or not) to connect their learning across time and space, thereby developing new ways of relating to ideas, new forms of practices—in other words, how people display creativity and not least what might be the role of learning in this process (Tanggaard, 2008).

This book thus seeks to develop the situated conceptual framework in such a manner as to allow analyses of creative learning processes (learning to create and make).

In their development of a situated understanding of learning in social practice, Lave and Wenger (1991) writes, "Learning is a process that takes place in a participation framework, not in an individual mind" (p. 15).

In other words, learning emerges within the process through which people participate in a given practice in *new* ways ("Learning is configured through the process of becoming"; Lave & Wenger, 1991, p. 29) and thus must be conceptualised as something other than mere information processing. We do acquire new knowledge and might even become more knowledgeable when we learn, but learning in everyday life is much more than that: "It is an integral part of generative social practice in the lived world" (Lave & Wenger, 1991, p. 35). To say it shortly, what drives the present book is the argument that this generative aspect of social practices involves processes of creativity, making way for creative learning pathways. As such, the present book aims to do what Lave and Wenger (1991) did with the concept of learning for the concept of creativity. This means that creativity is not carried out by the brain or isolated intrapsychic mechanics; rather, it is carried out by people, who possess brains, hearts, livers, and all manner of other organs and who take part in practices in which tasks must occasionally be solved in new ways.

This book thus offers a range of examples of creativity, understood as situated activity that brings about new forms of participation in various situations and thereby generates actual or potential changes in social practices. That is, when a situation demands that we act in new ways and where, we cannot always determine beforehand how the problem will be solved.

I am building my analysis of the processes of creativity on my own empirical studies of creativity among primary school teachers and students, in the context of apprenticeships, through studies of the development of artistic practice, and in plain everyday life. My central argument is that creativity cannot be understood as an isolated intellectual exercise based primarily on divergent thinking and that we don't make people more creative just by training them in new forms of thinking. Creativity is instead something that people do when confronted with tasks and situations that require new means of relating to the world around them. From this perspective, the re-

sults of creativity are not primarily signs of lateral thinking on behalf of individuals (De Bono, 1992), but are instead signs that people do new things and that existing social practices have undergone valuable changes in light of this.

Creativity is therefore necessary if we are to develop and alter the practices in which we participate. When people learn, they rarely merely learn what others do. Most people cannot help but influence the practices in which they take part through their own learning processes. However, this does not lead to a celebration of what is new or a change of processes. The studies in the present book reveal that a certain degree of knowledge and re-application of that which already exists are often prerequisites for learning how to act creatively. We cannot create something out of nothing; when confronted with the "free" command to "think of something," most of us quite simply stop being creative. There is a much closer connection between reproduction and creativity than is often assumed.

As stated in the Foreword to Anna Craft's (2005) book, *Creativity in Schools: Tension and Dilemmas*, "Stand-alone creativity unrooted in either experience or culture, is chaos" (p. xv). Because of this, the pedagogy of framing is frequently the most effective concerning creativity. One of the primary messages of this book is that creativity requires not only a certain degree of reproduction and professional focus but also actions that renew, develop, expand, and coax the subjects, standards, and frameworks in question.

THE BOOK'S EMPIRICAL FOUNDATIONS

In her book on creativity in school, Craft (2005) stresses the need for empirical work to identify the frameworks and preconditions for creative teaching and creativity-promoting learning environments in practice. The literature proposes numerous recommendations (Lehrer, 2012), but few empirical studies show us how creativity unfolds in a specific, practical, and situated manner. The present book seeks precisely to fill this gap and to offer timely empirical insight into people's narratives concerning creativity in the 21st century, with special emphasis on creativity's importance in pedagogical contexts.

The book sets out to develop a theory of situated creativity that draws from Lave and Wenger's (1991) seminal work on situated learning. This research is rooted in a pragmatic understanding of knowing (understood as action in concrete situations) and in four case studies on creativity, which were undertaken by the author over the past decade. One of these studies takes its point of departure in an investigation of creativity in school, constructed on focus group interviews on creativity with a total of 14 teachers and school child carers (hereafter, simply "teachers") and on-site discussions with the administration from three different schools.

In all interviews and during my school visits, I asked teachers how they renew themselves, how they are inspired to be creative, and in which situations they experience the necessity of renewing and changing the practices in which they take part.

Another study builds on a recent set of interviews with 20 creative individuals concerning their learning paths and creative processes (Tanggaard & Stadil, 2012). The present book makes direct use of two of these cases, this being an interview with the Russian-born painter Andreas Golder who lives in Germany and an interview with the principal from a private boarding school having experienced the need to engage with creativity because of a declining number of students. These chapters are followed by examples of creativity, learning, and innovation accrued during a yearlong period of fieldwork among apprentices in electronics technician vocational education. This study was, as mentioned, undertaken as part of the author's PhD research. In this context, I place particular emphasis on discussing the relationship between apprenticeship and creativity.

The case studies are based on a qualitative research tradition, an important part of which is the attempt to understand and interpret opinions and meanings in people's lives and everyday practice (Brinkmann & Tanggaard, 2010). The aim is not to discover how many people do this or that but, rather, to understand the opinions and meanings around which individuals or groups of people construct their lives. Thus, the point does not consist of interviewing as many people as possible but instead of carefully analyzing the varied, manifold, and informative discourses that people use when speaking about their practice.

As Hargreaves (1994) has argued, qualitative research is especially appropriate for seeking the specific and unexpected and can furthermore function as a voice for those whose actions diverge from the norm. With this in mind, I have not committed myself 100 percent to a hypothesis regarding how many people are creative in this or that way; rather, I am interested in how people actually experience creativity in their daily lives and to what extent they diverge from or are inspired by particular assumptions concerning creativity. The studies can thus be generalized as forming the foundation for a description of the three elements of creativity (immersion, fooling around, and resistance). In addition, I hope that they can inspire further dialogue on how we can work with creativity in other schools and in other contexts.

The structure of the book is as follows. Chapters 2 and 3 outline the basic concepts applied and developed in the book. These concepts concern ideas related to creative learning and creativity in social practice seen in relation to other studies in the field of learning and creativity, respectively. Thereafter follow four chapters (Chapters 4–7) based on various empirical analyses of creative learning within a public school, a privately owned boarding

school, apprenticeship learning, and an artistic practice. Chapters 8 and 9 set out to discuss the themes outlined and the concept of creative learning more critically. I will furthermore discuss potential limitations connected to the discourse of creativity, tied as it is to the figure of modernity and a sometimes naively and limited belief in human progress.

After Chapter 10, I engage in a short reflection concerning the methodology applied in the book. There will be few methodological considerations along the way and few procedural descriptions in each chapter, so the reader curious about these aspects may consult the methodological appendix inserted immediately after Chapter 10. Readers most interested in theoretical analyses can go directly from Chapter 3 to Chapter 8. Chapters 4, 5, 6, and 7 are more empirical and take a few digressions from the overall argument of the book. But if you like messy empirical details, then go for them!

CHAPTER 2

CREATIVE LEARNING—NOT JUST FOR THE CELEBRATED FEW

It may be that genuine learning may always have this "dark side," this not-fully knowing what one is doing. It may be learning's creative aspect and perhaps this is what differentiates learning from training where each step is as explicit as the over-all goal. Moreover training is usually initiated by someone else: whereas learning seems to spring from oneself

—(Giorgi, 1975, p. 96)

THE NECESSITY OF CREATIVE LEARNING

This book's aim is to seek an understanding of creative learning processes and creative learning pathways in everyday life, in school and beyond schools in other kinds of learning practices.

In this chapter, I will delve into the concept of creative learning addressed in the book and lay out its basis in studies of everyday life, concepts of situated learning and pragmatic action. I will furthermore spend some time outlining the conception of creativity driving this book forward.

Fooling Around: Creating Learning Pathways,
pages 7–23.

As it will be evidenced throughout the chapter, there is quite a lot of focus upon teaching for creativity in the research literature. However, we still miss a clearer concept of what creative learning might consist of, in different circumstances and contexts. As stated by Giorgi (1975), creative learning and learning as such may not always spring directly from teaching because of the likely more spontaneous character of learning. Accordingly, teaching can be designed to promote creativity and still not succeed in facilitating creative learning. My point would be that this requires us to carefully describe concrete instances of creative learning as they happen and as they are experienced.

When I wrote my master's thesis in 1999, Giorgi's quote served as the entry point for my readers. Only recently did I go back to this text and realized that my interest in creative learning experiences has deep roots. However, at that point in time, I did not recognize this theme because I was not explicitly concerned with creativity. Learning does indeed seem to have its own life, not always fully recognizing what one is doing.

CREATIVITY—NO LONGER A LUXURY FOR THE FEW

I am not the only one with a renewed interest in the processes through which novelty is produced or more plainly in which life is upheld and lived. Creativity, innovation, and entrepreneurship are indeed among the most celebrated concepts today and are high on the agenda in the educational system. Everyone wants creativity, but few people have suggestions as to how to proceed in the current condition.

While psychological research into creativity increased considerably in the past decades (Hennessey & Amabile, 2010), there is still much to be understood in relation to the nature of creative expression and our possibilities to assess and foster it. At a societal level, these concerns are reflected in the explicit, collective effort to find new ways of using creativity as a resource for growth and social transformation.

As Csikszentmihalyi (2006) describes, creativity is no longer a luxury for the few but a necessity for us all. This notion suggests a need for new kinds of action. Because we live in a globalized world in which states engage in intense international cooperation and competition, even well-consolidated companies and institutions face great challenges if they fail to manage the shift to higher order economies increasingly based on knowledge and symbolic resources (Peters, 2010). Sophisticated information and communication technologies as well as customers accustomed to novelty and change mean that products have shorter life cycles. This fact is all too evident in the fashion industry, pressing designers and fashion clothes constructors to be creative at a higher speed than ever (Vangkilde, 2012). Jobs that do not require creative human capacities are outsourced, and in Asian countries, the middle class is growing and its amount of spare time increasing. This means

more time for spending money and more time to think of an appropriate lifestyle. As a result, the so-called creative industries that produce lifestyle products can expect a growing market such as in tourism, the computer-game industry, and the film, TV, and fashion industries (Lorentzen, 2013).

Accordingly, a changing market and industry requires creativity on behalf of those selling new products and eventually those who are buying them. However, some question the high expectations regarding profit-oriented innovation and argue for the value of creativity in relation to finding new, more sustainable ways of living (Wagner, 2012), whereas others claim that creativity requires intense research investigations regardless of changing zeitgeists (Simonton, 2013).

In light of the above, notwithstanding the choice of or preference toward primary agendas, innovative, creative, and entrepreneurial competences are seen as skills for the educational system to restore or, at the very least, avoid suppressing among students. In his book, *Explaining Creativity: The Science of Human Innovation*, Sawyer (2012) argues that this may help make education more fun and effective and that creativity and the ability to imagine new futures are among the most sublime of human skills.

Above all, one of the greatest concerns for governments and scientists alike has always been related to creativity in schools and the key question of how we can help children develop their creativity within present-day "cultures of conformity" (Sternberg & Lubart, 1995). This is all the more important in the context of current worries over the negative impact that school environments can have on creativity (Runco, 2003; Saracho, 2012). However, our knowledge of the relationship between learning and creativity remains quite incomplete (Tanggaard, 2011). As Peters (2010) puts it:

> Much of the literature concerning education and the creative economy emphasises the role of the arts in economic development and the need for building forms of cultural, social and public entrepreneurship. The problem is that beyond the formulation of concepts such as "creative industries," "creative cities" and "creative class" little analysis has been made of creativity in schools apart from fostering instrumental versions of creativity or simply regarding "education, training and skills" as one aspect of the creative economy. There is still a long way to go in theorising and developing policies that encourage creativity in schools predicated on new forms of social media and better understanding of new media and knowledge ecologies that democratise access to knowledge, decentralize organisational and authority structures, encourage a greater personalization and autonomy of learning while promoting new forms of "collective intelligence" and peer learning based on a new ethic of participation and collaboration (Caron and Caronia, 2007; Ito, 2006, 2008; Lave & Wenger, 1991; Peters, 2009a). (p. 73)

In other words, the concept of creativity in schools remains an empty one, and there is a rising need for more democratic and collectively organized structures for facilitating creativity and peer learning.

So what to do? Many people would basically argue, as I do in this book, that for creativity to come into being, it requires us to act. In light of this and the earlier citation, a school that would like to enhance creativity among its students would need to promote autonomy of learning and a feeling among students that they can act on their own living conditions. It would need to engage students in intense explorations of processes of creativity, making things and phenomena come into being, and it would need a kind of respect for the fact suggested by Giorgi in the beginning of this chapter—that creative learning might have a spontaneous character, making it hard to predict the outcome of teaching experiments and designs aimed at promoting creativity.

Nevertheless, most educational studies on creativity have hitherto concentrated on explaining the relationship between teaching and creativity, and in this context, learning remains a secondary concept (De Bono, 1992; Fasko, 2000–2001; Hennessey & Amabile, 1987; Torrance, 1972).

An example of this tendency can be found in Cheung's (2012) article, "Teaching for Creativity: Examining the Beliefs of Early Childhood Teachers and Their Influence on Teaching Practices." Cheung states that the following two dimensions are of the utmost importance if teachers wants to promote creativity: "To achieve the goal of promoting creativity in education there are two issues that require attention: (a) what creativity means to teachers, and (b) their actual practices to facilitate creativity in the classroom" (p. 43). I agree completely, but I would argue that we also need a third point, namely, what kinds of learning are vital and how learning processes actually lead to more creativity. However, the focus in much of the literature concerning creativity and teaching seems to be concentrated on the actions of teachers, with less focus on studies of the actual learning processes among the students.

In Simonton's (2013) article, "Teaching Creativity: Current Findings, Trends, and Controversies in the Psychology of Creativity," a whole section is devoted to the topic of teaching creativity—a section that never even mentions the concept of learning. What Simonton discusses is the fact that promoting creativity among students in a class might require us to teach in new and useful ways. He then addresses how he has found it useful to surprise his students by, for example, wearing a t-shirt with a sentence imprinted concerning the topic of the lecture. He also mentions teaching experiments, such as having the students, when the topic of the lecture concerns creativity tests, actually take a test themselves and then discuss the various benefits and disadvantages of tests of creativity.

These activities are surely great because they make students practice testing, and the students likely get a hands-on experience, while the t-shirt idea is assuredly funny, surprising, and hopefully awakening attention. However, we still don't know whether these activities fuel students' creativity, and there is no theorizing on the eventual learning processes because they are extremely difficult to study and put to the test as the relation between teaching and learning is endlessly complex. Craft (2005), however, states that teaching creatively likely leads to creative learning among students, suggesting a need for describing the concept of creative learning and analyzing its possible components.

In an attempt to take this challenge seriously, the present book examines possibilities for developing creative capacities among participants in environments designed to support learning based on a series of empirical, mainly interview-based studies. With this in mind, I develop a model that indicates where we should focus in terms of creative work processes involved in learning.

As mentioned in the Introduction, the model consists of three parts: (a) experiments and fooling around, (b) immersion, and (c) resistance. The model is further theoretically and empirically described, illustrated,

FIGURE 2.1. Immersion

and developed in the following chapters. Before going into details with the model, both theoretically and empirically, I spend some time dwelling on the concept of creativity driving this model.

THE CONCEPT OF CREATIVITY

Conceptually, creativity is the result of humans acting creatively in situations in which normal routines prove insufficient. For example, if the supermarket has run out of rice, then a shopper hoping to purchase rice will need to think and act in new ways relative to the actual situation. Similarly, if the material in a scientist's laboratory proves recalcitrant and does not act as the scientist expected, then this could represent a creative opportunity for developing new knowledge.

The resistance—the difficulty and adversity—we encounter is often more valuable for developing creativity than is success, which merely confirms that we have been doing the right thing all along. Renewal can be a small triumph, a great leap forward, or perhaps an extension of the daily practices that are of cultural validity. Examples can be when we say, "Now we've found a way of doing it that's better than the old way," or when a teacher says, "I need to be really creative in order to achieve results with this class in particular." My definition of creativity is thus:

> Creativity = Actions that contribute to the valuable renewal of existing practices.

From this perspective, the acquisition of new ideas is not inherently creative. That alone is insufficient. The ideas must be translated socially into new forms of action contributing to a valuable renewal of existing practices, which in my conception involves thinking as a kind of action. As stated in Sims's (2011) book with the appealing title, *Little Bets*, we often overemphasize the need for big plans and big ideas in many conceptualizations of creativity.

Many innovators don't actually start up with a great idea. On the contrary, they work much more experimentally, in a kind of trial-and-error fashion. As an example, Sims explains how the famous American comedian Chris Rock practices for nights and nights again at a small club close to his home in New Jersey prior to developing his big comedian shows. He tries out his jokes and awaits the reaction from the audience. Over and over again, only 1 of 100 jokes activates the audience just the way Rock prefers it. Having practiced time and time again, carefully noticing the reactions of the audience, Rock manages to collect the best jokes for his show. Rather than coming out of the blue, the show develops gradually, taking form in the course of sometimes more than a year based on a kind of experimental creativity or, as I will term it, a kind of fooling around.

The fact that creativity does not consist of acquiring new ideas may come as a surprise to many. "I'm creative," people will say, following up with the explanation, "because I'm good at coming up with ideas." But from a situated, everyday perspective, creativity cannot be understood solely as a radical break from that which exists, as the acquisition of new ideas, or as a combination of the two. Rather, creativity involves moving along the edge of that which exists and gradually expanding the boundaries of what is possible when confronted by situations that require us to act in new ways.

As Bilton (2007) says, "Creative work is more likely to meet our criteria if it takes place within certain boundaries, working within but also challenging expectations. If positioned too far 'outside the box,' creative thinking is novel without being valuable and can no longer connect with an assessment of its value" (p. 5). As Rock knows, the audience matters.

In other words, it is not necessarily creative to knock down the supermarket shelves in response to the supermarket being out of rice. Nor is it necessarily creative to set fire to the shop. These actions would no doubt be surprising to the supermarket's employees, would possibly even be revolutionary in character, assuming that they were linked to the aim of, say, toppling the capitalist system and the market economy—yet viewed in isolation, such actions would be impotent and, frankly, quite stupid. By the same token, it does little good for the scientist to simply give up in the face of resistance from the materials with which he or she is working—at least not if this means that the scientist fails to fully exploit a potentially valuable resistance from the materials. Thus, the context and situation surrounding new actions provide them with value and determine our evaluation of whether they count as creative contributions.

Accordingly, creative people seem to be in a kind of correspondence with the world, rather than standing up against it. One who has recently made this point far more elegant than I is anthropologist Tim Ingold. As he writes it, "In the act of inquiry, the conduct of thought goes along with, and continually answers to, the fluxes and flows of the material with which we work. These materials think in us, as we think through them. Here, every work is an experiment, not in the natural scientific sense of testing preconceived hypothesis, or of engineering a confrontation between ideas 'in the head' and facts 'on the ground,' but in the sense of prising an opening and following where it leads" (Ingold, 2013, pp. 6–7). As such, you must try out things, see what happens, move forward in real time, find learning pathways, and go along with others, and you must also set up a relation, a correspondence with the world, insofar as you want to see, learn, understand, and create new things.

THE MAIN INSPIRATION

This book's situated understanding of creativity is, as noted above, inspired by situated learning (Lave & Wenger, 1991). Situated learning represents an analytical stance on learning processes in social practices. It has, among other aims, been developed to give accounts of learning from a participant perspective, meant to fuel an educational interest in the learning curriculum (e.g., what participants actually learn and not only a teaching curriculum; what teachers intend to teach students).

A situated perspective on learning in social practices is deeply concerned with the processes of learning understood as becoming part of and gaining an understanding of social practices, as these unfold, and is practiced in everyday life. Lave and Wenger (1991) claim that learning happens when novices in a given practice are allowed to engage in legitimate peripheral participation, moving from the periphery to a more fully engaged practice. The work emphasizes the significance of learning processes within a culture of practice and the increasingly legitimate participation by novices if they are allowed to move from peripheral activities to more complex elements of practice.

Lave and Wenger's (1991) work has been influential in advancing the concept of learning not as acquisition but as *participation*. They offer a complex understanding of how learning occurs and conceptualize the process as one of legitimate peripheral participation in communities of practice. This in turn means addressing the complexity of getting access to learning, through a cultural perspective applied to the interrelationships between individual trajectories of participation, and institutional and structural contexts and trajectories. They argue that social participation, rather than cognitive acquisition, enables newcomers to learn from more experienced practitioners.

While Lave and Wenger (1991) have contributed to an extensive study of learning in practice, some scholars have voiced critique, indicating that the participative framework can and needs to be extended (Fuller, Hodkinson, Hodkinson, & Unwin, 2005) to explore more dynamic settings. The present book adds to this concern by engaging more deeply with not just learning to participate within practices, but also the learning processes involved in getting to create and make new practices.

As suggested earlier, this interest in the learning processes involved in creativity is still frankly absent from much literature devoted to the question of teaching and training creativity in education, and as will be outlined in the present chapters, Lave and Wenger (1991) have not addressed the concept in much detail. Consequently, my particular perspective on creative learning pathways is also inspired by the work of the German pragmatist Hans Joas (1996), who writes extensively about situated creativity in his book, *The Creativity of Action*.

According to Joas (1996), a pragmatic perspective implies that human cognition and learning are not isolated processes of mental adaptation but are rather part of life itself. Joas regards creative life practice and creative human action to be creative action. His pragmatic perspective is inspired by thinkers such as George Herbert Mead and John Dewey, who rebelled against the idea that human actions are driven by an ends-means rationality. For Joas, it is not that people first make plans (mentally) and then carry out actions (in practice) with reference to the preformulated plans. Instead, "Actors find themselves confronted with new situations that force them to come up with creative solutions—a process which cannot simply be captured by a functionalist logic" (Joas & Knôbl, 2009, p. 522). The term "situation" replaces an ends-means logic because the specific situation in which actions are undertaken causes perception and cognition to arise and causes plans to be formulated—and that demands human creativity: "These situational challenges thus require new and creative solutions rather than the unwavering pursuits of goals and plans formulated at a particular point in time" (Joas & Knôbl, 2009, p. 518).

Accordingly, working with a situated concept of creativity draws on a fundamental understanding of creativity as built on a human capacity for wise and creative action in unexpected situations, a capacity that is necessary in a world undergoing constant change. Creativity is an attribute of not just mental processes and divergent thinking but also of a fundamental corporeal, action-based capacity for adequate response to the unexpected, a capacity for digging deep into failures to make things come alive that could not be thought of in advance and a capacity to create; to stabilize a world in constant flux. In other words, we cannot help but be creative even if it may be the case that some people exploit these opportunities more than others.

WHY DOES SITUATED LEARNING HAVE ANYTHING TO DO WITH CREATIVITY?

As mentioned previously, the present book is inspired by a form of situated thinking developed by researchers such as Lave and Wenger (1991). Nevertheless, in their 1991 study of the relationship between apprenticeship educations and learning, Lave and Wegner do not mention creativity at all, or if they do, it is only indirectly and without using the actual term. In other words, my inspiration has been derived through a specific reading of this situated perspective on learning. It is interesting that, in her 2011 *Apprenticeship in Critical Ethnographic Practice*, Jean Lave actually begins relating to the concept. She writes that she is critical of the usual assumption that there is a distinction between the productive and the creative classes:

> Knowledge production and creativity are assumed not to infuse the lives and work of "ordinary" people, and are thereby set aside for the unusual and un-

> usually privileged. . . . At the time, it was difficult to know how to address this issue except to argue that the tailors were creative—look at their trouser innovation. (Lave, 2011, p. 60)

In other words, Lave (2011) was well aware that the apprentices she had studied were creative, but at that point, she lacked a theoretical perspective with which to analyze their creativity presumably because her neo-Marxism prefers to speak of human action as something that results in production rather than creativity. From a pragmatic perspective, however, production and creativity are closely related. It is thus that Joas (2006) argues that Marx could not have discussed alienation in capitalism without holding an ideal of meaning in work: "Marx did not simply use the notion of production in the sense of economic theory, but filled it with meaning that comes from expressivist or, you might say, romantic tradition. Human beings try to realize themselves in their work" (p. 7).

It is, however, far from being a given that creativity belongs to a romantic, idealized understanding of consciousness or the self—not when we accept pragmatism's understanding of human actions as fundamentally creative. We can, of course, be creative without realizing it ourselves, even if most people experience some form of satisfaction when they have the opportunity to experience creative processes and witness a product come into being through their own and others' efforts (see also Hanna Arendt for the distinction between work and action, the latter being characterized as undertaking the more meaningful, enduring, and public work).

We should thus be skeptical of immediate differentiations between the new and the old, between the usual and the unusual, between work and creation. A situated understanding of creativity will also be critical of the idea that creativity belongs to a particular privileged class or an idealised, abstract sphere distant from the lives of ordinary people.

The apprentices in Liberia studied by Lave were creative, and the results of their work were innovative, as Lave affirms above. We risk overlooking a quantity of everyday life creativity if we think of creativity only as something that happens to other people; think that industrial production is not or cannot be carried out creatively and result in new products; think that one needs to look a certain way or belong to a particular, strictly defined creative class in order to be creative. It is, rather, a matter of remaining aware that creativity is something we do and not something for which anyone holds a patent. As Bilton (2007) writes, "Creativity is better understood as a process rather than as an individual trait—something we do, rather than something we have" (p. 39). Creativity is a process that is undertaken (often in collaboration with others), and creativity is a process that changes something on account of our having reached the limits of our previous means of acting. Again, in the words of Ingold (2013):

> Builders know all too well that operations seldom go according to the plan. Working in a fickle and inconstant environment, they have continually to improvise solutions to the problems that could not have been anticipated, and to wrestle with materials that are not necessarily disposed to fall, let alone to remain, in the shapes required of them. Completion is, at best, a legal fiction. The reality, as Brand (1994:64) wryly observes, is that "finishing is never finished." (p. 48)

Accordingly, there is no finished plan to apply for the manual worker having been allocated to the role of execution or implementation, and when there is a plan (as is quite usual), it does indeed change along the way (for a current study of an actual building construction learning process, see M. Pedersen, 2012).

What we can learn from empirical studies such as the one undertaken by M. Pedersen (2012) is that creating and making is a constant process in terms of which drawings, plans, and the actual construction process are constantly changed in light of economics, weather, sickness, and new directions from the building contractors and so forth. According to Pedersen, construction processes, which are indeed creative processes, proceed along "give and take relations" in somewhat conflictual cooperation far removed from the idealized idea of a plan being executed in a frictionless manner from idea to implementation.

The messy picture of creativity that I am here suggesting does, however, question the widespread belief in Western culture that the creative process is restricted to the initial idea phase (and the creative class of, say, architects) and that the subsequent phase of construction adds little to the process. As Peters Sims (2011) has suggested, creative processes are more likely the result of little bets meaning a continuous moving back and forth, making errors, trying one more time, and gradually making progress. In construction work, it is indeed a co-creation among architects, planners, contract holders, craftsmen, and not least the upcoming inhabitants of the building.

The premise that creativity in this sense is situated in messy human actions over time also rests on skepticism concerning the idea that the creativity literature and creativity techniques must one-sidedly celebrate the new. Often the new or creative in fact consists of a recombination or reapplication of that which already exists. Situated creativity is thus a perspective that emphasizes that the majority of types of creativity consist not of creating the world from scratch but instead of renewing the practices in which we already participate.

This perspective also means that it is insufficient to just take a book on creativity techniques down from the shelf, read it, and then count on being more creative the next day than the day before. Creativity is a process that unfolds over time, requiring that we act creatively in concrete situations. It

cannot be reduced to an instantaneous "Aha!" experience. We know from learning research that the highest planes of human ability are gained by participating in that practice that one wishes to learn (Ingold & Hallam, 2007; Lave & Wenger, 1991; Nielsen & Kvale, 1999). Imitation, identification, role models, and identity are significant here. If, for example, students are to be creative in school, then teachers must first seek to show students what creativity means—how one can relate to new situations with curiosity, openness, and a desire to explore, possibly discovering something new as a result. Only then can students learn from the teacher's example and perhaps be challenged—perhaps be creative.

Likewise, professional practitioners are professionals precisely because they have succeeded in being consistently creative and improvisational in and with their own practice (Craft, 2008; Craft, Gardner, & Claxton, 2008; Schön, 1987). For the creative teacher, dentist, or plumber, it is not enough to take a two-week course, to teach or work in accordance with a manual, or to base one's actions on a prescriptive form of legitimacy through a formal education; one must instead regularly modify one's practice. Chapter 5 of this book goes into more detail on this point by means of a series of interviews with Danish primary school teachers.

PARADOXES OF CREATIVITY

In this book, I do engage in a kind of celebration of creativity. However, I have no intention of making creativity a universally dominating demand for home or work life. It would be absurd to insist that we all be creative all the time. Sometimes a new practice will manage to stabilize itself so that it will one day act as its own precondition for creativity. It is instead my intention to show that creativity is an integral part of practice and consists of acting in new ways relative to practice—by either changing something or stabilising itself. In this sense, highlighting the role of improvisation or fooling around in creativity helps identify some of the paradoxes that emerge should one seek to directly urge one's employees or students to be creative.

Creativity cannot always be undertaken on command. Indeed, such commands can actually prevent creativity, causing us to cling in opportunely to our habits when we feel threatened by external pressure. This has been shown by research on organizational learning (Barrett, 1998), theoretically motivated descriptions (Kristensen, 2006), and empirical studies in which one has urged children to be creative (Levin, 2008). Levin describes how children experience pressure as a result of requests for creativity. Interestingly, in these same situations, children tend to reproduce quite conventional understandings of creativity. When the word "creativity" is told to children, Levin states, they often spontaneously assert that girls are creative at the visual arts whereas boys are creative in shop class. The word can prompt certain types of responses and actions—just not necessarily those

that were intended. Requests that we should be creative therefore risk making us less creative, especially if they are built on an understanding that we can be creative on command.

This does not, however, mean that pressure and necessity never encourage creativity. As the expression goes, "Necessity is the mother of invention," quite correctly pointing out that a form of inner necessity in a given practice can promote creativity. There is thus a delicate balance between what could be regarded as internal and external practical pressure for creativity.

CREATIVITY AS PART OF LIFE ITSELF

My own work, as presented in this book, borrows from situated learning and pragmatism, a basic understanding of human knowing as based on inquiry, on people's creative actions when confronted by a world that is in constant change and that we seek to understand or control. Creativity is thus part of life itself, not the preserve of exceptional individuals. Creativity is part of thinking and acting in new ways in a world that demands our intervention. We must intervene to either disturb the status quo or reestablish a particular order. In either case, human creativity plays a central role because there is no script setting out how we should undertake such an action (Brinkmann, 2009). The situation demands, one might say, our intervention.

In an article titled "Towards an Epistemology of the Hand," Brinkmann and I (Brinkmann & Tanggaard, 2010) argue, in line with this pragmatic perspective, that experiencing the world—and knowing it—are functions of our practical activities, of our *handling* the world and its problematic situations. What we experience and know about the world are primarily aspects of things that we interact with and manipulate (literally "operate with our hands").

Things are not first and foremost entities independent of organisms that have objective physical characteristics that can be *seen*. Rather, "things are objects to be treated, used, acted upon and with, enjoyed and endured, even more than things to be known. They are things *had* before they are things cognized" (Dewey, 1925, p. 21). According to Dewey (1920), we normally encounter and know things in those contexts of use where they belong, and it is only through active manipulation that we discover their properties: Things "*are* what they can do and what can be done with them—things that can be found by deliberate trying" (p. 115).

To connect explicitly to creativity, I can here briefly turn to a contemporary illustrative example. The Danish-Icelandic artist Olafur Eliasson, known for his temporary physical transformation of New York City through the work The New York City Waterfalls, has expressed how ideas are not given to him but actively taken and then embodied. In an interview with the Danish magazine *Weekendavisen* (Bonde, 2009), Eliasson talked about the

need to manipulate ideas before knowing the value of them. The journalist asked, "How do you get your ideas?":

> It is not so that ideas are created in a vacuum after finishing one work until a new idea arises. Ideas come up as a continuation of the works—as the result of a dialogue. Surely, I do not mean that creativity comes from within, and rather than having an idea, you embody ideas and, in this way, you are testing, if they are okay.

If we are to follow Eliasson's phenomenological description, ideas are not seen as coming from within or resulting from a clear vision. Rather, they are embodied as part of our practical work in the world.

Definitely, for Dewey (and for me), our knowledge of the world is a practical affair, something grounded in our habitual conduct. We "know how," Dewey (1922) says, "by means of our habits" (p. 177), and the knowledge involved "lives in the muscles, not in consciousness" (p. 177). When we develop habits of handling the world, we thereby develop an understanding of the world, which cannot be ascribed to a disembodied "mind":

> The reason a baby can know little and an experienced adult know much when confronting the same things is not because the latter has a "mind" which the former has not, but because one has already formed habits which the other has still to acquire. (Dewey, 1922, p. 182)

The world appears to human beings in contexts of activity or social practice, when they have acquired habits of movement, interaction, and communication.

According to Dewey, everything in human culture—including science, philosophy, law, religion, politics, art, and history—are social practices that need to be contextualized in order to be understood (Kivinen & Piiroinen, 2006, p. 305). Within such practices, ideas and concepts have been developed as tools through attempts to cope with the problems humans have confronted in the course of history. Thus, science should not be thought of as revealing the true essence of a world "out there" that we may *see* but rather as something practical, such as a complex extension of our hands that make possible a fruitful *manipulation* of things and events. There is no split between the mind and the world—or between scientific theories and the world in itself—for, as Menand (2002) has put it, it "makes as little sense to talk about a 'split' that needs to be overcome between the mind and the world as it does to talk about a 'split' between the hand and the environment' (p. 361). The epistemology of the hand avoids the problems otherwise inherent in representationalist epistemologies of the eye, and the debates about realism and idealism (do our representations correspond to the real or not?) turn out to be largely irrelevant, for the hands cannot represent (or misrepresent) the world. They can only handle or mishandle it.

This also means that a new idea is little a guarantee of creativity in itself. In order to be creative, one must be prepared to act in new ways relative to the problems and challenges with which one is confronted. Simply put, my point is that, in line with this pragmatic and situated worldview, school and education play a role in cultivating students' capacities for understanding the world as changeable and in enabling them to stabilize this. This is all the more accentuated in a postmodern, hypercomplex reality in which the distances between us have been reduced; in which globalization alters the labor markets; in which economic, climatic, and ethical problems seem closer than ever before. It has become vital that students learn to see their own opportunities for intervening in this world, either to change or stabilize it in new ways. Theories should, in this sense, be regarded as tools that can be used to intervene in the world in new ways, and students must learn to regard them as changeable and impressionable.

As a result, creativity-promoting teaching seeks to imbue students with the understanding that knowledge is not a substance that must be stuffed into their heads but, rather, that the act of considering things and developing models and descriptions of the world is integral to living life. Theory is not by definition something dry, abstract, and distant from reality. Indeed, it is part of life, and it can find expression in a range of forms and degrees of abstraction. In this respect, schools play a role in relation to both ensuring and developing students' creative capabilities to literary manipulate a changing world and preparing their creative potentialities in the yet unknown future (Linge, 2013). As I will argue in the following, this requires context-sensitive action.

REGIMES OF CREATIVITY

When I say that creativity is situated, this means that that which is creative in one context need not be creative in another. As described by, among others, Simonton (2013), creativity is domain-specific: "Each major domain of creativity has its own distinctive methods or techniques that provide the basis for generating creative ideas. For instance, creativity in the sciences requires the so-called scientific method, a method that would have no utility whatsoever in writing a novel or choreographing a ballet" (p. 219).

Nevertheless, this does not mean that there are no similarities across the domains. In Simonton's view, some persons are simply more creative than others, also when they cross boundaries (maybe because they have more experiences with breakdowns and the need to take action), but what we in the "real world" deem to be creative is tightly interwoven with the norms, routines, habits, and means of doing things that we already know. The creative thus takes its point of departure in knowledge of that which already exists and thereby extends the borders of that which we customarily do. As described by Kupferberg (2009), one can argue that there are various re-

gimes—or worlds—of creativity. In the world of industry, a creative product can be sold to the customer and adjust the marker or develop production in new ways. In the world of pedagogy, it is creative to be able to communicate complicated material in an elegant and compact manner. In the world of art, a creative contribution may provoke or communicate contemporary problems. The criteria for assessing what counts as a creative product will furthermore undergo constant change, the point being that that which is creative in one place is not necessarily creative somewhere else.

A situated understanding of creativity thus stresses that context is a necessary ingredient when we speak of creativity. This is not to deny that some personality factors like general intelligence or openness to experience may be tested and deemed important for creativity (Simonton, 2013), but rather to underline that we can only identify creativity by asking: Creativity where and for whom? Before we can go so far as to come up with something creative, we must know the conditions for that which already exists as well as the problems that demand our creative action.

Creativity is thus about transgressing and changing those practices of which we are a part, either gently and gradually or rapidly and radically. Creativity involves doing something new—possibly something unexpected—and combining things in new ways relative to that which already exists. Only in this way can one avoid the worst pitfalls of today's obsession for creativity and innovation, in which a dichotomy is often made between "business as usual" and "challenge everything," whether in terms of how we undertake schooling or how business life operates. The trick is precisely to interweave and tolerate the paradox between these and avoid romanticizing radical innovation in such a way as to neglect slower and more gradual change. By the same token, we must remember that that which is regarded as a radical innovation in one context may be regarded as entirely ordinary in another context because we must always ask: Creative (or innovative) where and for whom?

To summarize, in this chapter, the basic premises behind a pragmatic, situated conception of creativity understood as actions that contribute to the valuable renewal of existing practices have been outlined. In this sense, creativity is conceptualized as based on inquiry, on people's creative actions when being part of and/or confronted by a world that is in constant change and that we seek to understand or control. Creativity is thus part of life; it is not the preserve of exceptional individuals. Creativity is part of thinking and acting in new ways in a world that demands our intervention.

The chapter also underlined the need to discuss more explicitly what might be involved in creative learning due to the fact that many theories and studies of creativity in relation to education still seem to concentrate on delimiting the basic ideas connected to creative teaching while leaving

the concept of learning to begin or being less explicit about the implications for learning.

In the following chapter, I will explicitly address creative learning by introducing my model of creative learning pathways, which can be seen as an expansion of earlier situated analyses of learning in social practices failing to fully account for the experience of and conditions for creative learning.

CHAPTER 3

IMMERSION, FOOLING AROUND, AND RESISTANCE

Three Creative Learning Pathways

This book takes its point of departure in a reflection on what promotes creativity in environments designed with learning in mind. As noted in the previous chapters, three creative learning pathways are described in this book as key to developing and refining creative actions among participants in a pedagogical practice. In the present chapter, each of these pathways is described in more detail.

By using the concept of a learning pathway, I intend to focus on processes of learning as something setting a mark, underlining the movements and travelling that often go along with learning, creating something new in social practices. According to intensive phenomenological interview-based studies, when people learn, they get to know more, may understand things in more detail, may be able to do more things than before, and might change their understanding of themselves accordingly (Marton, Dall'Alba, & Beaty, 1993). That is, learning extends the existing ways of practicing, of doing, knowing, and being, and it involves movements from some kind of

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state into another kind of state—either personally or socially in relation to existing practices.

A CREATIVITY LEARNING MODEL

What I will do in the present book is to study how people go along learning pathways and what they do when they create new pathways—ways of moving and paths of walking as a participant in a world of active materials. Choosing pathways as a central concept, the intention is to focus explicitly on creativity, not as isolated thinking, but as concrete movements and ways of making in practice. The following presents particular creative pathways as I have come to see them through many years of research on creative learning:

1. Immersion in traditions and domains as well as knowledge of existing practice;
2. Fooling around and experimental, exploratory learning; and
3. Resistance from the materials with which one works.

This can be illustrated visually by means of the creativity model (Figure 3.1).

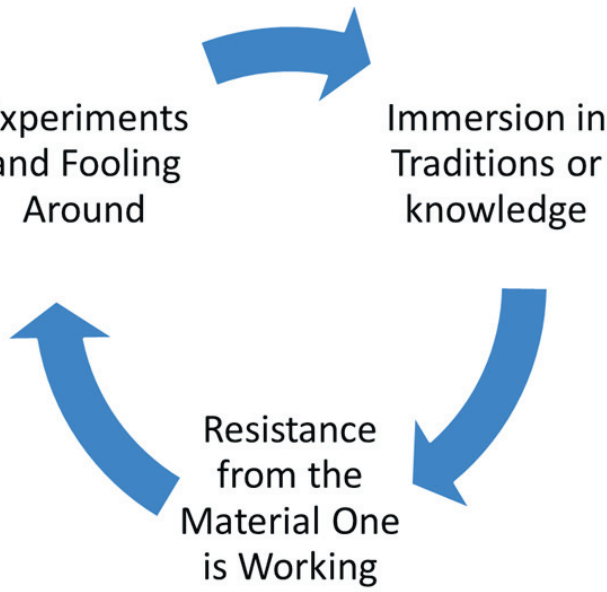

FIGURE 3.1. Creativity Learning Model.

The model's three pathways to creativity can be regarded as closely associated with one another in every pedagogical process, both inside and outside of school. Let me briefly outline each of these in more detail.

The idea of a creative pathway through "immersion in traditions and domains of knowledge" is inspired by creativity research's argument that solid and relevant knowledge as well as a certain amount of ability within a given domain (cooking, painting, sports, etc.) is decisive for a person's ability to develop his or her own creativity (Amabile, 1996; Sternberg, 1999, 2006). When we know something about that which we do, we are best able to conceive of and solve the problems and challenges with which we are confronted, just as long as this knowledge does not become a hindrance to thinking in new ways. As Guilford (1950) argues, "No creative person can get along without previous experiences or facts; he never creates in a vacuum or with a vacuum" (p. 448).

When we act creatively, we are intervening in worldly processes that are already going on, and the more sensitive and responsive we are toward these ongoing processes, the better the chance to make something new. Again, we do not begin with a great plan or a big idea and then impose it on a world already there. Rather, when creating, we are giving form to something in flux and being able to correspond to this world, knowing it by way of experience; this is what makes us creative (Ingold, 2013). As one of the music teachers says metaphorically in Linge's (2013) thesis on creative teaching within music in Swedish high schools, "If students only know about apples, they can only work with apples." Accordingly, a teacher interested in expanding students' creative potential not only with apples but also with pears and other kinds of fruit would need, again metaphorically, to introduce the same students to the world of pears and bananas to expand their possibilities for creative action.

Immersion in tradition is indeed an important part of developing a creative potential through learning. In the book *Talent*, Buhl (2010) describes research by the Swedish Professor of Psychology K. Anders Ericsson into expertise among violinists at the Berlin Conservatory. Ericsson sets out to study whether top violinists are more naturally talented than others. His studies show that this is not the case. Their ability is grounded in countless hours of practice as well as good help and feedback from instructors, advisors, and mentors. The violinists seek out others who can lift them further and assist them in entering the learning zone. It is not just about practicing for many hours; it is also about practicing the right things—the difficult and the challenging—that can help them learn more.

By getting the violinists to write in diaries, Ericsson discovered another interesting thing: The best violinists all take naps in the middle of the day. Why? Because it is exhausting to practice for hours at a time—and because this little pause gives them the extra energy and calm necessary to refocus

and maintain perspective. When we wish to be creative, it is not about pacing oneself but about working in a reasoned manner. Ericsson calls it deliberate practice and argues that the road to exceptional creativity is paved by many hours of practicing, acknowledging the need for rest to avoid losing energy and burning out. This is, quite frankly, a piece of wonderful news.

The second pathway, "fooling around and experimental learning," builds on creativity research's belief that creativity is promoted by experimenting on, playing games with, and exploring the material with which one is working (Cropley, 2001). The term *fooling around* is in particular inspired by my own research on student learning within vocational educations (Tanggaard, 2008), in which I was struck by how much time students and apprentices spent developing and "fooling around" with their own projects and design ideas, how much they learned from this, and how creative they were when they had the opportunity to experiment with a task. These experiments often took place during breaks, during non-work-related time, or in zones and areas between work and school in which students had the time and opportunity to take a relatively free and playful approach to the trade's tools and materials. In fact, this discovery of the importance of fooling around came as a surprise to me, the researcher. If we are to extend the argument, it was a creative moment in the research processes, in which I failed in my interpretations of what was central to the apprentices.

The study that enforced the development of the concept of fooling around (and no, I do not mean fucking around or wasting time) was part of my PhD project, which took place from 2001 to 2005. I decided to study processes of learning in everyday life as apprentices moved across school and trainee practice in a company as part of their vocational education. In particular, I wanted to study what kinds of learning took place in the respective contexts. However, the apprentices in my study did not talk much about learning. As a concept, it was not applied often as part of the daily talk during work or at lunchtime, and it was most often applied when I tried to force it into the conversation. Gradually, this made me challenge the concept of learning, not least in its instrumental and isolated cognitive conceptualizations. The following example from one of the interviews illustrates this quite nicely:

I: "One thing I have been wondering. A lot of you guys stay after work to do troubleshooting on your own equipment or moonlighting?"
B: "Yes."
I: "What do you learn from that?"
B: "It depends on what kind of moonlighting we do. Of course it is just routine, our interest to be allowed to potter around with something in which we see some benefit. If you have an old computer monitor at home and its broken then you bring it and fiddle with it

to see if you can find the trouble. It's not . . . you know, we are not allowed to potter with our television at work. You do not learn that, you learn about an instrument. To build your own amplifier is also something else than measuring some electronic equipment down here."

I: "Okay, so you do it to get some experience with more types of instruments and equipment?"

B: "No, it's not to become experienced, it's done to apply what you have learned at school for your own profit. Such a computer monitor—you get a new one without having to buy one. If you build an amplifier, well, then you might, it's much cheaper than having to buy one yourself. It's not to learn something extra; it's done simply out of simple interest. Or because there is some cool cash involved in repairing the video of a friend."

I: "Okay. You express sort of a contradiction when you say it's not to learn something, it's just your interest?"

B: "You don't think of it as learning."

I: "But you learn something through it?"

B: "Yes, but it's not like when you come home from school and say, 'I don't understand this, now I want to learn.' And then you go and ask for a task where it's involved. It's not like you go and choose a monitor to learn about it. You have a monitor at home which is broken and you decide to fix it. Then you find out something about it."

The fooling around, which I try to interpret as a learning activity, is something the apprentices do when they have something at hand that needs to be fixed. However, the learning intention does not seem to drive the activity even if the researcher might be right in assuming that the apprentices actually learn quite a lot when they engage in such activities. The learning of the apprentices seems not to be driven by an active effort to learn but rather by things that needs to be handled. Indeed these activities actually seemed (to the researcher at least) to be those places in everyday life in the workplace, where the apprentices had a change to experiment and fool around more freely than when just doing what was expected of them. And it appeared that they actually took responsibility for their own learning, learning what was needed to do what needed to be fixed. Accordingly, doing so, the apprentices were moving, unrestrained, in the direction of the democratic, peer-based learning sought after in Peter's quote mentioned earlier in the last chapter. This also addresses an interesting theoretical point about the mismatch between conceptual models in psychology and beyond and the everyday vocabulary people use to refer to the same reality. This should not be a sign of a deep and troubling gap but a productive tension between

scientific and lay understandings that benefits from the exchanges taking place in the research situation and beyond.

As a basic category, experiments and fooling around lie close to the pragmatic assertion that creativity consists of relating, curiously and investigatively, to situations that demand us to respond in new ways. More examples of fooling around will be given throughout the present book.

The third pathway in the model "resistance from the material one is working with" is inspired by Ingold and Hallam's (2007) anthropological analysis of creativity as a relational phenomenon that builds on what people do as well as on what we are invited to do by the tools, artefacts and other materials around us. The material can will us to do something, or we can will the material to do something, which can be described as the relationship between the created and the creator. I furthermore build on various artists' descriptions of how the material with which they work (wood, canvas, food ingredients, etc.) can invite treatment in particular ways and/or can offer resistance to the creative process.

As Richard Senneth describes it, in an interview carried out by the Aalborg, Denmark-based pragmatist Antje Gimmler among herself, Senneth, and Hans Joas, "It is the notion that by experiencing resistance in the environment and by working with that resistance, we begin to give; by working with the resistance rather than trying to overcome it" (Joas, Sennett,

FIGURE 3.2.

& Gimmler, 2006, p. 11). This means that the experience of being lost, of being disoriented, of being held back, or simply of being frustrated can prompt a creative opportunity to arise. This is the opposite of believing that creativity is a question of harmonious self-realisation or a trouble-free search for creative opportunities.

The pragmatic, situated perspective thus insists that creativity is about learning by and through resistance, a conception quite unlike the more aesthetic, humanist understandings of creativity that dominated the 18th and 19th centuries. In his discussion of concepts of creativity, Pope (2005) likewise underlines the need to move away from "stereotypically Romantic notions of what it is to create, as though all creative imagination generated its light and heat from within the self" (p. 16). The trouble with an exclusive and often individual understanding of creativity is namely that it tends to reserve creativity for the intellectual moment. As stated by Mumford (2003), "Creative thought has served as a foundation, or reference point, for most studies of creativity. If we do not know how people generate new ideas, it is difficult to place observations about motives, dispositions, situations and developmental change in context" (p. 111).

However, actual people are constantly engaged in transforming, changing, and renewing existing traditions and ways of living their lives, and these transformations need not be based on intellectual, cognitive activity or "new ideas." Some changes in our lives can be based on old ideas, however odd it may sound in a culture celebrating "the new" (Bilton, 2007), and these cognitive, intellectually derived ideas may not even come first when we actually change social practices. Some changes happen without notice and/or through the gradual erosion of natural/cultural forms of life, changes that may at times be based on divergent thinking but surely also convergent thinking, routines, habits, and daily cultural practices. Again, as mentioned by Pope (2005) following the critique of a pure Romantic model of creativity, "a more subtle model of creativity must include kinds of re-creativity and pre-presentation, whether the more or less faithful reflection of something that is held to exist already, or the ceaseless refraction of something that never really existed otherwise" (p. 16).

Likewise, Ingold and Hallam (2007) have little time for the idea that individual and environment are two static entities confronting one another and the dualism involved in stating that first we need to understand the generation of new ideas within individuals and then how situations might change due to the new. Rather, they see the world in a constant state of becoming. This understanding does not differentiate strongly between self and environment, between tradition and renewal, or even between convergent and divergent thinking. It is first and foremost a dynamic conception of all individuals as creators with the ability to modify, adjust, and change the environments in which they find themselves. The world does not tower

above us like some colossus of unchangeability; it reacts to us. We are all constantly engaged in changes, and it is impossible to separate creation from creator—or the materials from the people who create. In the same way, a material can be regarded as creative in its confrontation with people, who respond to the object's hardness, its softness, or whatever the object can do for them.

In a recent article (Tanggaard, 2013), I argue that all of this points to the need for developing a socio-materialized understanding of creativity. A socio-material conception of creativity is based on the assumption that a design is nothing without materials. All ideas for something new—a new house, a new car, or a new piece of clothing—require materials. An architect's design does not become a new house without building materials and without the builders who raise the house and make it habitable. Moreover, although buildings in architects' oevres are often never built, the designs exist in some material form (e.g., on paper or computer) and were created using these materials. Moreover, the architect is creating his design with the known affordances of building materials and normally with a particular material site in mind.

The idea that creativity exists in the dialectical relation between individuals and materials in social practices represents a real break with the individualized conception that creativity originates from intellectual, cognitive achievements or individual, emotional sources. Creativity is, on the contrary, expanded to include the materials that are worked with and that quite concretely comprise that which is created as well as the continually developing creations of the products we produce. As described by Ingold and Hallam (2007), "And because it is the way we work, the creativity of our imaginative reflections is inseparable from our performative engagements with the material that surrounds us" (p. 3).

However, for a psychological science to discover this, we must move the study of creativity outside the typical test of the ability to think divergently. In this regard, psychology could seek inspiration in studies of design and architecture. In a recent study of the performative roles of materiality for collective creativity among students learning architectural design, Jacucci and Wagner (2010) argue that, "Literature on creativity has mostly focused on individual cognitive processes neglecting the influence of material features and the collective character of creativity" (p. 73). They argue that the possible role of materiality is its ability to speak to "multiple senses," and they point to the significance of shared experiences, dynamic interactions, and bodily engagements beyond the purely cognitive. Through their participant observations of architecture, students show how metaphors and diverse materials are an important vehicle for communicating complex ideas and concepts shared among the students. Also, the students select and probe different materials through exploring tactile properties, tempera-

ture, smell, moisture, and surfaces that carry meaning. That is, the richness and diversity of material features engage and activate our senses, bodily, tactile, olfactory, auditory, and visual and different modes of expression.

Moving beyond architecture and design, John-Steiner (1997) also points toward the importance of artefacts for creative activity based on her studies of letters, notebooks, and interview materials obtained from artists and scientists. Quite literally, notebooks, sketches, and outlines, but also different kinds of invisible tools, play an important role in creative work. In the book, Thomas Mann describes how he arrange these invisible tools: "For writing I must have a roof over my head, and since I enjoy working by the sea better than anywhere else, I need a tent or a wicker beach chair. . . . For a longer book I usually have a heap of preliminary papers close at hand during the writing, scribbled notes, memory props" (John-Steiner, 1997, p. 76). It is here that we find the reason for the experience many of us have: Contact with or resistance from the materials with which we work causes new ideas to arise.

Creativity is fundamentally relational—even if the immediate experience may be that good ideas pop into our heads. Thus, architecture and design studies, as well as music studies (Lock, 2011) and John-Steiner's (1997) notebook studies, point toward the role of human-made artefacts in creative activity to a point neglected or overseen by many psychological treatments of the concept. However, Jacucci and Wagner (2007) also point out that materials have a history communicating preexisting ways of doing architecture, emerge as part of specific activity, and become part of performative action in the future.

In summary, digging deep, experimentation, and experiences of resistance from the material at hand are the three elements or creative learning pathways suggested in this book as important in relation to creativity. It is significant to stress the elements' mutual relationships within the model. Experimental learning will only lead to creativity if the process is linked to knowledge of the trade or subject about which one is learning. Resistance from the material with which one is working is central to extending, provoking, and opening up one's working methods. A person will only experience resistance if she dares to immerse herself in the trade and if she is "pushed" into experimenting. When all three elements work together, opportunities arise for producing something creative and for students and teachers to experience the development of their own creativity.

I theorize that creativity arises when someone is in a position to experience all three elements, integrated into the learning process, into the teaching process, into the whole. If teachers wish to be creative, they must confront themselves and one another with immersion, fooling around, and resistance. All three elements of this model of the art of renewal and creativity are more closely developed and described through the empirical

and theoretical analyses presented in this book. This is not some intangible "theory"; rather, I hope it can open up dialogue and debate concerning the nature of creativity. However, before continuing with the next chapter, I would like to inquire into the particular methodological approach to creativity chosen in the book.

FROM THE STUDY OF DIVERGENT THINKING TO THE STUDY OF SITUATED CREATIVITY

In this context, I explore how we develop the innovative and the valuable in everyday pedagogical activities. In order to make a concrete contribution to assisting participants in becoming more creative, I take an empirical approach via observations and interviews with teachers and those who are undergoing teaching or training.

My approach is thus distinct from that of the majority of psychological creativity research, which is mostly based on studies of people's answers to questions designed to test divergent thinking (see Sawyer, 2012, for an analysis)—in other words, tests in which one is typically asked, in more or less artificial situations set up for the purpose, to identify a series of alternative uses for, say, everyday items. One example of this is Susa and Benedict's (1994) set of studies on children's responses to a test that asks them to find alternative uses for a piece of tree. These tests have the advantage of setting specific goals for creativity, for instance, the total number of answers to the test questions, yet one of the problems with tests of this sort is their lack of ecological or external validity. With this in mind, Zeng, Proctor, and Salvendy (2011) set out limitations to tests on divergent thinking, noting that such tests often fail to capture any aspect of usefulness in daily life. As an example, they highlight that, in a test on divergent thinking, a creative response to a question concerning alternative uses for a brick could legitimately be to say that the brick could be thrown at old ladies' heads in the street. This answer is divergent and no doubt represents an alternative use for a brick, but it is not, perhaps, a particularly valuable alternative use precisely because it breaks all existing conventions.

In other words, there is no way of being sure that those people who answer most divergently in tests are also those people who contribute the most innovative and valuable items and practices to the lives they live. Divergent thinking is likely just one of many aspects of what it means to create something new—whether it is a matter of creating a new type of skin cream that protects people from solar radiation, teaching in new ways that contribute to students learning more, or managing a group of employees so that they work better. The new is only creative if it is *relevantly* and *valuably* new in a given context.

Sawyer (2012) emphasizes that, within this more sociocultural understanding of creativity, it is necessary to focus on identifying various practices

as well as on measuring and evaluating creativity on the basis of criteria derived from the social practice that one is investigating—rather than from a loosely contextualized testing environment. Examples of this include the work of Jalil and Boujettif (2005), who studied Nobel prize winners' life histories in order to find the key to their creative accomplishments; Csikszentmihalyi's (1996) interview studies, which explore the creative prerequisites for 91 recognized artists, authors, and scientists; or Simonton's (2013) yearlong studies on the developmental factors related to creativity, including family background, educational experiences, and changes related to aging (creative people tend to be able to contribute to a field despite getting older, which is good news considering the changes in demographic patterns in the Western world).

Thus, some studies of creativity indeed take a wider and more ecologically valid point of departure than that provided by an eventual isolated testing logic. Nevertheless, a new overview of creativity research (Kahl, Hermes da Fonseca, & Witte, 2009) shows that the majority of PhD dissertations in the field are based on quantitative studies derived from questionnaires or tests and that the number of qualitative theses is falling compared with in previous counts (Wehner, Csikszentmihalyi, & Magyari-Beck, 1991).

Thus, there are good reasons for using qualitative studies to explore conditions for creativity and its results in social practice inasmuch as these studies are in decline, despite the vital importance of studying the social and cultural conditions associated with creativity. In the context of this book, this means that creativity cannot be regarded as a phenomenon reserved for exceptional individuals or creative elite. Everyone is fundamentally creative because creativity is that which keeps our lives interlinked and allows us to tackle unexpected situations in everyday life. Nevertheless, it is clear that we can develop more of this creativity by learning to see it and by being encouraged to be creative.

In summary, the present chapter introduced the three creative learning pathways in the model of creative learning processes put forward throughout the book: (a) immersion in tradition, (b) fooling around, and (c) resistance. These pathways will be given more attention and details will be added throughout the book.

In the next chapter, I briefly set out aspects of the situated understanding of creativity as well as typical understandings of creativity in psychology and take a closer look at the book's theoretical framework. I will also consider the fact that creativity should perhaps not even be regarded as the creation of the new and should certainly not be regarded as the creation of the new out of nothing. This point relates explicitly to the pathways of digging deep described in the present chapter. In the remaining chapters, the empirical cases are unfolded, and in the final chapter, these will be summarized and discussed critically.

CHAPTER 4

A SHORT STORY OF CREATIVITY THEORIES

At first, swimming in modern, indeed the most modern, literature and in fact being overwhelmed by it, was an almost intoxicating joy. . . . After that first joy was exhausted, it became a necessity for me to return from my submersion in novelties to that which is old.

—Herman Hesse; cited in John-Steiner, 1997, p. 59

FIGURE 4.1.

Fooling Around: Creating Learning Pathways,
pages 37–50.

The previous chapters focused on a pragmatically inspired understanding of creativity as something we undertake when confronted by situations that require us to act in new ways. Creativity is thus not the preserve of certain social classes. To the contrary, it is a significant aspect of our daily lives. Creativity is, in fact, vital given that the script that sets out how life will unfold has not yet been written.

In this chapter, we take a closer look at various understandings of creativity and the development of creativity theory, especially within the realm of psychology. We will also further develop the situated perspective set out above, placing special weight on immersion in knowledge that already exists. Even though novelty is a criterion for creativity, creative individuals are not interested only in the new. Instead, many such people are passionate about everything, including that which is old and once was new.

NOVELTY PLUS VALUE

For many years, creativity researchers have agreed that creativity is the result of a combination of both the new and the valuable, expressed in the formula "novelty plus value" (Craft, 2005; Glăveanu, 2010, 2011; McWilliam, Dawson, & Pei-ling Tan, 2011; Sawyer, 2012). Mason's (2003) statement is an example of this idea: "To create is to act in the world, or on the world, in a new and significant way" (p. 7). Both cognitive and sociocultural research traditions concerning creativity seem to underline the novelty criteria in order for something to count as creative. In addition, it is often emphasized that repeating or copying something is not creative, that speaking from memory is not creative, and furthermore that routine activity such as walking home from work or drinking coffee is not creative (Sawyer, 2012).

However, the perhaps provocative statement made by the present book is that many creative activities actually build on what is already there. Even if copying is not creative, a creative product is often the result of some kind of learning of resistance experienced from existing materials. Although it might be a sound criteria that something can only count as a creative product if it includes a dimension of newness, the empirical material in this book indicates that the process and the coming into being of creativity often draws on that which is old and that which can be re-created, precisely as Herman Hesse suggests in the previous quote, where he discusses the value of old literature as a source of inspiration for his work.

Accordingly, and as an alternative to the risk of "novelty" fetishism when it comes to accounts of the creative process, the present book introduces a situated approach for describing first of all the actual processes of creativity, which do not always start with great ideas and not least for describing the process of creativity from the creator's own perspective. This approach highlights that creativity is often the result of a *re*-invention or *re*-sampling of existing materials and ideas.

By focusing on the *re-*, this situated approach calls into question the fascination with novelty when it comes to the study of the creative process. This is not to deny that creativity concerns what is and appears new; rather, it allows us to discuss what lays the groundwork for newness to arise.

A further point is that creativity in the 21st-century informational overload society is perhaps less a matter of discovering novelty than a process of appropriately selecting, finding, and combining what already exists in some form. But how has creativity research developed historically, and how is the situated perspective, as set out in this book, related to wider psychological creativity research?

CONSIDERING THE LATE HISTORY OF CREATIVITY RESEARCH WITHIN PSYCHOLOGY

The first true blossoming of creativity research within psychology and related disciplines took place in the mid-20th century. In the 1950s, researchers primarily investigated scientific creativity related to the Cold War space race. The aim was to encourage growth and development, with creativity being regarded as among the qualities through which excellent research and development milieus could be created at schools, at universities, and in business. This interest was followed up in the 1960s and 1970s by humanist psychology and its interest in human growth and self-realization.

In the globalized knowledge society of the 21st century, creativity research is receiving increasing attention. Lehrer's (2012) book, *Imagine*, based on a broad introduction to recent brain science research on creativity, became a bestseller within weeks of its launching and has served as one indication of the current popularity of creativity. This is all the more interesting in light of the fact that, as Lehrer puts it, "a recent survey of psychology papers published between 1950 and 2000 revealed that, less than 1 percent of them investigated aspects of the creative process" (Lehrer, 2012, p. XVI). This may have to do with the assumption that there is something profoundly mysterious about creativity that might have led researchers to neglect the topic. However, as Sawyer (2012) puts it in his book concerning the basic theories of the field, creativity "has moved from being a private meditative act to being essential to economic growth" (p. 427). This is part of the creation of a new context surrounding creativity research as creativity is now on the agenda for a wide range of people and organizations, rather than just for a dedicated few.

In the context of this broad and increasing interest, it is vital to take a closer look at the phenomenon of creativity in 21st-century real-life contexts as well as to introduce perspectives that can critically address creativity and ensure that the research field develops and remains open to diverse perspectives, including ensuring that the perspectives of the actors are heard. The present book hopes to contribute to this debate by seeking to

develop a model to promote creative action capabilities and foster creative learning communities.

But how does this definition of creativity concerning the art of renewal—the continual changing or transcending of existing social and cultural practices—relate to the other, more prevalent understanding of creativity? In the following, I will briefly describe how we have shifted from an understanding of creativity that focuses on the individual's ability to a more flexible understanding that appreciates a collective, situated, and embodied creativity related to changing social practices. This requires, of course, favorable thought processes, but our conceptualization cannot simply end here.

THEORIES OF CREATIVITY—A SHORT STORY

Creativity's entrance into psychological research is often dated back to 1950, when the American psychologist J. P. Guilford delivered what would become a much-discussed presidential address at the American Psychological Association's annual meeting. Guilford (1950) argued in an article in *American Psychologist* that psychologists and teachers traditionally place too much focus on convergent thinking (problem solving skills, logic, correct answers, etc.) at the expense of divergent thinking (unusual, lateral thinking that involves seeking out new possibilities).

In the article, Guilford (1950) uses as an example of this misunderstanding of creativity an anecdote concerning a teacher who encourages students to prepare original essays and then grants the best grades to those essays that echo his own messages and perspectives. The point here is that there has not always been a tradition for rewarding creativity in the education system. Prior to Guilford's intervention, psychologists had, of course, been interested in creativity, but around 1950, creativity first came to be an acknowledged area of mainstream psychological research. It is characteristic of his time that Guilford regards creativity as an individual ability whereas newer theory places more focus on creativity's social embeddedness and collective nature.

Guilford (1950) describes creativity as a normally distributed ability among individuals. In other words, he believes that creativity can be frequently observed and can be measured via experiments and laboratory testing; 68% of the population would lie within a standard deviation from a given average value.

Guilford (1950) defines this creativity as something other than that which is measured by intelligence tests even though he sees creativity as a question of cognition and as a sort of quick, alternative, and flexible use of human cognition. He believes that psychology should describe creativity along the lines of other phenomena such as IQ and learning and should avoid allowing creativity to appear mystical or spiritual in nature. He also

feels that creativity is about thinking as quickly, flexibly, and with as much novelty as possible. Guilford is thus the originator of many of the popular conceptions concerning creativity as an abstract mental project that consists of "thinking outside the box." Cropley (2001) sums up the differences that are frequently believed to exist between intelligence and creativity (see Table 4.1).

From this perspective, creativity is thus largely what intelligence is not, even if someone who scores highly on an IQ test might also be very creative. Cropley (2001) also asserts that creativity has been viewed as a means of applying IQ or as a form of IQ in action. Others have pointed out that many creative individuals do not score particularly highly in typical intelligence tests (Joas et al., 2006) possibly because creative individuals tend to come up with their own assignments (e.g., by changing the assignment given in the test), causing them to answer incorrectly.

Guilford (1950) does not feel that schools are particularly good at promoting creativity among students. If we look at the overview given in Table 4.1, it is clear that schools often focus on the skills, abilities, and thought processes that characterize intelligence—for instance, the ability to reproduce a chemical in chemistry or work with problem solving in mathematics. According to Guilford, the ability to develop and discover new things is the object of little focus. He feels that the way forward is to teach students

TABLE 4.1. Differences Between Intelligence and Creativity

Psychological Domain	Intelligence	Creativity
Function	Adapting to factual knowledge Perfecting the known Remembering	Developing new means Changing the known Producing something new Imagining
Abilities, skills	Problem solving Recalling the known Repeating a set of procedures in the service of a new problem	Finding/localizing problems Inventing Combining distinct domains Separating things
	Convergent thinking Good at remembering	Divergent thinking
Thought processes		Critical thinking
	Logic Precision	Novelty
Sought-after virtues	Speed	Surprise Variation

Note. From Cropley (2001, p. 26).

to identify original and adaptable ideas. Simply put, this is what a teacher should do to promote student creativity—according to Guilford at least. As shall become clear throughout this book, my belief is that this approach is not enough. Reflection over one's own work processes and identification of particularly creative ideas is merely one of many strategies for promoting creativity.

Creativity is an individual and a fundamentally intellectual activity. Creativity concerns the individual imagining something, thinking critically, inventing something, combining things, or separating things. It involves inventing something new by combining or separating that which is already known. In practice, we can see situations in which new inventions are constructed by means of taking a principle from, for instance, the visual arts and combining it with a product from the world of industry. We also know this phenomenon from situations in which a child combines distinct domains in the process of, say, constructing a toy gun out of a slice of toast. Or we can see this in practice at a company that localizes a problem and then invents a product that turns out to be indispensable for customers. It is not enough just to recognize, repeat, or recall something (e.g., in a quiz). Creativity involves finding new questions and localizing problems.

In this book, I define creativity as the renewal of practices, meaning that creativity is neither solely nor even primarily a cognitive occurrence but is also a process situated in a social practice that incorporates, includes, and acknowledges the new as something new. In this sense, it is not always sufficient to think in a radically different manner; it is also a matter of changing, often collectively, that which exists with reference to what is possible and sustainable. Instead of identifying intellectual reflection as the primary path to creativity, I stress the value of immersion in, experimentation with, and resistance from a concrete material in creative practice. At the same time, however, I emphasize that the best way to learn this is by participating in a concrete practice where such kinds of experimentation, resistance, and immersion are practiced.

Next, we will consider how creativity research has moved toward a more situated and collective understanding of creativity and which of the psychological research traditions is most in correspondence with the concept of the art of renewal and the three elements in my theory of creativity: immersion in traditions and subjects, fooling around and experimental learning, and resistance from the material with which one works.

CREATIVITY RESEARCH: SIX PSYCHOLOGICAL TRADITIONS

According to Sternberg (1999), there has been relatively poor focus on creativity within psychology inasmuch as creativity is the subject of "only" around 0.5% of articles indexed in *Psychological Abstracts* during the period from 1975 to 1994. There have been problems with both defining the con-

cept and investigating it in an empirical manner. Nevertheless, Sternberg identifies six traditions within psychology's understanding of creativity.

- *A spiritual tradition* in which creativity is regarded as a result of divine inspiration. Plato, for example, feels that the poet can only create that which is dictated by the Muse. One still finds artists who say they are inspired by their own Muse. For example, a fashion designer will often speak of a particular film star, model, or musician as his or her Muse. Creativity is here regarded as the result of what is nearly a kind of spiritual inspiration. The word *creativity* is derived from the Latin *creatio*, which can possess religious connotations. The first line of the Bible states, "In the beginning, God created the heavens and the earth," which, from a theological perspective, involves creation *ex nihilo* (i.e., out of nothing). People, in contrast, always create things out of that which already exists, which is undergoing a process of continual renewal. The spiritual tradition plays no role in this book. Rather than refer creativity to a mystical source of inspiration, I seek to study creativity's concrete preconditions in social practices.
- *A pragmatic-technical tradition* in which there is an interest in developing creativity, with less emphasis on understanding the concept. Examples include brainstorming and synthesis techniques. The tradition also asserts that an underestimation of one's own ability can hinder creativity. I, however, would argue that this tradition has contributed to an oversimplification of our understanding of creativity, reducing it to a question of mastering specific techniques. De Bono (1992) is one example of an author often cited within this tradition. He suggests, for instance, exercises with a hat in which, say, a black hat could generate critical thinking for its wearer whereas a red hat could promote intuitive thinking. Techniques have their place, but mastery of ever so many techniques will never ensure that one can act creatively in those practices in which one normally participates outside of a laboratory or classroom environment, something De Bono also continually underlines. When I take inspiration from pragmatism in this book, I do so in terms of a more fundamental conception of knowing as a result of people's practical investigations into and explorations of their surroundings.
- *A psychodynamic tradition* in which creativity is regarded as a result of tension between the conscious reality and the so-called unconscious workings of the mind, finding expression in, for example, sublimation (i.e., in a translation of sexual energy into working life or other domains). In 1908, Freud writes that artists and authors work to express their unconscious desires in a publicly acceptable way. Freud argues that the playful form of art or creation represents an uncon-

scious reversion to childhood games. There is thus something suspicious about the artist's work inasmuch as he or she insists on a playful form of expression. Freud's contemporary, Jung (1922; cited in Pope, 2005), however, feels that Freud's understanding of creativity is too pathological and that the urge for artistic expression is not a sickness. Furthermore, Jung feels that the inspiration to create does not simply arise from the personal unconscious but also from a collective unconscious. According to Jung, the creative is characterized by two contradictory impulses: the introverted process, in which one works against the demands set by one's surroundings/object; and the extroverted process, in which one submits oneself to the demands of one's surroundings/object. In both processes, the artist is unified with his or her product to such an extent that it becomes impossible to distinguish the creator from the created. The psychoanalytic tradition often includes case studies of prominent personalities; although I do not follow this tradition's theoretical basis, I am inspired by its use of individual cases.

- *A psychometric tradition*. Whereas the psychodynamic tradition sees creativity as something that can be studied in particularly outstanding instances exhibited by individuals, Guilford (1950) notes that creativity should also be systematically studied in laboratories through the application of special tasks. This could, for example, be done with tasks in which one is asked to identify possible uses for various items. Varied and nuanced thought is here regarded as characteristic of creativity. The validity of these exercises, however, represents the greatest problem for this tradition. Amabile (1996), for instance, writes that people often score more highly on creativity tests if they know they are participating in creativity tests than if they do not know this. In other words, the testing environment influences the test result. That which appears to be an objective method is, in fact, extremely subjective because the tester's interpretation of what counts as creative is of considerable importance in scoring the results (Rosenbaum & Valsiner, 2011). By the same token, the rather simple creativity tasks that can be studied in a laboratory grant insufficient insight into creative processes as these can extend over time and involve multiple people. The psychometric tradition thus risks developing too narrow a conception of creativity because it can be difficult to test for intercontextual conditions. It is difficult to test in a laboratory how specific ideas come to win broad recognition in society. Will someone who is good at divergent thinking (at thinking differently or contrarily), seeing the whole, and thoroughly analyzing a specific problem likewise excel at doing so in a laboratory setting? I would argue that this has more to do with being in the right place at the right

time than it does with specific thought or problem-solving strategies. However, within a classical experimental framework, one can indeed make detailed explorations of specific variables involved in creativity as operationalized within this limited conceptual framework.

- *A cognitive tradition* in which one studies the mental representations and processes underlying creativity. This has led to a two-phase understanding of creativity that differentiates between a generative phase and an exploratory phase. Weisberg (1986, 1993) is among those researchers who have worked within this tradition; according to him, creativity is linked with altogether mundane cognitive processes such as recollection, association, synthetic endeavour, transformation, and acknowledgment from one area to another. This tradition has contributed the idea that creativity is about "thinking outside the box." As noted, although I feel that lateral thinking can be an element in the creative process, it is far from being the whole story behind the production of new products or the renewal of practice.
- *A social and personality psychological tradition* in which focus rests on the variable of personality, motivation, and environmental aspects of creativity. Independence, self-confidence, focus on complexity, aesthetic focus, a willingness to take risks, spontaneity, freedom, and self-actualization are regarded as decisive characteristics of creative individuals.

Many of the aforementioned factors can be regarded as connected. However, few of these traditions sufficiently explore creativity in everyday life practice (except maybe from the psychoanalytic and social psychology approaches), and they are all variously limited by the scientific ideals and methodological choices that dominated psychology during the periods in which they were formulated.

I feel that the individual theories must be regarded as mutually linked and as potential temporally specific responses to the challenges of understanding creativity. More precisely, each of these traditions has or has had something to offer, and most of the newer creativity theories combine, expand on, and develop insights from them (Csikszentmihalyi, 1996).

Amabile (1983, 1996) seeks just such a synthesis by defining creativity in terms of the decisive roles that motivation, domain-specific theory, and appropriate work style play for creative individuals. According to Amabile, an appropriate work style is characterized by (a) an ability to tackle complexity; (b) use of techniques that can break away from one's ideas, for example, by playing the devil's advocate against them; and (c) a concentrated work style that allows focus to be retained and imbues great energy into the work. Amabile thus grapples with one of the elements in the present book's

theory: the importance of immersion and knowledge of the subject or area with which one wishes to be creative.

Sternberg and O'Hara (1999) highlight a similar definition of creativity as involving the skill of (a) synthesizing (i.e., envisioning new combinations); (b) analyzing (i.e., scrutinizing new ideas and evaluating which are the most productive); and (c) seeing practical possibilities, translating ideas into action, and assessing which ideas can gain a hearing from others.

My Creativity Model is surely standing on the shoulders of these giants. In particular, it is concerned with the learning that people must undertake to identify the practical opportunities for a new idea and making active use of the resistance from materials in the world that one encounters in the creative process. Resistance can be a sign that new ideas are worth pursuing but can, of course, also indicate precisely the opposite. These theories are surely inspirational in the sense that they all emphasize the great work involved in actually realizing the creative potential one can have. Inspired by Sternberg and Lubart's (1995) investment theory of creativity, I argue that people who have achieved significant recognition for their creative activities display a willingness and ability to buy cheap and sell dear. In other words, they consider numerous ideas that have not yet received much recognition, and they cultivate and further process these, often being able to profit from the difference once others discover the trick. This is creative and innovative.

Creativity can also arise during the exchange of ideas that have not yet truly made inroads in the public but that nevertheless possess the potential for growth. In the start, such ideas may even encounter resistance, but "the creative individual" is typically quite persistent. He or she sells his or her ideas dear and then goes on to work on other "unpopular" ideas. In this context, it is of particular importance that an individual is skilled at placing problems in new contexts and thinking unconventionally. He or she must also possess analytical skills for understanding which of these ideas are worth pursuing and which should be left alone. He or she must possess the practical ability to sell or convince others of an idea's relevance. The person must be aware of the relevant knowledge within his or her domain, yet this also risks leading to narrow-mindedness in which one clings to perspectives that have previously proved successful.

As we can see, it is not enough just to have a good idea. One must also master the art of immersion, balance one's knowledge within a given tradition against renewal of this tradition, and possess an array of practical skills such as buying cheap and selling dear. Creativity is not a solitary endeavour. There is a close relationship between the production of the new and the environment's readiness to make use of the new.

THE IMPORTANCE OF COOPERATION IN THE ART OF RENEWAL

The attentive reader will have noticed that none of the psychological theories of creativity described previously places much emphasis on creativity's social or collective dimensions. This is a problem when it comes to speaking of producing creativity, for example, in school and at work. Most students and teachers find themselves in situations in which numerous people work together to create the conditions for creative learning environments or for doing something creative.

It is characteristic of the creativity theories within the cognitive and/or personality psychology that this collective dimension is only rarely called upon; when it is, it is typically used simply as an explanatory factor for why an individual succeeded in being creative. Thus, we need to go a step further than is possible within most psychological research traditions, in which focus usually rests on the individual and, in some newer theories, on the conditioning framework provided by the social (see Amabile, 1996).

For example, Amabile, who is among the most recognized psychological creativity researchers, highlights how competition can negatively influence the individual's creativity, even though being guided by inner motivation or by the case itself is meant to promote creativity. She also points out that creative personalities or people who score highly on creativity tests (e.g., finding the most possible uses for a toy block) have, on average, experienced more loss or sorrow in childhood than have others. However, she is less attentive to the conditions that promote or hinder creativity in collaborative communities of practice in which multiple people work together.

For many teachers today, teamwork is an integral part of the school's agenda. Similarly, for many students, cooperation is something that *must* be mastered in the context of group work and project work, which are extremely common in today's schools. For these reasons alone, we require perspectives on what promotes and hinders creativity in situations involving not just an individual confronted by others or involving attempts to explain an individual's creativity on the basis of events in his or her childhood but also those in which multiple individuals must cooperate to determine how to take action. By the same token, in various situations and at various schools, divergent conceptions constitute creativity. For instance, those who typically score highest on creativity tests will not always be those who excel at creative collaboration, meaning that, when discussing creativity in school, we should do much more to involve the social, not just as a factor influencing the individual's creativity, but also as part of the definition itself.

That is why the present book is so focused on situated creativity, linking back to the discussion of pragmatism and situated learning in which terms such as *context* and *situation* are integral to the conceptualization of learning and creativity. Within the more specifically creativity-oriented literature,

Csikszentmihalyi's (1993) system theoretical criticism of the prevailing individual-centered theories of creativity provides inspiration. Thus, Csikszentmihalyi points out that,

> Where is creativity? The essential burden of the "triangle of creativity" has been to investigate the dialectics among the individual person, or talent: the domain in which the individual is working; and the field of knowledgeable experts who evaluate works in the domain. No matter how talented the individual is, in some abstract sense, unless he or she can connect with a domain and produce works that are valued by the relevant field, it is not possible to ascertain whether that person in fact merits the epithet "creative" (p. 380)

A product or person only becomes creative when recognized as creative by others. This allows us to transcend the hyperindividual understanding of creativity, which is based on the myth of the isolated genius. In contrast, Csikszentmihalyi (1993) perhaps overprivileges the social system's evaluative authorities when locating creativity in interaction between the producer and the public. This means that he risks underestimating the more commonplace forms of creativity, which consist of reacting to unforeseen problems without necessarily being observed by a public that concludes that we have been acting creatively.

Similarly, a system-theoretical understanding such as that of Csikszentmihalyi could be criticized as too conservative. Creativity can, indeed, transgress a domain's existing values and create something new or returning to what is old. Historical experience illustrates that something which we retrospectively regard as creative has not always been when first created, just as we can look back and see how some people have been recognized for creative achievements that have later been considered worthless and absurd. Just think of Hitler and Nazism. With this criticism in mind, we must nevertheless state that, at the time it was first presented, Csikszentmihalyi's theory represented a much-needed correction of the hyperindividual understandings of creativity that celebrated only original and ingenious producers, even if the new theory still sees the creative process as an individual occurrence that is subsequently assessed by its environment.

Vlad Glăveanu is among the newer creativity researchers who have taken up the mantle following the earlier system theoretical and social psychological approaches. In a 2013 issue of the *Review of General Psychology*, Glăveanu presents an expansion—or, rather, a critique—of the Four P model of creativity. Glăveanu describes how, over the past five decades, the psychology of creativity has been influenced by what is known as the idea of the Four Ps of creative expression: person, process, product, and press (Rhodes, 1961). According to Rhodes's model, creativity is a result of mental processes localized within individuals, which manifest themselves through new thoughts, ideas, products, or processes, all of which occur in a particular environ-

ment. This Four P approach has been just as influential in the creativity literature as have Guilford's (1950) differentiation between divergent and convergent thinking and Wallas's (1926) Four Phase model of creativity. However, Glăveanu's critique is that this also supports an individualistic, static, and often disjointed vision of creativity and that it is frequently difficult to account for interaction within the Four P model, the elements of which are viewed as more or less distinct.

Accordingly, Glăveanu (2013) seeks to rewrite this fundamental language of the discipline by using terms that explicitly endorse a systemic, contextual, and dynamic approach. Instead of Four Ps, Glăveanu suggests a Five A framework—actor, action, artefact, audience, and affordances—grounded in current literature from sociocultural and ecological psychology as well as theories of the distributed mind. All creativity encompasses actors, actions, artefacts, an audience, and a series of affordances in our environment, which beckon toward creativity.

Glăveanu (2013) proposes that the Five A framework be regarded as an integrated and analytical framework for studies of creativity, much in line with the presently suggested situated approach to creativity, in which creativity is grounded in a framework of participation in social practices rather than in individual minds. According to Glăveanu, this is in line with the most recent advances in cognitive science, namely, the idea of an embodied, embedded, enacted, and extended mind (see Rowlands, 2010). Mental processes are gradually coming to be seen not as taking place exclusively "in the head" but as situated and distributed between brain and body, person and environment. Glăveanu thus shares the situated and distributed understanding of consciousness and creative processes found in this book. There is, however, a difference in nuance.

Whereas Glăveanu is preoccupied with developing an overarching and a general model of creativity rooted in sociocultural psychology, my approach in the present book is slightly different. This is a result of the present book's conceptual distinction among three aspects involved in creative learning processes: (a) immersion in a subject, (b) experiments and fooling around, and (c) resistance from the material with which one is working. These distinctions move closer to the creative learning process and are particularly relevant for understanding the pedagogical issues associated with developing creative means of relating with one another in the context of education. Whereas every analysis of creativity could benefit from a glance at the proposed Five A model, the present book focuses on developing those concepts that are of special relevance in an educational and a pedagogical context in which the aim is to refine and develop creative action among students by allowing them to encounter and experiment with subjects and traditions. Moreover, in the present book, I work on a "content" model of creativity by actually specifying certain processes, in particular, in

the area of learning whereas the five As are a more structural, organizing framework. The implications of this relational, situational, and distributed perspective on creativity are expressed in and further developed by the following empirical analyses.

In summary, we must conclude that while the traditional psychological understandings of creativity privilege the individual's talent for creative thinking, newer and situated understandings focus on the conditions for creativity and change in social practices. Hence, interest is now more directed toward the relationship between continuity and change in social practices and less toward isolated novelties churned out by flexibly thinking individuals. The present book aims to utilize this situated thinking to analyzer creativity in education, school, and pedagogy. With this in mind, we now turn to the more empirical section of the book.

The first chapter in the next empirical section deals with teachers' experiences of the conditions for developing their own and others' creativity in a Danish primary school, giving voice to teachers' own understandings of what creativity is and how they have been pressured by national testing and new managerial monitoring. This chapter stresses that we should be open to a multitude of understandings of creativity and that teachers' ideals of creativity have an impact on the types of creativity that students can display. A slightly adapted version of the chapter previously appeared in the *European Journal of Teacher Education* and is here reproduced with permission from the publisher. This is followed by examples from and chapters based on empirical studies of apprenticeship and artistic practice.

For now, I offer just a short reader's guide. The reader can now choose at least two reading paths through the rest of the book. The one path goes laboriously through the next four empirically based chapters, and the reader can take the many empirical digressions and nuances with her. The other path goes directly to Chapter 9, in which I will elaborate my Creativity Learning Model on the basis of the empirical chapters. That is, the reader with most interest in the model can go directly to Chapter 9. The latter path is quicker, easier, and thoroughly legitimate whereas the first path gives more depth to the reading. The reader might choose both paths or zig-zag back and forth in the book. A bit of fooling around in the book may even facilitate a bit of creativity.

SECTION 1

EMPIRICAL STUDIES OF CREATIVITY

CHAPTER 5

STORIES ABOUT CREATIVE TEACHING AND PRODUCTIVE LEARNING

Daring to Be a Little Bold

The previous chapters have been concerned with laying out the basic assumptions behind a pragmatic, situated understanding of creativity. We will now turn to a more empirical exploration hereof, going into details with examples of creativity as well as conditions facilitating these in the case of teachers, artists, and apprentices.

The present chapter is based on an empirical, interview-based research project investigating resources and barriers to creative teaching in three Danish primary and secondary schools. The analysis shows how project-based teaching seems to represent a creativity oasis for both teachers and students. Furthermore, the work identifies a distinction between art-based and problem-solving approaches to creativity and suggests that teachers help students work with the various opportunities for creative learning represented by different subjects in school. In addition, this chapter high-

Fooling Around: Creating Learning Pathways,
pages 53–70.

lights a dilemma in the dual demand that teachers conform with centrally defined testing systems, on the one hand, yet also react to the challenges confronting our society by bringing up students who dare to take risks, challenge the existing order, and create something new, on the other. The empirical themes highlighted serves as the basis for my later elaboration of the creative learning model presented in brief in the earlier chapters.

INTRODUCTION

As we have learned throughout this book, creativity is enjoying a global renaissance of interest in politics, academic disciplines such as psychology, and the domain of education. Learners and workers are expected to apply what they learn in new and creative ways to ensure continued productivity, economic growth, and social welfare.

In Denmark, teachers are increasingly introduced to methods of creative teaching while the arts, material design, and sports have been turned into potentially testable subjects at the secondary level.[1] Little attention, however, has been paid to what, precisely, constitutes creativity and to the specific role that schools in general are meant to play in this scenario. The present chapter delves into these issues on the basis of an empirical, interview-based research project investigating resources and barriers to creative teaching and learning in three Danish primary and secondary schools. The research project aimed to discover how teachers talk about creativity at a school community level and to identify what they recognize as creative acts among students at the primary and secondary school levels.

The research project also aimed to investigate the role played by teacher conceptions of creativity relative to promoting student creativity. This is based on the assumption that what teachers speak of as creative acts among students is also what they regard as creative in this context. That is, discourses concerning creativity among teachers can be important relative to who receives credit for what kinds of creativity among students.

As such, the present chapter address the conditions related to teaching that might hinder or foster creativity, while the later chapters go deeper into a discussion of the concept of learning in relation to creativity, which I earlier suggested needs more intensive focus within the literature concerning creativity. However, if the condition for creativity is deliberate practice, as advocated earlier, most people would need some kind of schooling because such a practice is hard to design by the person him or herself. A skilled teacher or coach can help design learning experiences that guide children toward creative learning pathways (Sawyer, 2013). Conversely, we need to study more deeply what facilities or hinders this development.

This chapter is structured as follows. First, I outline the theoretical perspective on creativity in school. Second, I describe the methodological as-

pects of the project, specifically its focus group approach. Third, I present the results, discussion, and conclusion.

THEORETICAL FRAMEWORK

As mentioned earlier in this book, a relatively wide definition of creativity would be to suggest that "'to create is to act in the world, or on the world, in a new and significant way" (Mason, 2003), also leading to the definition of creativity proposed in the present book, namely, creativity is represented by those actions contributing to a valuable renewal of existing practices. Accordingly, few researchers today disagree that creativity is a process leading to novel outcomes or novel actions that are also valuable in relation to specific aims within specific contexts (Sternberg, 2006).

This chapter concerns creativity at a school community level. Emphasis is on what Glăveanu (2010) terms "we-creativity," that is, creativity at a community level. As mentioned in an earlier chapter, within creativity research, a basic shift has taken place from the concept of the solitary genius (the he-paradigm) to that of the normal and creative individual (the I-paradigm), in which each individual is seen as possessing creative potential that should be developed. However, "we-creativity" is a more fundamentally social approach to creativity. We-creativity is the study of how, in this respect, schools not only condition creative processes but also play a role in determining the nature of these processes. For example, teachers condition certain types of creativity not just through their teaching but also through the manner in which they speak about creativity. Furthermore, the ways in which teachers organize everyday life at school is significant for the actual creative processes that occur.

With regard to we-creativity, it is vital to consider how teachers can actually teach for creativity. In her book *Creativity in Schools*, Craft (2005) discusses the possible roles of schools within the creativity discourse and proposes a distinction between (a) teaching for creativity, and (b) teaching creatively. A subsequent distinction is also made between *creative learning* and *teaching creatively*, recognizing that there is—or should be—a close relationship between teaching creatively and learning to be more creative, as both a student and a teacher.

A more moderate notion of teaching for creativity is that teaching can play a role in nurturing students' willingness to take risks. In his book on education and creativity, Cropley (2001) refers to Schwarzkopf's interesting 1981 study of a group of women being trained in needlework. The teacher encouraged the students to work with new methods, and after one year, a follow-up study showed that the students had indeed become more eager to experiment with their work. Thus, if a teacher challenges students to experiment, the students will, if we follow the premises of the previous conclusion, become keener to try new things.

The second conception of "creative teaching" goes a bit deeper into the characteristics of teaching. In this latter sense, teaching is seen as a potentially creative and improvised activity, forming the backdrop to continued change in the daily work of teachers and schools as institutions. A major claim within this framework is that teachers who are creative—that is, who experiment with new ideas and ways of teaching when their work seems to call for it—create the best conditions for enabling students to become creative. In this respect, the creative teacher reflects on his or her actions (Craft, Gardner, & Claxton, 2008; Schön, 1987; Tanggaard, 2010a).

Sawyer (2004) underlines this point by distinguishing between the creative teacher, who responds to the requirements of daily teaching practice by improvising as a central element of the teaching, and the teacher who is obliged to teach according to a manual. According to Sawyer, teachers in the socially marginalized ghetto areas of New York City are obliged to teach according to specific manuals to ensure higher scores on tests on which the manuals are based. The system thus ensures that teaching is closely linked to the tests, and it is often effective in the sense that students achieve higher scores on the tests. An associated dilemma is that the teacher who works according to the manual rather than working as a reflective and an improvisational practitioner tends to react as an actor reading from a script. When teaching according to the manual and following the given tasks, obligations, and rules for teaching, it is possible to raise students' test scores, yet the teaching becomes less likely to challenge students who are capable of going beyond the framework of the test.

In this sense, such teaching methods become a barrier to creativity, understood as transcending the existing paradigm or posing new questions. Students will become better at responding correctly to expected test questions. However, a possibly unintended side effect could be that the students find it more difficult to cope with a more open, exploratory testing situation in which they are asked to create their own definitions of problems.

The debate regarding the implications of this increased focus on manual-controlled teaching is not, however, relevant only in an American context. In Denmark, the context from which the empirical data in this chapter is extracted, the introduction of national tests, an increased focus on nationalized and centrally defined goals within each subject, and a new public ranking of schools based on students' mean grades in the final schools years all seem to indicate a move toward more standardized and controlled conditions for teaching as well as a higher degree of external control and surveillance.

While the situation in Denmark is still far removed from teaching-by-manual, judging by the empirical evidence and interviews in this chapter, these new conditions for teaching influence, intentionally or otherwise, teachers' everyday lives. Teachers perceive pressure to achieve the objec-

tives of various centrally defined subjects and materials. Although they acknowledge that they could achieve these goals by experimenting with their teaching, they are nervous of the reactions from administrators and parents should students fail to make a good impression at examinations or acquire a suitable grade point average. The crux of the matter is not whether parents or leaders actually react but rather that the system installs a real or perceived surveillance system. Teachers are at risk of losing their willingness to be creative or experiment and may lose confidence in their own ability to judge how to teach according to specific classroom situations.

FROM NORMATIVE TO EMPIRICAL PERSPECTIVES ON CREATIVITY

At a more general level, one can find dozens of perspectives in the literature on how to nurture student creativity through various teaching methods and through creativity-promoting learning environments. In a review study, Fasko (2000–2001) summarizes the primary advice found in much of the literature on creativity in education. In this literature, the teacher or coach is advised to reinforce and support students' spontaneous ideas, regard certain types of mistakes as positive aspects of the learning process, allow digressions in the interest of students, allow enough time for optimal learning (creativity is less likely when it is subject to time pressure), ensure that the teaching and learning environment is characterized by common respect and acceptance, allow students to be part of the decision processes by involving everybody, and use feedback as a central element of teaching.

The general impression gained from reading the review is that any teacher urged to facilitate student creativity will need to perform at a very high level indeed—not least to make available materials and tools for experimentation and for students' exploratory discovery of new ideas. According to Amabile (1996), student creativity is reduced if students work for rewards, are subject to intense competition, experience a high degree of surveillance or control, and have few choices of their own. However, Amabile argues that competition or motivation through external rewards can, in some cases, be productive. This may be the case if students have a relatively high level of self-confidence and/or are not "blocked" by the knowledge that competition or external rewards are part of the process.

A considerable portion of the previous literature (see also Torrance, 1972) is based on the fundamental assumption that creativity concerns thinking differently and divergently, and it is probably true that such thinking can be developed by the earlier methods. However, it is useful to consider whether providing a suitable amount of feedback to students or involving them in ongoing decision making within the classroom are specifically creativity enhancing or whether these merely amount to descriptions of

suitable conditions for fruitful school learning. We can thus question the reason for the increased focus on creativity within educational contexts.

In her book on creativity in schools, Craft (2005) stresses the need for empirical research to help us define more precisely what constitutes actual frameworks and conditions for creative learning and/or teaching for creativity. The literature on creativity in education, of which a few references are given previously, offers many suggestions and substantial advice for teachers. However, few empirical, qualitative, and practice-based studies exist, such as those found in the present chapter and in the present book, on how to actually conduct teaching aimed at enhancing the creativity of students and on how teachers conceive of the relatively new or rehabilitated emphasis on creativity in schools (Craft, 2008).

The following discussion attempts to remedy this gap in our knowledge by investigating teachers' experiences and interpretations of their current reality concerning teaching for creativity and creative teaching. The study's point of departure is a set of three semi-structured focus group research interviews with 14 teachers at three Danish primary and secondary schools. The stories contain examples of creative teaching and learning but also raise the fundamental issue of whether an ongoing and increased focus on tests and control of student learning promotes or hinders student creativity. The chapter also analyzes the implications of the creativity discourse for the everyday life of teachers and, as such, for the institution of school itself.

METHODOLOGY/RESEARCH DESIGN

Participants

The 14 interviewed teachers work at three different schools in Denmark. The school selection strategy comes close to the maximum variation principle described by Flyvbjerg (2006). These kinds of selection criteria are relevant for obtaining information about the significance of various circumstances for case process and outcome (e.g., three to five cases that are different in terms of a single dimension: size, form of organization, location, and budget). Accordingly, one selected school is located in a large city in Denmark with many students from socially and ethnically diverse backgrounds, one is a small-town school with only a few students who are from homogenous social backgrounds, and one is a relatively large city school located outside of the capital region. The teachers are at both the primary and secondary levels. The strategy for selecting them was also based on the maximum variation principle, so that participants differed with regard to gender, age, job experience, and teaching areas.

This approach allowed for interesting and useful discussions in each interview due to the often different perspectives of the interview participants. However, the conclusions drawn from each interview are strikingly general,

in the sense that the same overall themes arise in all interviews. Against this backdrop, the present chapter provides in-depth insight into one of the focus group interviews with four teachers in the large city school outside of the capital region. This enables us to follow, at reasonable length, the progression of the interview while nevertheless focusing on themes that are common to the empirical material as a whole.

Qualitative Focus Group Interviews

In the present context, the focus group interviews are regarded as constituting a specific setting for the dialogical production of diverse discursive repertoires of creativity expressed by the teachers (Tanggaard, 2009a). As such, the interviews aim to give voice to dissenting discourses within the specific interview settings embedded in and reflecting broader diversity within institutional talk and practices, concerning creativity phenomena in particular. A focus group interview is relevant when searching for empirical data on how social groups understand and interpret a particular topic. The topic is most often chosen by the researcher (Barbour, 2007). In this context, the approach allowed participants to express their sentiments, tell stories, and digress from the topic at hand in order to convey their perspectives and elucidate the issues that concern them. The interviewer steered the conversation and used her "power position" as an interviewer to introduce new questions to the group. She often asked the group to continue the conversation when it touched directly on the research question. Within each interview, the group of teachers knew each other quite well. While it is difficult to ascertain exactly what effect the relational history of the group members had on the flow of the conversation, it seemed to have created an atmosphere of trust in the various interviews. Open-minded discussions of the teachers' various opinions on conceiving of and recognizing creativity among students took place on this basis (see also Barbour, 2007). The results provide rich and illuminating descriptions of participant experiences, many of which are shared in the present chapter's quotations. The interviews were transcribed verbatim by a research assistant. Names are used in order to enhance readability but are pseudonyms.

The interviews were semi-structured and based on an interview guide that was identical for all three focus group interviews. The guide revolved around the overall research theme of "How do teachers teach for creativity, and how do they perceive the concept of creativity?" Within each interview, the interviewer asked for the group's opinions on the role of creativity in school and asked the teachers to specify how they conceive of creativity among students. However, the actual flow of conversation determined whether and when to introduce new questions to guide the interview toward the topic of creativity. The criteria for participant selection included willingness to participate in a tape-recorded interview. Participants were

volunteers and were not paid for any part of their involvement in the research.

Open coding strategies inspired by grounded theory and a more theoretical or concept-driven approach were used to analyze participants' transcripts (Kvale & Brinkmann, 2008). Open coding is an inductive approach that examines the repetition of phrases, words, and key constructs. This approach involved moving from the specifics of the data provided to the general themes that emerged from coding the transcripts. The more theoretical approach viewed the transcript through the lenses of existing concepts of creativity and studies of creative teaching. There was a circular movement along and an interchange between these two analytical strategies.

EMPIRICAL THEMES

Within each interview, the diverse interpretations of the creativity discourse emerged as a central topic, prompted in part by the interviewer's concern with precisely this aspect. Another central issue was the experience of being increasingly controlled by external demands. Some teachers found this more prominent than others; it is of particular interest that questions concerning creativity seemed to prompt answers to and discussions about which external demands actually hinder teaching for creativity or creative teaching.

Creativity: Diverse Interpretations

Researchers do not agree on a clear-cut definition of creativity (Pope, 2005). In the interviews, the teachers likewise discuss their conceptions and interpretations of the phenomenon. Is creativity an individual phenomenon? Is it achieved by groups? Do the products of creativity need an art-based flavor? Need one know the rules in order to break them? (These discussions are all present in interview transcripts.) However, when asked directly about their immediate ideas concerning creativity, teachers frequently emphasized aesthetic or norm-breaking kinds of creativity:

I: What are your views on creativity?

Dorrit: I'm thinking about the students who sit in class and just always create something. And if we go for a walk in the forest, they make a wreath or something [out of leaves]. And Olga, she's always drawing something. It's not that she doesn't listen. In art, she makes very beautiful things. It's as if there's a need for creation inside her.

Søren: I guess we have a different perspective on creativity at the secondary level and *overall* on the issue. Sometimes, one gets the impression that student creativity at this level is about not doing what you're told. There are really many creative

> ways in which students avoid doing certain tasks. Sometimes, they spend more energy avoiding problems than actually working on them. And then I have to return to the 20% of our students who drop out of school or disengage because it's all more of the same. These are the students who think creatively. They are really obstructive; they can do a lot of things. But by approaching creativity in a disciplinary way, we often kill it. The truth is, we do just that at the upper-secondary level.

In the interview, both Rebekka and Dorrit seem to generate a conception of creativity as a kind of art in which students engage. This kind of creativity seems to run parallel to or supplement the teaching process. As noted in the creativity research related to schools (Craft, 2005; Cropley, 2001), there is an ongoing debate about whether creativity should be "reduced" to aesthetic expression or instead defined as basically a way of solving problems. In the actual interview, the former position is taken by teachers at the primary level whereas the latter is taken by Søren, who teaches at the secondary level. However, another interpretation of creativity is also at stake in the interview. Søren defines one kind of creativity as having to do with avoiding certain forms of schoolwork. The definition of such creativity comes close to the subtle distinction between what is allowed and what is not—the active confrontation and critique of established systems and institutions.

Accordingly, this kind of creativity approaches the famous description of a "counter-school culture" among working-class children in the early 1970s in the United Kingdom (Willis, 1977). This certainly constitutes creativity in a radical sense. Within schools, the possibly subtle distinction between creating something new and significant and breaking from normal codes of conduct can represent a challenge in everyday life. One interpretation would be that a truly creative school must, on the one hand, regularly negotiate how to meet the needs and requirements of students and, on the other hand, insist on certain rules and regulations with respect to behavior. In an analysis of student dropout rates in vocational education in Australia, Smyth and Hattam (2002) suggest that such a negotiating stance is often adopted by schools with an active and, we may add, creative school culture. Furthermore, such schools are able to motivate students who are otherwise at risk of dropping out because the students feel their critique of and opposition to the school system are heard and taken seriously.

Do You Have to Break Rules to Be Creative?

Another central issue arising in the interviews is whether creative learning also requires creative teaching and special techniques. Alternatively, is it more a matter of combining the student's knowledge of traditions and a

certain amount of school routine with a degree of encouragement (or at least acceptance) of the breaking of rules by students? In the interview, this discussion evolves into an almost Socratic dialogue between the teachers:

Dorrit: In my mind, rules and creativity are opposites.
Annemette: But a handball player can be very creative in how she plays.
Søren: Yes.
Dorrit: Yes.
Rebekka: But there are rules as well.
Dorrit: Yes.
Rebekka: Because otherwise, the game wouldn't work when playing with others.
Dorrit: But it's when she breaks the rules that she's creative.
Annemette: No, it's not. It's when she's playing very well. (laughter)
Dorrit: When really thinking, when doing a new trick nobody has done before, like Michael Laudrup [*a famous Danish football player*].
Rebekka: Yes, or like Anja Andersen [*a famous Danish handball player*] when scoring around at the back.
Dorrit: Then it's something she created herself.
Rebekka: Yes. That's creative.
Dorrit: Something never seen before, that's creative.
Rebekka: Yes.
Annemette: But it's against the rules.
Dorrit: No, but that's what one learns when learning to play handball.
Rebekka: No, but it's the result of her ability . . .
Annemette: It's a result of . . .
Rebekka: Her having learned to play handball.
Annemette: It comes from herself. She's created it herself.
Søren: Come on, she can't play and shoot if she doesn't know the rules.
Rebekka: If she doesn't know the rules of the game.
Søren: If you weren't allowed to jump over the line, she'd just run through the defense and shoot the ball.

According to the teachers' discussion, we cannot be creative if we do not know the rules. A condition of being able to play well is that we know the rules of the game. However, the general question is whether we are being creative by breaking the rules or by playing well. In other words, which of the two creates something new? The latter concept is analogous to newer theories of creativity, such as that of Csikszentmihalyi (1996), who stresses that there can be no creativity if the new is not recognized as such with-

in given regimes and domains. Creativity is the phenomenon of creating something "good," of producing something of value to others so that, for example, a genius may violate or break the rules and still be creative in this manner. The interpretation of creativity as breaking the rules is closer to the cognitive and individualistic notion of creativity as thinking and acting as radically as possible. The discussion also pinpoints the following dilemma: To what degree can we concentrate on conveying skills and good thinking habits that might, in some respects, constitute a barrier to the risk-taking necessary for creative improvisation? On a related note, we may ask whether a high degree of regulation and control minimizes the interaction between good ideas that forms the basis of creativity.

This discussion also initiates a debate within the interview as to whether creativity is "killed" after primary school or whether it is necessary for teachers to be even more creative in secondary school in order to enable the students to acquire certain skills and knowledge areas. In the following discussion, it is evident how conceptions of creativity cross swords and how the teachers challenge one another:

Dorrit: I think we're very creative in primary school. It's my impression that all teachers are very creative. And I get really upset when I see how the kids who were involved in creative learning in primary school just get this knocked out of them at the secondary level.

Søren: No, no, no. Stop that. What I've been saying is that we're very creative at the secondary level. I mean, you really have to be very creative as a teacher to do non-creative teaching.

Annemette: How does that work?

Søren: I really mean it. If you're constantly measured by results, if you need to reach certain goals within rigid constraints, it's really hard to motivate students. This requires true creativity. I mean, to see that equations are exciting stuff. In general, it's very, very boring to 99.9% of all human beings. Definitely, we're creative too, but we may not address it as clearly as you do in primary school. Well, you might be cleverer than we are. It's not my job to judge that. You're really good at saying things the right way, but . . .

Dorrit: I'm quite sure that you're much better at doing equations than I am. (laughter)

Søren: But I am—I mean, we *are* creative. Maybe it's just more difficult for us to show it.

In the prior dialogue, Dorrit emphasizes how creative primary school teachers are, possibly inspired by Søren's earlier focus on the need for con-

ditions that are more conducive to productive and creative learning within secondary school. She indicates that it is a problem if they are working with creative forms of learning in primary school, just for those forms to be more or less placed into cold storage in secondary school. Søren objects to this sentiment by referring to the fact that creativity is expressed differently in mathematics. At a more analytical level, one interpretation would be that the potential for making creative thinking and creative production a continuous process throughout a student's schooling declines if the student is not actually made aware that creativity can take a different form in mathematics than in other subjects, such as arts and crafts.

CREATIVITY AS A SPONTANEOUS PROCESS OR AS EVERYDAY ANALYSIS AND ADJUSTMENT

When asked whether they have become less creative over the past few years, Annemette, one of the teachers in the city school outside of the capital region, replies, "No, we're managed more top-down, but I guess the creativity and the energy is still there." "Yes," says Søren, "because we're now creative in a more analytical sense." It is thus Søren's impression that they, as a group of teachers, have become more reflective, more analytical, and perhaps more modest with regard to their activities. Taking an analytical approach to these statements, a certain degree of freedom, idea support, trust, openness, playfulness, humour, conflict, and risk-taking among employers is often mentioned as promoting the "creative climate" of an organization (Moultrie & Young, 2009). Building on the previous interview statements from the teachers, the potentially lower degree of freedom and risk-taking among teachers might represent a challenge to increasing teacher creativity at this particular school.

In the next part of the interview, the teachers reflect on precisely this relationship between the spontaneity and the more analytical promotion of creativity:

Rebekka: These days, we're working very hard in a very structured manner on plans for the year. We used to be involved in many of these projects, you know. Hey, the circus is coming to town, let's do something, just grasp the idea and do something. I don't think we see much of that anymore, if that's what you'd term creativity—spontaneity.

Annemette: Yes, being spontaneous.

Dorrit: I guess much of that has been pushed aside in recent years, but I believe it'll return if we're brave enough to think like Rebekka and Annemette. Oh, yes, we have our plans for the year, but let's just do it, dare to be a little bold.

FIGURE 5.1. Daring to Be a Little Bold.

The teachers thus discuss how school has become much more structured than it once was as a result of rational planning and organized time allocation. They contrast this with being more spontaneous. In this sense, creativity is seen as brashness, as daring to break away from the plan or rules and to defy the existing order. Returning to the research questions on how teachers conceive of creativity and how this affects their everyday recognition of creativity among themselves and students, one could say that the latitude for engendering creative action is regarded as being limited to that which is not risky and which can be planned with relative ease.

Creativity as an Aspect of Project-Organized Thematic Work

In each interview, teachers indicate that project-based or workshop activities are the most creativity-promoting school activities:

> Rebekka: It's my experience, at least within our team, that we have an increased focus in our "theme weeks" each year on giving the teaching a twist of creativity. I don't know if it's actually kind of a compensation for our everyday work, but it's my

impression that, when we're finally teaching thematically, four to five weeks each year, then we have an increased focus on creativity. We think differently. They're supposed to cook something, to swim, to play, to do crazy things, you know, we call things by different names. Some years ago we had this huge Harry Potter week. It was amazing. It grew and grew and crazy new ideas came up. I don't know. What do you think?

Annemette: Yes, that's my impression as well, especially the feeling that things grow and are bubbling with excitement.

Rebekka: Yes, it's bubbling over.

Annemette: It grows. It jumps out.

Rebekka: Yes, and after 14 days like that, you need to get back to the usual routine within the usual framework, and some of the kids need that as well.

Annemette: Yes.

Rebekka: We can't do it all the time.

Annemette: No, it's difficult to keep up the spirit.

Rebekka: Yes, yes, you get carried away with it yourself.

The "seething and bubbling" metaphor for creative work is an interesting and revealing one. Based on the teachers' statements, creativity means that things develop or grow in new and unexpected directions.. One interpretation is that the thematic project weeks might constitute a framework for digging more deeply into one or more themes. Some researchers on teaching for creativity have emphasized how such absorption into particular themes creates suitable conditions for creativity (Lindström, 2009).

Furthermore, the thematic work seems to represent a break from the everyday teaching routine, one that can be experienced as inspiring for both teachers and students. However, the energy outlet in these weeks often results in a need to return to the usual framework. Compared to the previous experience, that the leeway for creativity in everyday school life has become constrained in recent years due to increasing pressure on rational planning and control of what teachers may do in their classes, project-based work seems to represent an oasis for more spontaneous teaching. The students also seem to gain access to an experience of creative learning (Craft, 2005) that more thoroughly explores particular subjects and is able to make the theme grow in new and unexpected directions.

Pressure Confronts Creativity

An issue that often arises in the prior interview is that various external pressures represent a threat to creativity. This refers to demands and requirements that are perceived as external and possibly unwelcome. Annemette

expresses it in the following way: "No doubt about it, within teaching, there are a lot of good girls who do what they're told, right? And the learning issue is to say, 'No, what the hell, we'll do it this way.' The other way isn't exactly our style."

The more radical form of creativity, meaning opposition to authority or existing rules and regulations, appears difficult to achieve in a school system that recruits many "good" girls and boys as teachers. Søren, who is a teacher at the upper secondary level, emphasizes the experience of an increased focus on measurement, accountability, and public comparisons of grade levels in public schools as a kind of surveillance that makes it difficult to insist on a form of teaching that will not necessarily lead to better test scores:

Søren: At the upper level, we're measured by the grade levels of our students. This is all new to us. The principal will check the grade point average. And if you have, let's say, three classes, and the grade point average is high in two classes but not in the third, then the question pops up of "Why is this one class not performing?"

Dorrit: Is that uncomfortable for you?

Søren: No, not at all. I'm indifferent. There's a reason for everything. But the result may be that the spontaneity disappears. You don't suddenly build triangles in the schoolyard or find Pythagoras' doctrine or something else. It disappears because you become focused on theory and less on the practical side of things. And it's a fact that creativity among students is more evident when we focus on the practical aspects of teaching because theory, and the mental images in theory, we can't do them in mathematics.

Dorrit: Yes, but this is surely an issue in primary school too, where each student is tested for reading ability and language skills and so on. And definitely, it was no surprise to find that my class didn't read very well. I mean, act as a substitute teacher for one hour, and you'll know why. (laughter)

Søren: And we're not checked so we can perform better. That's what upsets me. It's only the school's reputation that matters.

The teachers here are pointing to central dilemmas relating to the conditions that foster creativity. On the one hand, testing, measurements, and the like can be experienced as external demands that do not really support teaching. They often fail to convey more than a substitute teacher would observe by spending one hour in each class, as Dorrit expresses it. The com-

parison of grades at each school and within each class have become part of the branding and marketing of the school to new customers, although the effect this comparison has on learning is less clear.

In the interview, Søren continually underlines the problem they face as teachers when external pressure for tests and control constrains a more practice-based approach to learning, an approach that results in more students learning mathematics. One aspect of this problem is that, when making room for more practice-based teaching, Søren often "trips on his own shadow" because the alternative of creative teaching forces him to spend more hours in preparing for class. The implication of this dilemma is that the apparently easier or more convenient paper-and-pencil teaching often comes to the fore.

Likewise, in a recent article titled "Productive Learning," Lillejord and Dysthe (2008) outline how productive learning can be compared with creative learning. In their view, productive learning facilitates exploration, curiosity, experiments, and community-oriented learning. According to the authors, such learning is increasingly important in an age that celebrates lifelong learning, critical thinking, and creative solutions to large-scale societal problems. If productive learning is promoted through practice-based teaching (e.g., mathematical problem solving on the football pitch, measuring lengths and calculating distances, or counting when baking cakes in home economics), then reducing these activities in favor of more easily managed paper-and pencil-mathematics in the classroom represents a threat to creative learning among students. The stricter the notion of teaching, the less latitude there will be for alternative and new ways of teaching (i.e., for teaching creatively) and the smaller the space for new kinds of learning among students (i.e., creative learning).

CONCLUSIONS AND PERSPECTIVES

We have witnessed four teachers' informative discussions about their conceptions, perceptions, and experiences of creativity. The interview is an opportunity to briefly consider how these discussions relate to the more general theme of creativity within the literature.

We can begin by considering the part of the interview in which Dorrit and Søren discuss the distinction between teaching creatively and ensuring creative learning by use of certain techniques and a departure from art-based approaches. This discussion is also described by Craft (2005) and Sawyer (2004).

Sawyer's point is that it is impossible to teach competently without being creative to some degree—which is exactly what Søren claims. To be successful in teaching, a profession in which goals are difficult to achieve and in which the demands of centrally defined goals are more daunting than ever, teachers must be creative. There can be a quest for constant improvisation

in order to resolve the dilemmas of teaching students who may, for example, find mathematics difficult. Everyday reality, with its many externally defined requirements, may require the same approach.

Craft (2005) likewise emphasizes that teachers often need to teach in creative ways in order to ensure creative learning. As part of this process, Craft confirms Sawyer's (2004) call for improvisation, dialogue, and debate within teaching and learning activities. Teachers must lay the groundwork for student creativity by acting as creative and reflective practitioners. Only through such behavior will students discover the true nature of creativity and how to be creative themselves. Within such discourse, it is not a sign of creativity to use scissors and to work with art in the classroom, even if such activities do, indeed, have the potential to result in creative products. The main point is that creativity is more of a problem-solving approach, a means of defining traditions of living and part of the daily improvisational approach to handling everyday life and finding new solutions to life's ubiquitous dilemmas.

This may also point to a possible difference between, on the one hand, "expressing oneself" through painting, other kinds of arts, or similar activities that possess no other goal than the cultivation of feelings and emotions and, on the other hand, the kind of creativity in which a product is given value and through which products of great societal or historical importance are produced.

A valid conclusion to the prior debate is surely the pragmatic statement that before schools can develop creativity among students, they must allow teachers to be creative. That is, teachers must be able and willing to experiment with their teaching whenever necessary and in such a way as to demonstrate to students how to work creatively. In such situations, students can ideally be challenged to confront and engage in a dialogue with the teacher and with other students and, through this process, can find their own style—their own way of confronting problems and producing new things.

An insistence on the need for improvisation, for people who wish to be true professionals, contrasts directly with tendencies (highlighted by Sawyer 2004), to reduce teachers to mere technicians administrating a series of centrally defined procedures for (allegedly) good teaching and learning. Teachers must be more than just technicians inasmuch as unexpected situations arise in daily practice, and inevitable changes require a mastery of the art of improvisation in response to the specific challenges of the situation. Accordingly, there is a real dilemma between the demand that teachers conform to centrally defined test systems and the challenges facing our societies relative to bringing up students who dare to take risks, challenge the existing order, and create something new. This is not to say that tests cannot promote creativity, and what is more, teachers can use tests in creative ways. Rather, it is to highlight a tension that must be taken seriously and

acted on. Frameworks, tests, deadlines, and other constraints can indeed enhance creativity. Tests do not in themselves act as barriers to creativity, but the nature of the test material—the types and content of the tests—is extremely important for the ultimate impact of the learning process. If tests are designed to facilitate student creativity, they must, somewhat radically expressed, measure and evaluate students' abilities to change the existing order and, one way or another, create something new.

This highlights, if somewhat indirectly, the importance of a pragmatically situated perspective on creative learning processes, with a focus on the teacher's role as an improvisational practitioner who hereby promotes student creativity. This is in sharp contrast to a more static understanding of the teacher as someone who follows preset manuals for teaching to ensure the right answers on the tests for which they were designed.

The following two chapters are written on the background of a recent interview study conducted by myself in collaboration with Christian Stadil. Our aim was to study everyday life creativity and the changing context around the concept. Furthermore, we intended to study odd cases, meaning instances of creativity not usually taken up by creativity researchers. Accordingly, in Chapter 7, we will study yet another example of creativity in a school context. This is, however, a special school context normally not associated with creativity. The chapter explores the creativity found in an old and removed boarding school in Denmark. Chapter 7 is based on an interview with an artist refusing to speak much about creativity as he prefers the ideas related to apprenticeship and a continuation of tradition. However, as mentioned in the beginning of this book, to study everyday life creativity must imply also the study of odd cases in everyday life as well as cases of creativity often forgotten by creativity researchers, who are more concerned with the new than with tradition and the possible truth found in critiques of creativity.

NOTE

1. http://www.uvm.dk/Uddannelse/Tvaergaaende omraader/Temaer/Skoleudvikling/Skoleudvikling/Udd/Folke/2009

CHAPTER 6

HERLUFSHOLM AND RECLAIMING CREATIVITY

In this chapter, we will make a visit to Herlufsholm boarding school in provincial Denmark. This hallowed school in the town of Næstved is probably the last thing most people would think of when they think of creativity.

Herlufsholm was founded in 1565 by Herluf Trolle and Birgitte Gøye, who had no children of their own and wished to contribute to the construction of a strong educational system. But what role could Herlufsholm play in a book on creativity? Is this not the school associated with discipline, boarding, and uniforms rather than with inventiveness and innovation? The answer is that Herlufsholm is interesting as a case because it has recently begun placing greater emphasis on developing its students' overall personal, social, and creative skills. Over the past few years, the school has been forced by circumstances to be creative, confronted by a true crisis that required it to revise its fundamental concept and accept additional day students as families of Danes living abroad have ceased sending their children back to Denmark to be educated.

That a school like Herlufsholm is taking creativity seriously represents an intriguing piece of evidence that some people have realized that enhanced

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focus on standard competencies may not be the way forward on its own. It is interesting in light of the preceding chapter, where public school teachers tell about the lack of resources, support, and encouragement from their principals in relation to actually working with creativity. The case that a traditional boarding school begins to invest in creativity as part of its curriculum and set of values is also evidence that creativity is no longer regarded as something for those who get into the office late and need to come up with good ideas on the way from the water cooler to their desks. Creativity is also for men and women in business suits who have realized that the world is experiencing extreme change and that the ability to recognize opportunities in this change is becoming unavoidable. Even though we still think of creativity most when we are discussing art, advertising, and acting, it is also creative to discover new and smarter ways of, say, getting fresh milk from the farm to the home refrigerator. Or selling a cup of coffee with syrup at extortionate rates, as the big coffee shop chains manage day in and day out. Creativity has come to stay and is spreading into every nook and cranny—even all the way to Herlufsholm.

OUT IN THE COUNTRY

It is difficult not to be both impressed and a touch frightened by the sight of Herlufsholm's imposing buildings. The great lengths of red brickwork loom above the green landscape, with its church and moat. As we park the car and watch students entering the dining hall in their identical uniforms, it is like observing a scene from the past, were it not for the children's designer wellies, which signal the latest footwear trends.

Creativity?

Headmaster Klaus Eusebius Jakobsen is not eager to speak about creativity when we start our interview in his office. He is, in fact, somewhat doubtful as to why we would wish to interview him in particular, especially concerning creativity. Perhaps he is a bit nervous about Herlufsholm being profiled as a "creative" school. The word still has a whiff about it of collaborative learning, purple nappies, liberation, play, and chaos—a whiff that Klaus would not necessarily wish to reach the parents. We try to relieve his concerns by explaining that we have heard about the school's new Round Square International process, which involves Herlufsholm being the only Danish representative in an international association of schools. Beginning in 2009, Herlufsholm's membership of the association obligates the school to offer students the opportunity to develop themselves at a personal level. We think this sounds excitingly innovative, representing both a break from strict topical orientation within the individual school subjects and signal-

ling a desire to orient the school away from a purely instrumental understanding of academic skills.

This sets Klaus at ease. He describes to us how, when he first began working at the school in 1993, it was one riven by crises. The boarders and their parents were abandoning the school, and the school's reputation in the local community was far from perfect.

The tide has now turned. Never before has the school had so many day students from Næstved, and on account of the school's new international track, it is again attracting a stream of students from families of Danes living abroad. This combination of an international education with learning about one's own roots seems to be a winning one. Students now receive marks for helpfulness and are required to take a traditionally creative subject as well as an athletics class, all along the intention to contribute to creating wise, broad-minded, and rounded individuals.

In order to ensure local support, Klaus has gone against the school's tradition and gotten involved in local politics. When we meet him, in fact, he has just returned from a morning meeting in which local politicians and county administrators discussed plans to close Næstved Hospital. According to Klaus, this closure would be catastrophic for the school. It is not hard to imagine the hue and cry from parents living abroad if they heard it was a long trip to the nearest hospital.

A PARADOXICAL CASE

Herlufsholm is something of a paradoxical case in this book concerning creativity. It is difficult to let go of the Romantic understanding of creativity as exclusively arts oriented and individual and instead move toward an understanding of creativity as specific innovations within all of life's domains—including changing school practice. When Klaus starts speaking about creativity, he begins by listing the traditionally creative subjects (painting, athletics, drama), but once he gets to talking about how the school has changed in recent years, he mentions Round Square International.

As its name implies, Round Square International (RSI) is an international association of schools with the vision of "educating young people so that—besides achieving good and solid academic foundations—they also undergo personal development and learn to be responsible individuals," as it is put on page 10 of the Herlufsholm school handbook. Students have the opportunity to test their abilities in terms of arranging sports tournaments, helping emergency assistance organizations, doing volunteer work, sitting on the student council, working with democracy or green energy at school, and being responsible for café events and other activities.

This work builds on six so-called IDEALS: I for internationalization, D for democracy, E for environment, A for adventure (leisure activities that challenge the individual), L for leadership, and S for service (volunteer work).

The aim is to ensure that students experience better human development, increase their social involvement, and provide assistance to other—less privileged—young people. Membership thus represents more than just a network for the school; it is also a philosophy that drives students to make a difference and trains their abilities to engage with their environment.

When the headmaster discusses the project, it is with an evident sense of excitement. "For me, it's a bit like a small child," he says, "but it hasn't been easy. I came here full of energy and ideas. I've probably learned to hold back a little. There was a period when it was just a bit too much for my teachers." But Round Square International has yielded fruit. The project enjoys wide backing among parents and teachers.

Klaus explains his desire to develop the school and how he still gets a lot of new ideas. This also means that he has encountered the typical problems confronting passionate individuals, headmasters included. Teachers are known for valuing their ability to plan their own work, and the Danish schools have a long tradition of methodological freedom. A leader with too many visions will often run smack into something that some would term "resistance." Klaus says, however, that he has a strong managerial team around him, people "who can really do their thing." They are able to help execute and ensure the quality of all the good intentions.

PERSONAL, SOCIAL, AND CREATIVE SKILLS

But why choose a tradition-steeped Danish boarding school with strong ties to its surroundings and an explicit focus on students' personal development and encouraging them to activate their creativity by placing more focus on subjects such as painting, drama, and athletics?

As I stated in the introduction to this book, if you wish to be attractive in the labor market, it is no longer enough just to possess instrumental skills. These skills need to be supplemented with the ability to envision new futures, use your imagination, see opportunities, and make a difference. A report by Applied Municipal Research, now KORA in Denmark, recently argued that creative skills are sought after by employers. Ever since Denmark's secondary education reform in 2005, music, media subjects, painting, and drama have been in decline in secondary schools because the number of class hours have been sharply cut, and a number of these subjects are no longer obligatory for students. The report shows, however, that these subjects in particular help develop students' collaborative abilities, discipline, and skill at seeing and performing possibilities.

These skills are quite obviously useful in other subjects as well. Drama, for instance, teaches students to work together as a team (an important ability in project work) and is quite significant when it comes to oral presentations in exam contexts. In the creatively themed secondary schools, far more students choose creative business and later achieve creative work

functions. There are good reasons for keeping an open mind about opportunities for making use of creative competencies in ordinary subjects.

THE ROLE OF THE SCHOOLS

All in all, the recent enthusiasm for creativity among employers is echoed in the educational system and among researchers. In *Creativity and Innovation in Business and Beyond*, McWilliam (2011) describes how this is associated with a general shift in the understanding as to what creativity actually is. She thus differentiates between a first- and a second-generation understanding of creativity inasmuch as the latter in particular prompts schools to be actively involved in the creativity agenda. The differences between the two generations of conceptions of creativity are summarized in Table 6.1.

The second-generation understanding of creativity, which has grown over the past two decades, has prompted the well-grounded assumption that the educational system can play a significant role in promoting creativity. We now recognize that creativity is learnable and that—in line with this book's central argument—it is less a matter of thinking outside the box than of moving along the edge of the box and being familiar with the rules and limits of one's domain. Creativity here will be understood as a primarily team-based project and something that unfolds in different ways. In other words, creativity unfolds in various ways in accordance with whether it concerns the ability of seeing opportunities and doing something new in chemistry, in drama class, or what have you.

This is also suggested in Glăveanu's (2011) article, "Children and Creativity: A Most (Un)likely Pair?," which argues that earlier conceptions of creativity cast the phenomenon as natural, spontaneous, and uncultivated, which would—almost by definition—be mangled by exposure to an educational system that cultivates and teaches children about standards and cultural systems of meaning. In recent years, however, it has become more

TABLE 6.1. Two Generations of Creativity Theories

First-Generation Creativity	Second-Generation Creativity
Soft, noneconomic	Hard, driven by economics
Singular	Team based and pluralistic
Spontaneous: springs up from within	Dispositions and environment
Outside the box	Requires rules and limits
Arts based	Found in all areas and domains
Natural and congenital	Learnable
Immeasurable and not promoted by training	Can be evaluated and promoted through training

legitimate to assert that a child's creative expressions in the form of, say, drawing or playing are but the first of countless further steps on the path toward true creativity—and that the school can play a role in encouraging creativity among children and youths and in refining and sharpening that creativity which they display of their own accord. Key to the second-generation conception is an emphasis on the importance of interaction between the individual's dispositions and environment.

CREATIVITY IN EDUCATION

But how can you learn creativity, and what role does the educational system play? The trick could lie in introducing students to a process like that at Herlufsholm, through which they learn some of the elements that play a role in creative processes. In other words, the key could be for students to gain experience in seeing opportunities in situations that possess no predetermined solutions, combining insights achieved from various fields, collaborating, playing, fooling around, and performing. An even more general way forward could be to demonstrate to students that knowledge can be regarded as a portal to further thinking and dialogue, as touched on earlier in this book.

Perhaps one of the greatest problems involved in teaching children and students how to create is that schools often bar children from seeing and feeling creative practice. As argued earlier in this book, citing my work on an epistemology of the hand, in a pragmatic perspective, knowledge is produced through manipulation—which literally means moving something with your hand—of tools and the environment. Within such a framework, education would be a question of teaching children and students to explore their surroundings and combine its materials and characteristics in new ways. It is not about constructing knowledge in an isolated mental space. Imagination, fantasy, and thought are not delimited from the world in some inner space but are, rather, characteristic of moving thought further *in* the world and being creative with the world's materials.

Is this something the current educational system enables? Maybe not to such a high extent as some would wish for, as least not in a Danish context. A 2011 study of 2,500 wage earners in Denmark undertaken by the ASE (Danish Unemployment insurance fund) trade union showed that 72% of respondents had no desire to start their own business. An identical study from 1999 showed that only 48% of respondents had no desire to start their own business. The contemporary financial crisis could, of course, be playing a role in this decline of the entrepreneurial dream, and many people had perhaps recently seen friends, family members, and colleagues suffer as a result of the global economic downturn. The report concludes that,

although Denmark is becoming better educated as a country, it is also becoming less willing to act in an entrepreneurial manner.

The conclusion would seem to be that education socializes us to be wage earners. There is, in order words, continuity between Guildford's 1950 speech at the American Psychological Association's annual meeting mentioned earlier, in which he claims that the educational system does too little to promote creativity, and the findings of the 2011 report on entrepreneurial spirit among Danes. This finding suggests that there is good reason to question whether and how educational institutions can assist students in regarding knowledge as a tool for intervening in the world. Maybe we are not doing this well enough.

In line with the present book's love for concrete case studies and stories, we will close this chapter with gallery owner Jesper Elg's encouragement for us to make use of art and to take seriously the importance of creativity in the educational system. Jesper is co-owner of Galleri V1, located in Copenhagen's Meat Packing District and hailed in 2010 as Europe's most innovative gallery. I asked Jesper what he believes to be the greatest barriers to creativity in Denmark when it comes to developing new products and ideas—and what advantages we have as well:

> Our greatest barrier is our educational system, which doesn't provide our children and youths with a fundamentally creative upbringing. Later in the process, we'll be cutting state educational support, educational institutions, and research. Creativity, innovation, and knowledge is what we'll need to live off of in Denmark in the future. This is the case in all fields—art, design, energy, agriculture, engineering, medicine, and production. Politically speaking, we lack a strategy for ensuring that Denmark's on the edge of the box. Right now, we're in the process of closing the box up with packing tape.

Jesper is deeply engaged in the issue of our taking art and creativity seriously as a kind of societally formative process. He says (and try, for the moment, to read this so that the word "art" is replaced with the word "education"), "Art should be at the cutting edge of our society. It should engage, when necessary, inspire, and be willing to turn its back when required. Art is an important free space. Not a nursery class without a childcare worker, not freedom without responsibility, but a space in which we can experiment with content, expression, and communication."

But how can we work at finding something new, and what work process is necessary for this to succeed? Jasper says,

> As a point of departure, I believe it's an insatiable curiosity and an open approach to the world. I use a lot of different channels when seeking inspiration: literature, music, news, and people. Through experience, you localise these signposts to which you can return when you need inspiration. I often

> get the best feedback from people who aren't directly involved in my industry. These can be people who work with some other creative business, who inspire me to assess a challenge differently. As a gallery owner, I obviously have a unique relationship with the artists with whom I work. It's not really comparable with anything else I've tried. It's incredibly rewarding and difficult. You share most of the upswings and downturns professionally as well as personally. You get really close to one another. I've learned so much from working so intimately with groups of spectacular and inspirational minds. And even if there are obviously patterns in artistic strategies, it's still surprising how great of differences there are between people's creative processes.

This chapter began with our approach to Herlufsholm, a school that has begun taking creativity seriously and has needed to implement a creative change process in order to survive sharp competition from boarding schools the world over. The chapter has also served as an introduction to the potential role of schools and the educational system when it comes to encouraging creativity. As has been suggested, only recently have schools and education been regarded as playing a positive role in promoting creativity. Such reflections are specifically the result of a second-generation understanding of creativity in which creativity is conceived of as something that can be learned. However, as we saw in the last chapter, there are apparently still some steps to take in light of the increasing tendency within many public schools to put standardized testing in front instead of a true emphasis on knowledge and skills as something with which we can create new stuff. While a case such as Herlufholm can inspire us to take such steps, the true measure of a second-generation creativity model coming into being would be that public schools and governments around the world would also take such steps, acknowledging that there need not be a sharp distinction between knowing and creating, facts and fabrication (creation), tradition and renewal.

This chapter closes with additional theoretical considerations concerning how we can impart on students an understanding of knowledge as a tool for intervening in the world and contribute to students understanding themselves as actors relative to the conditions of their own and others' lives. The ASE study stresses why such an understanding is necessary. Evidence indicates a need to focus on creativity and creative production now more than ever— a task at which Jesper Elg feels we are currently failing.

Next, we will take a closer look at how apprentices and artists regard their own creative processes. We will thus move away from the school perspective for a moment and consider more "real-life" pedagogical processes within and outside the school walls. Generally speaking, we aim to gain a better understanding of the conditions for developing creativity in various situated learning environments. Whereas the last two chapters have placed special focus on the (absent or explicitly invoked) framework for

creativity in schools and on the importance of experimental and improvisational teachers and an overall strategy to ensure creativity in school, the next chapter will focus on the importance of mastering and immersing oneself in traditions and existing knowledge to be able to transgress these. The present book considers this to be an extremely important but often overlooked aspect of creativity.

CHAPTER 7

ON THE SHOULDERS OF FRANCIS BACON

INTRODUCTION

In the previous chapters, I described how creativity is not just about acquiring good, new ideas. Creativity is also involved in processes in which we consider that which must be renewed—for instance, the school, the trade, or the areas in which one works as a teacher, student, manual laborer, artist, or what have you. One cannot be creative without knowing something about that with which one wishes to be creative. As a result, immersion in traditions and subjects is an important and often overlooked aspect of creativity maybe because the focus is most often on the novelty part of the process.

Indeed, much creativity literature often celebrates the opposite of immersion in a particular field. For example, in Gardner's (1993) book, *Creating Minds*, the following can be read in the section concerning the case of Albert Einstein: "Like so many of the very young men who have revolutionized physics in our day [Einstein] has not been embarrassed by too much learning about the past or by what the Germans call the literature of the subject" (p. 95). However, as the teachers mention it in Chapter 5, "You

Fooling Around: Creating Learning Pathways,
pages 81–91.

must learn to rules to be able to break them." Every creative breakthrough occurs within some domain or discipline where both immersion into what is and fooling around, or playing with what is without experiencing the burden of the past is necessary.

In this context, I have previously asserted that those who succeed in being particularly creative often possess solid professional foundations that give them the "skill" of being in the right place at the right time (Tanggaard, 2008). There is, of course, an element of luck and good timing involved, which is encouraged by the individuals' qualified judgment as to how and when they should invest their power and capacity for action relative to particular tasks. I argue that this skill is learnable to some extent by spending time with, learning from, and being inspired by others who are skilled at this and by practicing deliberately. As also mentioned by the teachers earlier, when acting creatively, as in a project week in school, students get the experience of tending to become more creative by means of inspiration and engagement.

However, there has been a tendency in creativity research to celebrate near-mythical figures such as Einstein and Picasso and not the more mundane stories of teachers working and striving to create conditions for others to become creative. Typically, the stories of BIG creativity are discussed in research publications and popular science representations of creativity. For example, Gardner's (1993) book, *Creating Minds*, consists of descriptions and analyses of great personalities such as Einstein and Mozart and their life stories and creative work processes.[1] Even if Gardner does pay attention to processes of learning, it is hard to break free of the idea of creativity as a God-given ability or talent, somehow related to the environment. Ever since the famous British psychologist Sir Francis Galton wrote his book, *Hereditary Genius*, in 1869, people have believed that some people are just quite frankly more creative than others. As Sawyer (2013) writes, "For more than a century scientist agreed with Sir Francis: innate talent explains creativity" (p. 50). Creativity researchers have strived to explain what drives BIG creativity forth while leaving everyday life creativity aside.

This chapter does not seek to celebrate solitary mythological figures. Instead, it turns to the importance of immersing oneself in tradition for creativity to come about, and it turns to a detailed discussion of how creative people learn in real life outside the laboratories of most creativity researchers. The chapter represents a revised version of a chapter in my book, co-authored with Christian Stadil (2012), titled *Showering with Picasso*. We stress that, when discussing creative individuals, it is important to consider who else has been involved besides the protagonist if we wish to undertake a situated analysis of creativity. Where do ideas really come from? How can a manager, a teacher, or someone else be of significance to the creativity of a particular individual?

As a researcher, I have long sought to discern a possible link among apprenticeship, situated learning, and creativity. As mentioned earlier, this was initially inspired by the one-year field study among apprentices within the field of electro-mechanics, in which I found and developed the concept of fooling around and in which I saw how many apprentices were highly innovative yet also keenly aware of how much they relied on existing knowledge and learning from masters within the field (Tanggaard, 2008; see also John-Steiner, 1997; Chapter 8, this volume, for the link between apprenticeship and creativity). However, because apprenticeship is sometimes accused of leading to imitative learning and passive copying of masters' work (which does, admittedly, also happen), it is uncommon to link creativity with apprenticeship, both in its metaphorical sense and in the concrete sense of learning from tradition.

Conversely, as I argue later, this association could gain strength in a current sampling kind of creativity. Indeed, we already possess well-known examples. For instance, for decades, electronic music artists have created new recordings based on pre-existing material. Similarly, science is by definition a kind of re-sampling based on quotations from other writers, scientists, and philosophers. Sawyer's (2012) book on creativity concludes that the internet is causing a sort of collective intelligence that is to gain momentum, and more researchers are now radically challenging individualist notions of creativity and radically distinct forms of newness: "They reject the myth of the solitary creator, and they've embraced the idea that novelty is overrated" (p. 429).

All of this might indicate that we are shifting away from a Western, individualistic conception of creativity toward a more collective and sociocultural model and, in this context, toward a situated sampling approach to

FIGURE 7.1.

creativity. As such, this chapter in devoted to studying processes of learning through immersion in the field and, as it turns out, apprenticeship.

In this chapter, I tell the story of Andreas Golder, who was born in Russia, is a resident of Berlin, and has been hailed one of Germany's great artistic hopes of the 21st century. Andreas's voice can assist in developing one of the book's primary arguments, namely, that we must go to the edge of that which exists in order to be creative—that creativity emerges through a break with and from the existing tradition that one needs to immerse oneself into. We will, however, begin our story in a completely different historical context—in the world of fiction.

BORROWING OR THEFT?

What do I mean when I describe creativity as existing in tension between continuity and renewal, between the old and the new? Is it the *sampling from tradition* that I mentioned earlier as a central characteristic of 21st-century creativity? In other words, is it the phenomenon of combining existing ideas and materials in new ways? Is that what it means to be creative? Or is it simply borrowing—or perhaps even theft?

The Great Ones Steal

Let us use an illustrative and potentially provocative example from the world of fiction—a quote from Christensen's (2011) novel, *Open House*: "Greater men than I have said that middling artists borrow while great ones steal." Thus thinks scriptwriter Will Bråten in the novel *Open House* when he has snuck into the premier of a film of the same name—the script that a former script consultant stole from him without his knowledge. Certain details have been changed from Will's original script. The film takes place in Copenhagen instead of Oslo. The two young protagonists, Will and Cathrin, drink Tuborg beer instead of Bellini (with or without vodka).

At the film's premier, to which Will has been invited, he waits patiently for his name to scroll by in the closing credits, but he waits in vain. "I didn't see it," Will states on the last page of the novel. It was not particularly nice of the script consultant to benefit in this way from Will's art. It was theft. It is wrong to hide one's sources, and yet no artwork exists without sources and inspiration from other artwork. As Thomsen (2011) writes in the notes to his latest poetry collection, *Shaken Mirror*, "Every text is indebted to an immeasurable quantity of other texts." Thomsen then continues with a telling enumeration of his own borrowings:

> The sentence "and now the black roses blossom in the snow" (p. 11) draws upon many sources, for example Ole Sarvig's poem on the 'Black Flowers' from *Jeghuset* (1944), which itself bears a coincidence of motifs with Sophus Claussen's forty years older "Black Flower" from *Djævlerier* (1904). Nor can

> we forget Ruth Franks' song "Roses in the Snow" (which I know from Emmylou Harris' album of the same name, 1980), and probably jingling around in the background as well is the Medieval Marian hymn "Lo, How a Rose E'er Blooming," which we find as Number 117 in the Danish Book of Psalms. And so on.

For those who wish to create something apparently "new," this functions as an important lesson that those who are creative let themselves be inspired by that which already exists.

Christian Stadil and I interviewed Andreas Golder in particular because we had come across an article involving him in *Politiken*, one of the major Danish newspapers. In it, Andreas Golder expresses criticism of the celebration of creativity. In fact, the article's headline is, "Creativity?! Bah! I just steal." We agreed that we simply had to interview someone who criticized creativity from the inside and can be said to have experience in what it takes through his own work—in this case, as a painter.

In the article, Golder explains how he draws on the creations of past masters in his work to produce something different. "When I look at a work, it doesn't matter whether it's modern art or not. What matters is whether it's good art. And the great masters, well, they're hanging there in the museums, so they're part of my time, of the now. I absorb things like a sponge, from all of the artists from all periods—and from everything I see and experience. I wring that sponge at the workshop, and the result is what you see here." In other words, tradition is materialized in the artwork that already exists. It is quite literally hanging on the walls, and it becomes a materialized starting point for Golder's innovation.

The morning the article appeared in the newspaper, we rang to Larm Galleri in Copenhagen, a gallery at which Golder was then exhibiting his paintings and sculptures, which had occasioned the interview in *Politiken*. We spoke with Lars, the gallery's owner, and quickly learned that Andreas was terribly busy with the exhibit. At last, however, we managed to catch Andreas at the gallery on a cold October day. As we strolled among the colorful and figurative paintings—alternately expressionistic and naturalistic—and the strange sculptures, such as the fruit bowls disguised as ashtrays in painted bronze, we heard the story of Andreas's approach to the creative process. This story is not merely thought provoking but is also an interesting and instructive tale of what is needed to be creative in the world Andreas inhabits.

If you do not inhabit the art world, Andreas Golder may be no more than "a big name," but within the art world, he is widely hailed as a man who has renewed the art of painting. Andreas was born in Yekaterinburg, Russia, in 1979 and moved to Germany after the fall of the Berlin Wall in 1989. He has exhibited his work in Denmark, my home country, on numerous occasions, but he has also appeared at the world-renowned White Cube

gallery in London and is described as an artist who combines his training in realistic and representative techniques with more abstract elements, combining the physical and metaphysical. In a 2010 article in *Magasinet Kunst*, his paintings are described as "Francis Bacon on acid." But how does he do it, and what does he personally regard as important?

A MAD DOG

Andreas is surrounded by smoke when we interview him. One cigarette after another is ending its existence among its fellows in a plastic cup while we take in and discuss the paintings on the walls and the sculptures in the room. Andreas apologizes for his slightly Germanified English, and we apologize for our not exactly fluent German. Andreas explains that he never precisely planned on being an artist but that it was more a result of circumstances. He says that he is just as happy lying down in front of the TV as he is painting but that he feels a bit ill when he is not working on a painting in one form or another. The first thing Andreas emphasizes in the interview is that he is uncertain whether he is truly an artist:

> It's the same every time people ask me, "How did you become an artist? When did you decide?" And each time, I'm just totally fucked up. How should I know whether I'm an artist at all? That's up to people to figure out when I'm no longer around. I just do what I do. Yesterday, I saw a good movie, *The Dark Knight*. There's a scene where the Joker says, "I'm chaos. I'm just a mad dog chasing after cars, and when I catch one, I don't know what I'm supposed to do with it." That's how I am when I paint.

Andreas expresses doubt as to whether his contributions will even be deemed art by others, and even if his creative process is not exactly chaotic, it is characterized by uncertainty as to what will emerge from the creative efforts. Golder follows no set process but instead jumps into his work and sees the patterns afterward. To avoid the uncertainty inherent in the process of recognition, Andreas quickly moves on to the next painting while continuing the interview. "The problem is that art doesn't become anything without viewers. Unless there's someone who says it's art, then it's just oil paint on a canvas."

The artist is thus vitally dependent on his public to call himself an artist. Creativity is, in other words, fundamentally relational, or as I also note in the Introduction to this book, creativity is undertaken within social practices, the norms and values of which are the starting points for every assessment of what counts as new. It is like the tree that has fallen in the forest: It only makes a sound if someone is listening.

RELIGIOUS ART?

Many artists utilize religious metaphors or narratives in their creative work. We ask Andreas whether his art is religiously motivated. He responds that while he definitely makes use of figures from the religious universe, he is not interested in the political aspects of religion:

"It's more the motifs, the construction of a painting; you use the same thing, but you create something new from it. Historically speaking, many artists have been forced to paint what the powers that be—the Church or Stalin, for example—wanted, but the paintings are still pretty, and the question is how you can transform them into your time. But I don't really know. Everything I say today, I may deny tomorrow." Most of Andreas's comments in the interview are accompanied by laughter, which is both reflectively ironic and reveals a degree of uncertainty regarding the whole setup.

Andreas consistently stresses that others make him creative. Again and again, he returns to the viewer's role in recognizing him as an artist and to the existing works that serve as his point of departure. We inquire more closely into Andreas's creative processes, and he tells us that he usually works in one of two ways. He begins with either the materials alone—brushes, paints, and canvas—or with brushes, paints, and canvas *and* an idea. Typically, when he is producing work for an exhibition, a particular idea or concept is involved.

We wander through the exhibit as we speak. A number of particularly lovely works catch our eyes: miniature people on miniature easels on a shelf. We ask how Andreas got this idea in particular.

> Well, I was walking around in a big store with painting supplies and that sort of thing. Then I saw these little easels, and I thought, well, I need to make some miniature works. Because all works of art are getting bigger and bigger, so why not go the other way and make something really little? . . . I have around 20 books of sketches or photos I've taken with my mobile phone. It could be anything I come across. Before, I sometimes just set straight to work on the painting, but this caused a lot of mistakes, which meant that I had to paint the whole thing over again. Now I test at least three or four colours before I get started in earnest on the actual canvas. Other times, I just go around searching. For example, I walked around my friend's workshop. There were all sorts of junk—modern things and things from the Middle Ages. So I went there and got a lot of ideas.

Inspiration for Andreas's work processes seems to come from many sources, and Andreas samples ideas from all of the materials and sources of inspiration that he has at hand. "I once did a show for the White Cube. It was a really compact show, and all of the paintings were closely linked. It was very dark and *memento mori*, Catholic pictures and so on, but it was more of a hodgepodge of all sorts of things." In other words, the process can begin

in one of two ways: either in the form of a pure process, in which Andreas paints on the basis of his experience and immediate inspiration, or in the form of painting in the direction of a specific concept, which often occurs when he is working toward an order or a large exhibition.

APPRENTICESHIP

We ask how Andreas has learned what he does. "It just came to me. In fact, there was no one who told me how I should do it or what I should do. I think you need to find your own way. And there really isn't a correct method you can learn. It's quite individual."

"I went to art school in Russia and Berlin. In Russia, when I was a child—They have these special schools for athletes, ballerinas, and so on. They still do. I was just there two weeks ago, at my old school. But now it's a very privileged school, only for the rich children. It was strange for me to see. In the old days, anyone could go there, but now it's about money, and it's horrible because a lot of children don't have the money, right? But yeah, they taught me all of the realistic techniques, and it was a very academic education. I could already paint as a nine-year old. But you probably know this famous line from Picasso: 'I could paint like Raphael when I was nine years old, but it took me another 30 years to learn how to paint a picture.'" Andreas laughs. "I think it's the same for me."

It is one thing to be able to paint; it is something else entirely to be able to paint pictures. Mastery of the technique is, Andreas stresses, not enough. Making paintings involves entering a social practice—a sort of chain of other artists among whom one must make oneself a place and find oneself a style. How one gets there is difficult to say. Andreas nevertheless reveals a bit of his "method" in our interview. Maybe it is an advantage to have access to a privileged school in which you learn to master the basic principles. Perhaps this element of craft lies at the core of the quest for creativity while the quest requires a person to find his or her own style.

> Yeah, it all takes a long time. Learning the technique is pretty simple. It's almost a sort of copying practice. But I mean, Renaissance artists and the great figurative painters became masters because they did more than just translate tradition. They added something to it. As a child, I also copied intensely. All of the old masters. It was part of our education. So when you talk about creativity, it's actually about stealing. Someone has done it before; you take it and continue. I mean, in the old days, we didn't even talk about artists but about masters and apprentices. Apprentices just continued their masters' lines, and that's why I'm so interested in the old masters. What's laughable is that there are so many young artists today who want to create something new all the time, and it's just "me, me, me." They just want to create something new without having any goal. And that's why all that "creativity" stuff has just a bit too much of a "housewife" whiff to it. They sit there and want to create something

totally new. But it's more about doing something good and honestly. That's what I think.

Andreas thus prefers the old apprenticeship tradition, in which the apprentice, nearly by definition, is tasked with continuing the line that the master has already begun. He also feels that apprenticeship represents a correction to today's intolerable self-absorption. This self-absorption can obstruct creativity, and it risks making a project more to do with the artist himself than with the work he creates.

WHAT CAN WE LEARN FROM ANDREAS GOLDER?

Does creativity necessarily consist of reinterpreting and borrowing from tradition? Is it true that many who regard themselves as creative are not actually creative inasmuch as they are working from the illusion that it is possible to create the new without having a place in the existing world?

The aforementioned British anthropologist Tim Ingold (2001) stresses that all creativity features a close relationship between continuity and renewal. In reality, he argues, creativity is a form of "re-creation," and the creative process involves continual relationships among past, present, and future. The Swedish creativity researcher Lars Lindström (2009) speaks of creativity as a reapplication of that which already exists.

The main problem is that we do not often appreciate creativity's material foundations when we celebrate creative icons—inventors, authors, and industrialists. We see them as lone individuals in a narrative of how their creations are solely the products of themselves or of inner creative sources. But this is not the case. Those who succeed in breaking through with a creative idea are those who are capable of contributing something new to society perhaps, in part, because the product is sufficiently recognizable and builds on tradition. Large companies, for example, are only creative if they discover new products for which there is actually a market. Similarly, as Andreas Golder seems to say, an artist can only call himself an artist if his works are recognized as art by his peers and the public.

As the French sociologist Bourdieu (2003) stresses when analyzing the origins of the artist, we should not underestimate the relationship between production and consumption. There can be no artist without a market. This is not just a matter of producing financial sales from products. It also represents a more symbolic recognition of the artist as an artist.

Above all else, we can challenge the idea of a radical distinction between the conventional and the new. One hindrance for the development of creativity could precisely be a lack of understanding of the interrelatedness of tradition and renewal. The Danish anthropology professor Kirsten Hastrup (2007) works from a similar understanding that creativity should contain both the old and the new, the recognizable and the unexpected, describing

creativity "as a way in which we experience the new coming into the world." She says:

> Creativity is not cut loose from the world (in which case it would register as madness), nor is it simply a competent response to anticipated outcomes (putting it on par with agency). For 'creativity' to retain a separate meaning, it must comprise both the unexpected and the recognizable, both newness and anticipation (Hastrup, 2007, p. 200)

Creativity is not liberated from the world; it simultaneously contains the unexpected and the recognizable—both the new and the past as it is embodied in the new. This is the same as when we metaphorically suck up the knowledge of others, wring the sponge, and produce something new. Concerning recognition of the new, Hastrup (2007) emphasizes the importance of emotionality or making sense:

> The point is that social creativity cannot be a mere fact of novel combinations, making it a wholly intellectualistic enterprise (Friedman, 2001, p. 60). It must also contain a sense of semantic and emotional newness, in which others are prepared to take interest—and invest themselves—in spite of its being unprecedented and discontinuous." (Hastrup, 2007, p. 200)

The creative is thus that which can bring others into motion, and a creative person is someone who can inspire and convince others to invest resources, energy, and time in his or her ideas. This exercise is not purely intellectual, aimed at combining things in new ways. The creative includes a kind of emotional novelty that moves us to grasp the meaning of the value of the new—despite the fact that it is new. Mastering this is, of course, an art. In other words, it is an art to produce something new that diverges just the right amount from that which already exists and can be understood within the horizon of others.

COLLECTIVE CREATION

The previous discussion can quite radically challenge the prevailing idea of creativity. Much creativity research is, in fact, characterized by a fundamental understanding of creativity as an individual phenomenon that involves learning to think in certain ways and standing up to conventions (as well as convergent thinking) by thinking in terms of opposition and conflict. This is also a part of creativity—but the process is not a purely individual one.

Ray McDermott (2006), professor of anthropology at Stanford University, has made various attacks on this individualization of genius. He feels that genius and creativity do not belong to an isolated cognitive space but belong to people who organize collective problems that are sufficiently well defined to allow a solution to be developed. Creativity is common in the

best sense of the word. People do what they have to with the materials they have at hand. This means that the origins of creativity cannot be identified in an individual person but, rather, in a series of people standing on another's shoulders. People who create a breakthrough should, according to McDermott, be regarded as links in a chain. From this perspective, celebration of the lone individual is misplaced: "When prizes are distributed to individuals, we lose sight of collaboration."

It is interesting from precisely this perspective that even Isaac Newton is famous for celebrating the work of others: "If I have seen further, it is by standing on the shoulders of giants." We tend to locate genius and creativity in the brain, but it may be more accurate to say that creativity is a matter of some people creating the right challenges for other people to take the right steps at the right place and time.

We must thus take care to correctly describe the process of creation (there is always a path to follow). McDermott (2006) says we must also understand that creation often arises in particularly creative environments:

> Genius is cumulative: Socrates, Plato, and Aristotle follow one after another over three generations; Confucius, Loazi, Zhuangzi, Mencius, and Han Fei come in quick succession; Darwin and Wallace bring out theories of evolution in the same year. (p. 271)

Thus, as far as creativity is concerned, individuals are not always on a collision course with society's limits, which is commonly assumed in conceptions of creativity that celebrate individual talent. Creativity follows a course, the contours of which have already been laid down by others.

In the next, also empirically based chapter, we will delve more deeply into the processes of learning needed to work creatively. While immersion in traditions seems vital, the pathways related to fooling around are also touched on. Furthermore, we theoretically explore the pragmatic version of learning coming forth through the examples.

NOTES

1. Gardner is among the most important pedagogical psychology researchers today in terms of influence on everyday pedagogical practice. Posters illustrating the various kinds of intelligences he identifies are, for instance, often found in Danish schools. One of Gardner's basic arguments is that we possess not merely one intelligence (that which is measurable by IQ tests) but numerous types of intelligence, such as musical, personal, and social intelligence.

CHAPTER 8

TWO TYPES OF CREATIVE APPRENTICESHIPS

We will now examine two examples of creative learning processes involving apprenticeships and learning in practice. These two narratives support the preceding chapters' exploration of the importance of masters and traditions in the development of an artist's own style. We can learn much by taking a closer look at concrete practices precisely because situated creativity is about studying creativity in our daily lives.

One example in this chapter is derived from the autobiography of Edgar Tafel, who was apprentice to the well-known American architect Frank Lloyd Wright in the 1930s. The other example is derived from my own research among Danish apprentices studying a vocational education an electronics technician, in which one of the apprentices, named Søren, clearly achieves an innovative learning trajectory.

In other words, the former example is based on an apprentice's own retrospective account of the 1930s, written in 1979, whereas the latter example is based on newer empirical research from 2001 to 2002. Both types of accounts have their advantages and disadvantages, the most important being that Tafel perhaps does not recall precisely what happened decades

Fooling Around: Creating Learning Pathways,
pages 93–106.

earlier, whereas Søren's account may be based on his own words but has been recorded from my perspective.

In his autobiography of his years as apprentice to Frank Lloyd Wright, Edgar Tafel provides many examples of what I term "apprenticeship" (Tafel, 1979). I will spend some time considering these descriptions as they represent striking observations of a form of practice that can support learning to be creative. They also contain significant and more or less flattering elements common in apprenticeships: hero worship of the master, a harsh and direct form of communication, and emphasis on commitment as the decisive factor for learning to be a master in one's field.

In 1932, Wright created his own architecture school in the vicinity of Spring Green, Wisconsin. Apprentices lived on his land, made designs, and worked to keep the operation running. Wright established the school because he wished to develop a new form of architecture that better suited the American landscape than did the European neoclassic style with which most American architects were working at the time. This new architecture was envisioned as spreading across the great expanses of the American landscape, making use of the materials available.

Wright was critical of architecture schools in the United States, in which students only learned what he regarded as old-fashioned European architecture. He needed to create his own school in order to advance his own ideas. This is how modern architecture came to be born in the American Midwest and later exported to Europe.

In his book, Tafel (1979) provides his recollections of his time as an apprentice to Mr. Wright (as he unfailingly speaks of his master). Tafel attended architecture school in New York at the start of the 1930s and became deeply fascinated by his readings of Wright's published lectures. So strongly did he identify with Wright's unusual approach to architecture that he applied to be accepted at Wright's new school as soon as he read about it in 1932. Tafel's descriptions in the book are not, of course, immediate representations of what it was like to be an apprentice; rather they are accounts of quite striking recollections of this experience. He writes:

> In the drafting room as well as elsewhere at Taliesin, we learned by doing. In the start, under the guidance of the experienced architects. Mr. Wright had us draft on the basis of designs of his first buildings, and we worked on designing the rooms that were under construction at Hillside. It was thus a "make work" program. (Tafel, 1979, p. 164)

Tafel furthermore explains that Wright's concentration, commitment, and sense of mission permeated his work and were passed on to the apprentices' own way of working. In addition, Wright utilized a dominating and somewhat exclusive strategy:

> If we drafted a detail that diverged just the slightest amount from what he had asked of us, he caught it instantly. He did not accept the slightest degree of mismeasurement or lack of coordination. Mr. Wright had no desire to spend time on people who were not captivated by his own ideas. (Tafel, 1979, p. 165)

Tafel explains that this was not a matter of learning by rote simply to reproduce the master's style. The apprentices could ask as many questions as they wished, interrupt Mr. Wright, and get help with their drafting when they ran into difficulties. But Wright did not accept imitations. If the apprentices made designs that were too close to his own style, they were rejected. Tafel (1979) remembers Wright saying, "If you copy my work, it's like spitting in my coffee" (p. 169). The manner of speaking was direct, possibly even harsh, but it was also unmistakably imbued with the values Wright wished his apprentices to understand. If you want to be a recognized architect, you cannot directly copy someone else's style; instead, you need to learn by this other style and use it to develop your own. Learning, in this case, is not about measuring one's skill relative to a standardized test. Rather, interest lies in developing architects who master a particular craft in detail and thereby transform their existence toward becoming skilled craftsmen or artists. In addition, learning in this practice is driven by a certain degree of necessity.

Life at the architecture school was sometimes difficult because it took time to accept Wright's style, and thus to sell his design, and because the apprentices were not merely using their time designing. They were also participating in the construction of extensions and repairs to the school and helping with work in the kitchen. As Jean Lave (1999, 2011) discusses in her descriptions of tailoring apprenticeships, the apprentices learn complex lessons. When one is an apprentice, one learns not just a trade but also a lifestyle, the opinions associated with the trade, and the required work ethic. One slowly becomes an adult and learns to live an adult life. It is a necessity. Tafel (1979) writes:

> We fought to learn. For one such as I, a city boy with a carpentry business in our apartment block, getting wood just involved going to the local dealer and buying what was needed, planks in the correct and uniform sizes. Everything was different now. The first winter, we went out into the woods to chop down trees for our sleeping quarters. . . . We needed to learn quickly from the plumbers and electricians so we could lay pipes and cables. If the toilet was clogged, we knew how to fix it. We needed to know that. We learned to do what needed to be done. Some of us learned a lot about tractors and cars. Others got interested in the agriculture and caring for the animals. (p. 160f)

In other words, Tafel describes that they learned best and most effectively when they required a precise skill or ability. One could say that this is a sustainable form of learning because they could not have managed without

it. Tafel perhaps romanticizes his time with Wright somewhat, but he also writes of the many harsh aspects of that time and the difficulty involved in separating oneself from the master. After nine years, Tafel left Mr. Wright so he could work on his own ideas. At that point, he could no longer live under Wright's leadership, and they increasingly came into conflict. Tafel had started making (too) many decisions for himself and had acquired the desire to be his own master.

It is impossible to conclude from this that Wright's apprenticeship methods are the only correct choice or that they should be replicated in other contexts. The recollections in part represent reflections on the time in which the apprenticeship took place—learning always takes place in a particular context, which affects its form and content. Generally speaking, however, we can say that apprenticeships focus primarily on the informal, personal, and pragmatic aspects of professional ability. A marked faith in rules, principles, and the explicability of knowledge has nevertheless prevented greater use of apprenticeships in the educational system. We are, as Lave (1988) notes, under the influence of a cognitive functionalist understanding of education: Students best learn to read, write, do maths, think logically, and think critically if the learning of the skills is separated from their use. This separation is regarded as a prerequisite for the acquisition of these skills in a general sense, ensuring that the skills can be transferred to a variety of situations.

FIGURE 8.1

Furthermore, as Dreyfus and Dreyfus (1986) and Dreyfus (2001) argue, there are limits to explicit explanation because much ability involves developing "a sense for the game as it is played." The researcher in training must learn to undertake qualified evaluations as to what counts as a good article, and the baker must be able to assess when the dough is sufficiently elastic. Developing such a "connoisseurship," such a skill at assessment, has been described by pedagogy researcher Elliot Eisner (1991) as something that cannot be learned on the basis of formal rules alone. It is about developing a sense for quality, form, size, types of argumentation, and playing the game, yet there are limits to what can be achieved through explicit explanation. Instead, there is often a need for what Bourdieu, according to Kvale (1999), calls a "wordless pedagogy."

There is not just one method of learning to be a researcher, a baker, an architect, or a ballet dancer if learning is not understood as a mechanical means to an end. Instead, we can speak of situational ability that can be communicated through participation in particular activities. Dreyfus (2001) writes, "It is only be being an apprentice to one's parents and teachers that one achieves what Aristotle calls practical wisdom—the general ability to do the right thing at the right time and in the right way" (p. 48).

According to this view, learning is largely about gaining access to particular environments in which one can learn to blossom. Learning is about learning something specific and developing practical reason so that one knows the appropriate actions in certain circumstances. Learning in this sense is primarily a socially ontological question that involves changing our lives or participating in particular contexts and being able to do the right things at the right times.

Learning is thus not only or even not preferably an epistemological affair concerning abstract metacognitive processes cut off from content and context (see also Packer & Goicoechea, 2000). Every type of thinking and ability has in this sense originated at a precise place and been influenced by what one has deemed important in that context. People can, of course, carry experiences with them into new contexts, and the likelihood that they can utilize these experiences is enhanced if the new practice is, in some manner, practiced similarly to previous practice. For example, a baker who has previously run her own bakery and finds employment in industry could make use of her already-learned baking techniques, but the new job will likely require new learning before she can engage successfully in this new practice.

A legitimate objection to apprenticeship—not just as a metaphor for a given learning situation in which one learns from skilled teachers but also as an actual pedagogical organisation—is that apprenticeship is unquestionably elitist. Not everyone can have the opportunities that, say, Niels Bohr had to become a Nobel Prize winner by working alongside other No-

bel Prize winners. The modern Western school system is designed precisely to offer knowledge and professional practice to as many people as possible. The point is not, however, to argue for or against apprenticeship in the school system; it is more fundamentally to discuss apprenticeship as a form of practice that can—but does not necessarily—provide access to the potential to be creative. On a more general level, it could also be said that I am going on the offensive here and showing that, although apprenticeship is often accused of hindering creativity, it in fact does just the opposite. If one takes a close enough look at any individual example, it is perfectly possible to see both creativity-promoting and creativity-hindering aspects in apprenticeship-like practices.

THE INNOVATIVE LEARNING TRAJECTORY

During my research on learning in vocational educations, I found examples of how a learning environment could promote strong creativity among a number of apprentices (Tanggaard, 2008). Over the course of the study, I identified three different learning trajectories for students: the trained professional orientation, the higher education orientation, and the independence orientation. These orientations characterize the students' dominant aspirations to become trained employees, start higher educations, and establish their own companies, respectively, although they of course represent no more than analytical distinctions concealing the actual multitude of ways in which students can participate.

Even though all of these orientations among students can sustain creativity, it is the independence orientation in particular that makes the most impact. The reason for using the term "orientation" is to emphasize how ideas about the future play a large role in the actual motivations for learning something. The term, however, is also inspired by Bourdieu's concept of *habitus* because it is characteristic of the apprentices I studied to either choose or "slip into" a life pattern or lifestyle that resembles that which their parents have realized. This does not mean that their lives are identical to those of their parents, but it does mean that students are affected by where they come from in terms of what they dare to envision for their future. It can, of course, have an impact on whether they dare to be creative.

The independence orientation describes an orientation toward the future aimed at eventually opening one's own business or becoming a master. For independence-oriented individuals, what matters is regarding oneself as someone who wishes to create his or her own company and seek space for developing and designing one's own projects and ideas. Being independent can thus express a hope or an expectation of establishing something new that will gain meaning by growing into something big.

In my study, I use the example of an apprentice named Søren to illustrate this orientation. Søren began his electronics technician education as

a 17-year-old coming straight out of secondary school. I interviewed Søren after he passed the apprenticeship test with the second-best possible score. He was actually disappointed that he did not achieve the best possible score, but he says he slipped up on a few details. Nevertheless, his excellent score helped establish Søren's reputation as an apprentice possessing superior knowledge. During lunch breaks, the other apprentices often speak of Søren's much-respected knowledge.

Søren explains that he first gained an educational interest in electronics and computers when he took the electronics elective in primary school. He got his first computer when he was 10 years old and was interested in how it worked. Neither of his parents have influenced him in this direction, he feels, and neither of them have professional training, yet he spent a great deal of his childhood in his father's hobby workshop. When Søren now comes home from school or from his apprenticeship, he gets back to work in what he calls "an expanded hobby workshop," which he shares with his father, in the basement. The workshop contains all sorts of measuring instruments, and he builds various "stuff"—power supplies, amplifiers, and speakers. He designs most of it himself, placing special focus on developing functionality. He is happy with his education and says that having an education is important to him. For Søren, the education has become the antithesis of his father's untrained employment and provides him with social mobility, of which his parents are supportive.

Søren says, "What motivates me most is definitely that I like what I do and want to be better at it." In order to become better at electronics, Søren uses every possible opportunity to make electronics. Despite also playing company football, he spends most of his evenings at home in his hobby workshop, where he leads some his own projects on the path from dream to reality. In addition, he uses the "game time" at his apprenticeship to "fool around." "Fooling around" is the apprentices' term for experimenting with one's own ideas (e.g., repairing computers or constructing amplifiers), either during breaks at work or at home in the hobby workshop. Those apprentices who fool around do it in part because it is fun and in part because they thereby test their professional ability. "Leisure" does not really have a place in Søren's conceptual universe because the professional and the private, work and home, more or less flow into one another. He says,

> There are probably some who fool around more than others. Out here at the company, fooling around is a good thing—it's not seen as bad. Because if you don't have anything to do in the department at some point, well, it's good to go ahead and work on something, to have a project you can get started on. You learn from it. You learn a lot from it in any case because it's really. . . . If you have something that you've really decided on, then you really want to get really involved in it, and that's something you learn from.

When Søren has "really decided on something" and gets "really involved in it," he learns from it, too. In other words, one can learn from material by getting involved in it. He finds it useful to get involved in a material, and this professional commitment drives his learning processes. He spends every free moment fooling around and mentions that the company values fooling around. One can say that Søren, in Sennet's (2006) formulation, feels that others are encouraging him to delve into the trade, and this gives him great joy.

Søren highlights the importance of being able to look up to those alongside whom one works in a learning situation. Being able to look up to those who truly master a field is more important than the precise activities one undertakes. This has an inspirational effect, and Søren's speech illustrates a complex process in which mastery over a field as a kind of working method or approach is linked to other professional fields. Søren is thus someone who wants to specialize rather than letting himself be inspired in a general way by all of the fields within the electronics technician education. Søren also emphasizes the decisiveness of being "pushed into action" by people who mean something to the apprentice. Søren would thus not necessarily benefit from just any apprenticeship. Rather, he can benefit from one in which he can observe and follow an example in terms of specialization and professional expertise.

Søren also notes learning situations in which he finds himself guided forward through relationships with people who display professional expertise. Søren feels he can link these individuals' displays or signs of mastery to other fields that are of interest to him. The synthetic aspects of creativity—the combining of hitherto unconnected fields or areas—are emphasized in, for example, Sternberg and Lubart's (1995) definition of creativity. Søren connects precisely these experiences from various fields. A number of the apprentices in Søren's apprenticeship refer to him in a highly respectful manner as "a real nerd" and as someone to whom they go when they have professional questions. In the words of an apprentice named Benjamin:

> That Søren, he's brilliant, a real nerd. Yeah, that time we wanted to put colours in the mobile phone. Søren just figured out, if we do it like this, we could get a thousand different colours. We couldn't do it, obviously, because you'd need 32 different switches that had to be on different settings, but he'd used the principle from the TV that there are the three primary colours, and depending on how they're shining, you get all of the colours. He could've just designed that, if you do this and that, you get 1000 different colours. You use a lot out here that you don't immediately think about.

The example suggests in a general sense how innovation and creativity are not isolated mental processes but are established by using and combining elements and aspects of everyday life in new ways. The quest for innova-

tion is one of the differentiations Søren establishes in setting an orientation toward independence, through which he also notes that he is captivated by non-work-related issues:

> I: I'm curious about what your ideas are.
>
> S: Well . . . I have a whole folder filled with fooling around, as we call it out here. I mean, non-work-related things. And it's just everything you can think of. . . . If you need something in your daily life. For example, last winter it was really cold—there was often ice on my car's windshield in the morning. So I made a little heating device that could plug into the cigarette lighter and kept an eye on the temperature and the battery level so that it didn't get completely drained and didn't heat up when it wasn't necessary—so that the heat could go up the windshield, so the windshield was ice free. It . . . was a little thing, but. . . . There's also—what the hell should I call it?—an interface, sort of input. It started with an amplifier. I'm in the process of making a knob. It's pretty technical, but it's something about making something that actually exists in a way I think is better.

Søren actively expresses his intention of developing new products within his own domain or community of practice.

Considered in more general terms, these two empirical examples of committed apprentices who desire to acquire mastery in particular ways—within architecture and electronic design respectively—exist in fields in which it is possible to look up to and learn from masters. Whether Søren will eventually have this opportunity is unclear, but within the community of learning, he feels that he has already realized it: He is developing new design ideas that meet with approval from others as being valuable. Next, I will devote some attention to the kind of understanding of learning that is connected with these examples and the general discourse concerning apprenticeships.

LEARNING IN PRACTICE

In recent years, traditional approaches to the psychology of learning have explained learning in terms of the acquisition of information (Ormgod, 2003), with less focus on the "genuine learning" discussed by those such as Colaizzi (2003)—that which we could term "creative learning."

In her book on thought in practice, Lave (1988) asserts that cognitive functionalism and various types of constructionism characterized by homogenous cognitive functions have been and continue to be influential in pedagogical theory on the basis of the Western world's cultivation of pure, abstract thought. This vision of pure, abstract thought is moulded

from scientific rationality and logic, symbolized by the narrative of the isolated genius. It also stands in immediate contrast to the practical, concrete, contextual, everyday thought exemplified by the two creativity-promoting apprenticeships discussed in this chapter.

Numerous empirical studies, however, refer to the potential for such pedagogical space for learning in practice. On the basis of research into vocational educations in Norway and questionnaire responses from 1,617 students, Mjelde (2001) notes that students experience a meaningfulness in learning in the context of workshop-based teaching at the vocational college, in which thought and action are closely integrated. Students experience this despite the unpredictable working hours, large workload, and lack of round-the-clock supervision. Production processes determine how learning progresses in both constructive and less constructive ways. This study is interesting because it shows that motivation for learning is associated with visible goals and purpose.

Mjelde points to Vygotsky's and Dewey's experiments on workshop teaching in her argument in favor of the value of practical learning. She highlights Vygotsky's criticism of traditional classroom-based teaching as paying insufficient attention to the fact that learning takes place when acting alongside more competent others.

A likewise frequent theme in research concerning Danish vocational education is that students appreciate and, indeed, prefer working with professional skills either in the context of workshop-based teaching or as part of actual productive work (Nielsen & Kvale, 2003; Tanggaard, 2006). Elmholdt (2006) has studied reproductive, reconstructive, and innovative aspects of workplace learning in relation to apprenticeship. He notes, for example, how young apprentices at a shipyard develop a new and productive solution to a welding problem in the journeymen's absence. This suggests that the delegation of responsibility to young employees can promote creativity at the workplace because the master's and journeymen's absence "forces" the young employees to find their own solution and provides the space necessary to embolden them to discover solutions that they believe are better than those that already exist.

The pedagogy associated with these learning situations in practice is, however, simply of an integrated, often implicit, and quite silent sort. We could thus hypothesize that learning is best when one is unaware that one is learning but instead concentrates on *the object* of learning. Modern, frequently cognitive, psychology-inspired learning research is often preoccupied with identifying general procedures, rules, and strategies for learning as well as good yet general teaching strategies. Learning is regarded as a pure form that can be described independent of content. In the following, I briefly consider why learning is usually regarded as independent of content and not as a question of learning something specific in a given prac-

tice, which I argue is a sustainable learning form as well as something that can contribute to promoting creativity, understood as the development of a new idea or product that achieves recognition from others and contributes to changing practices.

BEHIND THE CONCEPT OF PURE LEARNING

The idea that a pure form of learning can and should be cultivated, separate from the concrete subject matter, is historically associated with Kant's (1781) idea that a kind of "pure reason" exists (cf. *Critique of Pure Reason*). This pure reason concerns rationality in its pure form, which Kant regards as a priori to and within the principle, independent of content. Everything we experience, argues Kant, must be given form by pure reason's perspectives (time and space) and from its categories (e.g., causality). According to Kant, the experiencing subject attributes forms to the sensory material.

Already in the Ancient Greek philosophy of Plato, we find the concept of abstract "pure forms," independent of concrete contents. Plato regards these forms as eternal and unchanging "Ideas" that underlie and provide form to people's concrete experiences of a changeable world. Whereas Plato ascribes Ideas to t should be understood as belonging to the functions of the mind, a concep he order of the outer world, Kant feels that pure forms tion that lives on in today's various forms of cognitive research. In much of psychological cognitive research, it is assumed that the human mind functions by reflecting an outer world in which symbolic mental representations are *content* that is processed and *formed* in accordance with more or less fixed rules regarding symbolic manipulation. In artificial intelligence research, such rules are called "algorithms." Other terms for these mental forms include "diagrams," "scripts," and "frames" (Kyllingsbæk, Harms, & Larsen, 2007).

Within pedagogical research, the dualism between form and content has been expressed in various ways. One expression has arisen in that segment of pedagogical research that has been directly inspired by cognitive research. The aim of pedagogy becomes to guide teaching toward people's posited "pure" capacity for symbolic manipulation, independent of what the symbols represent, and it is conceptualized, for instance, as a kind of meta-learning or as "learning to learn." This is evident, for example, in Ivar Bjørgen's (1991) presentation of the idea of responsibility for one's own learning, in which learning to take responsibility for one's own learning becomes pedagogy's more or less contentless goal. Another expression is present in the numerous varieties of constructivist learning research, often with direct reference to Kant.

Constructivism consists of more than one school of thought, and many different writers' names are frequently included among the constructivists, including Kant, Piaget, Vygotsky, Kuhn, von Glasersfeld, Habermas, and Dewey (Kivinen & Ristelä, 2003; Phillips, 1995). Constructivism is so domi-

nant in pedagogical research that it is even said to be a kind of secular religion (Phillips, 1995) and a "broad church" (Fox, 2001).

According to Fox (2001), constructivism is the most common approach to learning and teaching today and is built on the following basic premises: (a) Learning is an active process; (b) knowledge is constructed; (c) knowledge is discovered rather than realized; (d) knowledge is either entirely personal or entirely social (e.g., constructivism in the Piaget tradition vs. social constructionism); (e) learning is a process aimed at understanding the world's meaning; and (f) effective learning requires meaningful, open, and challenging problems for the learner to solve. According to constructivism, the pedagogical goal is for the learner to be capable of controlling her own learning by monitoring her learning processes and thereby learning to learn. This would represent learning in its *pure form*.

As Brinkmann (2006) discusses, it is problematic for a thinker such as Dewey to be listed among the constructivists inasmuch as Dewey seems in many ways to be antithetical to the constructivist conception of a pure pedagogy. Kivinen and Ristelä (2003) point out numerous differences between Dewey and today's constructivists. Particularly important is that Dewey would have rejected the widespread constructivist premise that learning involves establishing particular purely cognitive structures within the individual. For Dewey, learning is about establishing particular habits, dispositions, and patterns of action that enable the organism to solve various problems. A habit is always associated with particular contents and never with pure form. Constructivism's concept of metacognition is likewise contrary to Dewey's understanding (Kivinen & Ristelä, 2003). The idea that our primary pedagogical task is to teach children to monitor their own learning—that is, not just to teach them to realize (cognition) but to teach them to know *how* they know (metacognition)—is simply a way of casting children in psychology's own image, which reflects on its own actions and seeks to understand these in their pure form (Kivinen & Ristelä, 2003). This contrasts sharply with Dewey's position that learning best occurs when one is unaware that one is learning but instead concentrates on the object (i.e., the contents) of learning. According to Dewey, people turn "outward" and know the world through active actions, in contrast to the vision of Descartes and others, in which people turn "inward" and know the world as it is through passive observation and an individual construction of ideas in the consciousness (Brinkmann, 2006). People thus learn to know the world and themselves by executing or undertaking something, thereby experiencing resistance from the real world.

One criticism of the concept of a pure form of learning focuses on the differentiation between form and content as well as on the problematic separation of mind and body. Dreyfus and Dreyfus (1986) and Dreyfus (2001) have highlighted the problems with cognitive functionalism, the ba-

sic premises of which, as with constructivism, stretch back to Descartes and Kant. Cognitive functionalism has been embodied in practice through the efforts to develop artificial intelligence, in which computers are regarded as capable of simulating human cognitive functions.

Dreyfus (2001) places particular doubt on the distinction between mind and body. In a critical analysis of the potential of e-learning in 2001, Dreyfus points to Nietzsche's critique of Plato and Christianity, in which Nietzsche comments that the most important element of human life is not our intellectual capacity but, rather, the emotional and intuitive capacities of our bodies. Freedom from the body, postulated through the idea of purely cognitive structures and pure learning, could thus represent a veritable Achilles' heel for cognitive-oriented research. Dreyfus (2001) notes that our emotional, intuitive, situated, vulnerable, and corporeal existence permits us to distinguish between the relevant and less relevant, as well as to get a handle on those things with which we occupy ourselves. We could not experience relevance, reality, and meaning without a body, and even if we could, we would be left with few capabilities indeed. To regard learning as a corporeal process rooted in social practice is thus quite different than to regard learning as an individual, constructed process.

Pedersen (2007) argues that modern psychological learning research has been characterized by individualist psychological thinking. This has led to learning being regarded as an individual process with both rational and expressive sides. The rational aspect stretches back to Kant and leads via Piaget to an understanding of learning as mental, constructive processes whereas the expressive aspect stretches back to the Romantics, particularly Rousseau and, later, Rogers, but also Colaizzi (1998), as mentioned earlier. Rousseau celebrates the child of nature and feels that teachers/pedagogues should arrange learning landscapes in which these positive aspects can blossom freely. Any use of force, pressure, or coercion should be camouflaged: "There can be no subjugation so complete as that which preserves a semblance of freedom; thus does a man place the will itself in chains" (Rousseau, 1762/2005, p. 38).

The Danish reformist pedagogy has been heavily influenced by Rousseau's ideas inasmuch as it has sought to create types of schooling in which the child's true nature could be preserved or permitted to develop as freely as possible. For example, in the 1958 teaching guide (*Den Blå betænkning*) for the Danish Public School, the motivation and desire for learning on behalf of the child became the center of attention for teaching in school. The teaching guide criticized grading practices and emphasized group work and cross-disciplinary work.[1]

Generally, both forms of pedagogical theories (constructivism and reform-pedagogy) lead to a focus on the individual and lead to the learning process being conceptualized as independent of the content and material with which

one is working. In both cases, it is pure rationally or emotionally driven learning that is under consideration whereas my emphasis on learning in practice maintains that learning is always *about* something. This also represents an attempt to develop a non-dualistic psychology of learning that dissolves the split between individual and society, between mind and body.

For Dewey (1920, 1922), Brinkmann (2006), who has interpreted Dewey's texts in a Danish pedagogical context, and Bateson (1998), who I mentioned earlier, the aim is to understand humanity not as an inner entity but as something relational. As Bateson argues, that which we call a personal characteristic is, in fact, an expression of the exchanges we have carried out with our surroundings. For Dewey, man as a person is not an inner entity but is evident in the person's habitual relationships with others.

In other words, Dewey and Bateson argue for a relational rather than an individual orientation in psychology. Inspired by many of the authors mentioned previously, particularly the apprenticeship theorists, in this book, I argue in favor of a relational understanding of learning and creativity. I would go so far as to assert that creative forms of learning represent impure forms of learning—impure in the sense of being concrete, practical, corporeal, personal, and most definitely relational relative to the contents and processing of a particular material. This is, in any case, what the various analyses in this book suggest.

Next, I will offer more concrete examples of what can constitute resources for as well as barriers to learning in practice, with particular focus on what could be termed creative forms of learning, taking the creative model as the point of departure.

The main conclusions of the present chapter are:

- That learning to be creative is always *about* something. It is not a purely mental process but is an impure or integral aspect of a social practice undergoing change.
- Learning occurs best when one concentrates on the object of learning and not on the learning process. One learns best and is most creative when one is permitted to be drawn into a particular practice.
- The two empirical examples show that learning can be driven by necessity and that participation in various communities of practice—across school and work or alongside various "masters"—enhances opportunities for creativity.

NOTE

1. http://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/undervisningsvejledning-for-folkeskolen-1960-den-blaa-betaenkning/

SECTION 2

A PRACTICE-DEVELOPING CREATIVITY MODEL

CHAPTER 9

A MODEL FOR DEVELOPING CREATIVITY THROUGH CREATIVE LEARNING PATHWAYS

In this chapter, we will take a closer look at the implications of a situated, pragmatic perspective on creativity and the possibilities for producing creativity in practices of learning. We will consider how one can learn to create something new and master the renewal of an existing practice, and we will discuss whether this is being undertaken by school teachers, students, and other creative actors in the preceding chapters.

THE CREATIVITY MODEL

I began this book by proposing a Creativity Model consisting of three creative learning paths: (a) immersion, (b) experiments and fooling around, and (c) resistance. In this chapter, we will add more detail to the model on the basis of the preceding chapters, in which we discussed a number of people's experiences of creativity in various practices. I will add more details to each of the three creative learning pathways first presented in Chapter 2.

Fooling Around: Creating Learning Pathways,
pages 109–130.

1. *Immersion.* We have learned so far that creativity grows out of an immersion in or familiarity with the old. The more familiar one is with a given tradition, the better access one has to observing the activity of the most skilled individuals concerning a given material or set of contents and thus the better opportunity one has for saying something new. This aspect is highlighted by a number of the interviewed teachers in the preceding chapters as well as by Andreas Golder, who explains that his own work is a result of his "wringing the sponge" with all of his experiences and producing something new from this. We can further generally say that the more one knows about, say, teaching, the better one will be at creating new types of teaching. The more a teacher knows about English literature, the better she can improvise in her English literature teaching. Familiarity with tradition offers various freedoms as long as it does not hinder actually revising that which is no longer effective. We know that a period of education lasting 10 to 15 years is a necessity when we speak of historically significant creativity through which society has truly been granted something new (Gardner, 1993). Great expertise can, however, represent a hindrance to creativity by leading to the reproduction of known and conventional solutions to problems.
2. *Fooling around.* Immersion in and familiarity with existing traditions within a field is not sufficient for achieving creativity. One must also "fool around" with the traditions. This is the lesson from the empirical creativity research at the vocational schools. I have used the case of the electronics technician apprentice Søren as an example of an innovative apprentice who spends much of his education, work, and leisure time fooling around with his own ideas for new designs. This fooling around, this work that is free from the master's oversight, can develop into new ideas. The interdependency of immersion in that which already exists and fooling around with one's own ideas is thus central to cultivating creativity. The new arises not just out of familiarity with what one habitually does but also out of experimenting and fooling around to a sufficient extent to permit the revision and renewal of a practice.
3. *Resistance from the material.* Creativity is encouraged by a degree of resistance from the material with which one is working—that is, a form of productive resistance in which the material "answers back." For example, a landscape painter might feel that the landscape calls for her to use yellow paint instead of the blue paint that she usually prefers. Or a teacher might find that a class is not responding as expected to a particular pedagogical intervention. The painter might change her style and the teacher might teach in

> a different way—driven by resistance from the material with which they are working. (Assuming, of course, that one can label a classroom full of children as a "material"!) As we saw in the interviews with the teachers in Chapter 5, it is not just that committed and improvisational teachers can influence students; students can also prompt teachers to act differently than usual.

Next, we will consider the implications of highlighting the importance of these three elements of creativity, with particular reference to school and education and beginning with immersion.

IMMERSION IN TRADITIONS, SUBJECTS, AND TRADES

When I stress the importance of immersion in one or more subjects relative to the promotion of creativity, I do so to problematize the idea that creativity is opposed to deep knowledge or groundedness in a particular field. One need not be opposed to knowledge of the subject matter just because one wishes to promote creativity. As equally stated by Pope (2005), "There is always something 'before the beginning,' just as there is always something 'after the end.' Put another way—'everything is in the middle'" (p. 1).

As we saw in this book's introductory chapters, domain-relevant theory and old knowledge are necessary for creativity. We cannot be creative with something we know little about, and masters, teachers, and more experienced participants in a field play a significant role in introducing us to the rules, routines, and methods that exist in the practice or field to which we wish to contribute creatively.

In his recent book with the inspiring title *Zig Zag—The Surprising Path to Greater Creativity*, long-time recognized creativity researcher Keith Sawyer (2013) outlines four major learning practices needed to become more creative. As I read them, they correspond quite nicely with the ideas presented in my creativity model, not least when it comes to highlighting the role of immersion in a particular subject matter or field.

Sawyer argues that we first of all need to *practice deliberately*, not least if we feel that we are working really hard but not getting anywhere. We can do so by challenging ourselves at the right moments in just the right ways (not too much and not too little) so as to ensure what Csikzentmihalyi calls flow. Furthermore, we must teach ourselves to focus on specific tasks, maybe by breaking down a problem to a series of small, manageable subcomponents. For example, when playing handball, I will need at some points in time to focus on becoming a better shooter whereas at other times it might be wiser to focus on my creative potential as a playmaker. Typically, I will get the best out of my efforts if I can manage to concentrate on one thing at a time, not least when I'm in a training situation. However, of course, playing games it's harder to keep this focus. To practice deliberately, we will need to reflect

on what we are doing (what works and what doesn't, what can be refined or improved, and where we need feedback).

The second learning practice is termed "master your domain." As Sawyer (2013) writes, "Don't the best ideas come from unschooled outsiders? No, in fact, they don't. Those are myths. The truth is that you have to learn an awful lot about an area before you can be creative, and school is designed to give you that knowledge" (p. 56). To master our domain, we sometimes need to get schooled, to go for a deeper understanding of a problem, which might take some time in the first instance at least. We also need to begin to apply what we know in different kinds of situations.

Sawyer's (2013) third principle is called "learn forever." As Sawyer writes, "When you have finished school, it is time to get started" (p. 61). Sawyer's perspective on this issue is that creative people constantly seek out inspiration from all kinds of sources, not least those kinds of sources nobody else is willing to touch. To learn forever, Sawyer encourages us to customize knowledge by finding whatever kinds of knowledge needed to go further in some direction, to seek relevant information and inspiration on the internet, to read a book, to stay current and alert, and to recruit a mentor who might introduce you to a given field.

The fourth learning principle laid out in Sawyer's (2013) book is "balance speciality with generality." Drawing on inspiration from the famous creative design company IDEO, Sawyer argues that T-shaped people are more creative because they go deep within a given domain while also reaching out for other areas of expertise. According to Sawyer, IDEO hires only T-shaped people who represent depth of expertise within one area (representing the vertical line of the T) while also having the ability to make connections with other areas of expertise (representing the horizontal line of the T). To develop the T-shape, people branch out to other areas of expertise by reading, for example, studies and papers from disciplines other than their own. Curiosity and a willingness to learn seem to be the key. Sawyer cites one particular interesting example of this. In 2012, the *New York Times* reported on a UCLA student, Jeremy Gleick, who had developed one unique habit. Every day he found time for one learning hour in which he practiced all kinds of things, such as reading history, playing the banjo, and learning to blow glass. He reported always finding something of interest in these different practices. But why is it necessary to highlight the importance of the mastery and familiarity with different kinds of domain-specific knowledge (either in vertical or horizontal dimensions) for the development of creativity?

I believe that creativity is suffering today, not so much because teaching sets up so many barriers or is not motivating as the claims often go, but more so because teaching has been discredited and has lost its legitimacy. As one of my colleagues often claims, "There is no need to teach students

what there is to know, it will be sufficient to teach them how to learn." This claim is not unique. It has become legitimate in part because new theories of learning as the constructivist and reform pedagogy discussed in the last chapter have challenged the idea that we learn best or exclusively through teaching. I agree that it is vital to distinguish between teaching and learning: A particular kind of teaching does not lead automatically to the intended learning. This does not, however, exclude the possibility that teaching, even of the most mind-numbingly boring sort, can prompt learning and lead to creativity.

Years of criticism of authoritarian and oppressive school practice as well as of a disconnect between teaching and learning—in other words, a revolt against the idea that teaching leads automatically to particular forms of learning—has caused many to lose faith in teaching and the value of the communication of knowledge (Haug, 2009). We have become uncertain of teachers' capabilities, of whether students learn enough in class. We thus increasingly reject the authorized forms of knowledge and work instead toward the ideal of students determining what is worth learning and hoping the standardized computer-based tests deliver the acceptable control hereof. Today's knowledge ideal is of directionless online searches, which are regarded as more worthwhile than learning what the teacher has decided on.

It is problematic, however, to immediately reject that the communication of knowledge and a teacher's authoritarian presentation of a text can be conducive to learning or creativity. While I do agree that obsession with certain types of academic ability and a rising preoccupation with standardized testing can act as a barrier to creativity (Robinson, 2013; see also the preceding empirical studies in this book), I do think it is timely and relevant to rethink what can be done with teaching in relation to creativity and to discuss what is needed to make people believe that they can learn (also from others) to become more creative.

In other words, the idea that the school's framework or teaching acts per se as an inherent impediment to creativity or learning is indeed a construction based primarily on a romantic view of creativity and learning as things that grow by themselves. However, in my research experience, creativity can indeed be helped along, supported, encouraged, and integrated into schools even if it is evident that we must be wary of teachers who say they reward originality and renewal yet prefer to see assignments that replicate their own perspectives and messages (Guilford, 1950).

In her recent PhD dissertation concerning an empirical study of teaching for creativity within music education in a Swedish high school (gymnasiet), Linge (2013) discusses the prior dilemma: "It is the task of the teacher to organize the teaching so that meaningful learning can take place without the teacher controlling the resulting content. The goals of the activity

must be developed and take form through common reflection" (p. 19, my translation).

Linge (2013) bases her conclusions on a series of interviews with high school teachers but also on her many observations of music classes in high school and her own background as a music teacher. Her conclusions are that music teachers must work to visualize and make present the relevant and most important aspects of the music field. The teacher needs to teach the relevant and necessary content of a given field to make sure the students are given access to the action repertoire necessary to become independent musicians, critical music consumers/enjoyers, and/or music teachers themselves.

Accordingly, Linge assumes that the teacher must take on an active and organizing role in relation to the learning on the part of students without being in control of the end results of process. On the basis of her studies, Linge proposed that scaffolding can be a concrete creativity-promoting teaching technique in this respect, functioning as a supplement to both formal teaching and more informal peer-learning processes.

In scaffolding, the teacher's role is to build a scaffold around the students and then gradually remove this scaffold as they progress in their learning and begin to master the tasks on their own. In this respect, scaffolding can be compared with a kind of coaching teaching position, in which it is students' progression determines the kind of teaching and support practiced.

Accordingly to Linge (2013), a problem-based, authentic learning process, as is often practiced within scaffolding, will lead to the development of creative potential among students, but this kind of teaching practice can also be compared with what Linge terms performance-based teaching, defined as a more controlled, test-oriented activity. In an authentic learning process, the experiences of the students function as the departure point for the teaching activities while the teacher must identity the needs of students continuously, give advice along the way, and be a musical role model (Linge, 2013). In this way, Linge assumes that creativity prospers in the delicate balance between the frames set up by teachers and the initiatives on the part of the students. As the teachers in the study say,

> It is when you feel at home in a given domain that you can begin to work creatively, to make choices knowing what you do. If I only know about apples, I can't just speak about pears and bananas. As a teacher, you must show the students that these fruits are also there. Sometimes, when I play something, the students ask: Why did you do that, and then they try it out themselves and it works.

However, some of the students in Linge's studies are also unsure about being able to make the right choices. The teacher's opinion is that this obsession with providing the right answers ("The pedagogy of right answers,"

as Kupferberg [2009] would formulate it) can lower the chances that students act creatively. "How can we do it, they are very often locked in their ways of thinking."

Other researchers have pointed out that the most significant barriers to creativity in school are that students in, for example, primary schools receive insufficient opportunity to see and learn from productive masters who exercise their abilities. According to Nielsen (2009b), there are few masters in primary school; most teachers are masters in pedagogy rather than in, say, music even if they primarily teach music. This can represent a *de facto* barrier, especially in terms of the argument set out in this book that students learn to be creative by being exposed to and participating in creative learning and work environments. A precondition for students having access to creative learning environments is that they also have teachers who create things for themselves. Teachers and schools could, for instance, seek to promote creative development or the development of new products even though schools are not traditionally places in which new inventions and other productive activities take place. The empirical studies set out in this book show clearly that teachers wish to lead by their own example, just as Andreas Golder describes how the arts school he attended as a child encouraged students to spend much of their time imitating the great masters' work. An illustrative example that highlights the importance of committed teachers is available in the form of a famous interview study of Nobel Prize winners (Zuckerman, 1977). A chemist explains how she learned so much from her teacher:

> It's the contact, seeing how they operate, how they think, how they go about things. [Not the specific knowledge?] Not at all. It's learning a style of thinking. I guess. Certainly not the specific knowledge, at least not in the case of Lawrence. There were always people around him who knew more than he did. It wasn't that. It was a method of work that really got things done. (Zuckerman, 1977, p. 122)

A physicist in the same study sums up the difference between learning the techniques of science and learning to think distinctively as a scientist:

> I knew the techniques of research. I knew a lot of physics. I had the words, the libretto, but not quite the music. In other words, I had not been in contact with men who were deeply imbedded in the traditions of physics: men of high quality. This was my first real contact with first-rate creative minds at the high point of their power. (Zuckerman, 1977, p. 123)

These quotes highlight how what I would term creative learning processes require exactly more than the mastery of techniques as it is dependent on immersion in a given field with the teacher (or master) being a role model for his or her students. The students of chemistry and physics allow

themselves to be influenced by how teachers relate to them and by their teachers' attitudes and working methods. Maybe this is even more influential than the other things they learn: subject matter, skills, and methods. However, we will not only need to go deep but also to experiment with what is new. This second learning pathway in my model is elaborated in the following section; as we will see, this learning pathway is often celebrated in literature on creative learning.

EXPERIMENTS AND FOOLING AROUND

Experiments and fooling around are key to the Creativity Model proposed in the present book and are also the focus of most theories of learning and creativity. It is here we find discovery learning, inventor topics, circus week, and so on—in other words, experiments with themes within and across an individual subject and also learning from failures. We can witness this in the project work or the theme weeks that the teachers in the present book note as promoting creativity.

When I personally undertook fieldwork among vocational school students, I also found that they, like Søren as presented earlier, fooled around and experimented with their trade, becoming creative as a result. Also, based on my own yearlong teaching and organizing workshops, it is my experience that many schools and teachers certainly want to develop their schools into places where these kinds of fooling around activities are really promoted and made possible. Some schools do indeed take up the challenge by making and designing "fooling around areas" within school. As one teacher wrote to me:

> The two of us e-mailed after your lecture at the high school course last year. My colleague and I were really inspired by your presentation. We have read your papers and books with great pleasure and the "fooling around zone" is now a natural part of our teaching practice and ways of speaking educationally.

It is not at all unusual for these types of e-mails to show up in my e-box. Likewise, if you ask a group of teachers, as I sometimes do, where they find most creativity in school, they often answer, "Creativity in school shows up when students try to find ways to avoid teaching or it is found in all the 'in-between zones' and in the corridors."

As a researcher, I'm quite sure that there is an element of truth in these statements. The interesting aspect of this is, of course, whether we can design for such activities to happen—whether you can actually create a fooling around zone or whether creativity is (speaking metaphorically) killed as soon as it is seen as part of the curriculum, as in a fooling around zone. It does indeed require us to think carefully about the possibilities of formalizing the often playful and "free" fooling around process.

Fooling around is generally regarded in a somewhat negative sense, which is obviously not what I am advocating here. These experiments that I saw unfolding among the apprentices are nevertheless interesting from a learning theory perspective. When the lesson was over at school or when the bell rang for lunch break at the workplace, the vocational school students often set to work developing their own products and ideas—mobile phones, amplifiers, and so on. It seems that experiments flourished in the work-free spaces, breaks, and assessment-free zones in which there was no teacher on hand ready to give a grade or make a judgment. I have previously noted that we may have too few of these kinds of spaces in our public education system, either because students and teachers cannot be bothered or because there are too few tools and materials available to permit experiments in the subjects in which the students are working (Tanggaard, 2008). I guess these spaces must first of all be places in which students can let ideas arise of their own accord through exploratory spontaneity (Olsen, 2010) rather than being places in which we seek to force ideas into existence.

In her aforementioned PhD dissertation on creativity within music education, Linge (2013) also touches on these fooling around work spaces. The teachers in her study speak of their own astonishment when they recognize how quickly and effectively their students learn when they approach a task on their own initiative. One of the teachers gives a good example here of one of the interviews:

> I'm thinking about rock guitarists. You know, boys sitting in front of YouTube and trying out really difficult stuff on display in the videos. They do things way beyond their actual level of competence, if we as teachers were to judge it. And they learn to play a complicated sole because they think it sounds really good. (Linge, 2013, p. 96)

All of this points to the importance of motivation and not least toward the enormous learning potentials in the digital world. But it also challenges the assumptions connecting learning to the universe of schooling. The experience of self-driven motivation and freedom in just sitting in front of the computer and learning things via YouTube, for example, seems to be central, and the interesting question is whether this experience of freedom can actually be created as part of more formal teaching in school.

One can thus reasonably debate whether schools actually manage to excite and challenge students to be creative or whether they are so preoccupied with "the right answer" (Kupferberg, 2009) and correct problem solving (Creme, 2003) that they extinguish the light of creativity in students' eyes.

According to Linge (2013), the teachers in her study found that creativity among themselves and their students was most evident when they managed to introduce a given pattern or technical skills through quite regular

teaching, which the students could then elaborate on or add more detail to, which gave a progression of development from the formal and imitative to a more problem-based approach (Linge, 2013).

The students in Linge's (2013) study who had had lessons in music schools before attending high school were often highly technically skilled but unsure as to what is implied in finding your own style as a musician. Being a musician, you often have to master a delicate balance between being technically skilled and developing your own initiative and style. Going one step further than proposed by the teacher seems to be the key. Accordingly, creativity in school might not be the creativity of big discoveries but rather a matter of not destroying the curiosity among pupils and students, which is what some of them nurture on YouTube. School can stimulate this curiosity and use fantasy and supporting scaffolding so that students dare to go their own ways, play, and sometimes fool around. To train this way of being, a way of solving and defining problems, is to prepare for a changing world—seeking out the paths of former generations and finding our own. According to Linge, it is a matter of taking something and making it our own and doing something on your own.

My impression is that some students develop a disengaged and purely instrumental approach to learning in school and the education system precisely because they are blocked by the exaggerated focus on getting the correct answers and replicating knowledge produced by others. Time and space for experimental, quirky, and alternative efforts and products quickly dissipate. It might make sense to always follow the rules, traditions, and correct means of answering if one wishes to become a researcher or teacher. For the many people who wish to do something different, it could be preferable to break the rules occasionally (as it would actually also be for the researcher and teachers). Nevertheless, the conditions students will later encounter in their working lives are to a high extent based on a different logic than those of the school system. For example, working life can involve more pressure for quick decisions, meaning that the precision and detailed evaluation that the educational system often rewards could sometimes act as a barrier to succeeding in the world outside of school. This is, of course, something of an oversimplification inasmuch as quick decisions must also be made during the course of an education and only correct answers are necessary within a working environment. Be that as it may, instead of giving students the experience of never quite living up to their teachers' standards, it would perhaps be more useful to cultivate a desire among students to approach new assignments from a more experimental perspective—in any case, if one seeks to promote the much desired creativity.

For this, it is necessary to be introduced to and immerse oneself in the subject of your choice, yet that alone is not enough. Nussbaum (2010) writes in her book *Not for Profit* that an overly one-sided school system does

not manage to cultivate students' imagination, which she regards as a prerequisite for democracy. We are thus discussing not only a need for teachers to act more quickly and experimentally than they tend to in the current educational system but also the idea that their goals or visions could be even more radical. As Nussbaum writes, it is "the faculties of thought and imagination that make us human and make our relationships rich human relationships, rather than relationships of mere use and manipulation" (p. 6). These are furthermore important "because democracy is built upon respect and concern, and these in turn are built upon the ability to see other people as human beings, not simply as objects" (p. 6). The ability to think critically, to go beyond existing frameworks, and to imagine the aims and intentions of others are, in other words, prerequisites for the development of democracy and could rightfully be placed under the umbrella of "creativity." This requires that one is allowed to experiment far beyond the boundaries that are set for tasks such as ticking off boxes in a multiple-choice test.

Nussbaum feels that the answer lies in the Humanities, which elevate human imagination, critical thinking, empathy, and insight into that which is not necessarily visible in the here and now. For me, what is interesting about Nussbaum's book is the way it links its defense of the Humanities with a defense of developing skills for creativity and imagination.

If we consider the issue of creativity, teaching, and learning from a broader perspective, we can see that the existing literature on creativity typically contains suggestions that could fall under the category of conditions for exploratory or experimental learning advocated in the present chapter.

Fasko's (2000–2001) review of learning and creativity research highlights, as noted earlier, that creativity-promoting teaching occurs when the teacher:

- Takes a point of departure in students' interests as a means of allowing the teacher to introduce the subjects in question,
- Provides sufficient time (creativity cannot be forced, but one can intensify the process by "necessitating" creativity),
- Ensures the existence of a teaching environment characterized by mutual respect and acceptance,
- Recognizes that many subjects can encompass creativity and is willing to listen to and laugh alongside students, and
- Allows students to take part in the decision-making process, involves everyone, and utilizes feedback as a key element in teaching.

Besides these characteristics, the teacher must be well prepared and informal if he or she is to succeed in promoting creativity. As a teacher, one places tools and materials at students' disposal for experimentation and exploration. Other research (Cropley, 2001) focuses on creativity or "discovery learning," in which one has students explore unknown areas, invent

new ideas, and consider the known from new angles, thereby enhancing students' desire to learn and go to school as well as their acquisition of skills and factual knowledge. These approaches seek to advance what I call experimental learning or fooling around. When placed alongside immersion in the subject and the experiencing of resistance from the material, the chances that it can lead to creativity are higher.

Relative to the importance of experiments and fooling around, we must not overlook the necessity of creativity-promoting environments, experiments, and fooling around outside of school. Transferring all of one's creativity outside of school and into other contexts is not, of course, an easy task. There is also a place for children and youth to have leisure time outside of the established school systems and of teaching itself. On the basis of empirical studies of learning from students' perspectives (Tanggaard, 2007), I have previously shown that much learning takes place in the context of crossing boundaries or moving between spaces for action in students' lives. In other words, it is not always possible to localize creativity in a particular place. Generally speaking, learning occurs within and across various areas. I use the expression "being a journeyman" in connection with the fact that many attempt to cultivate creativity precisely by seeking inspiration from various contexts. This can happen when one's work has come to a halt and one requires new perspectives. This type of creativity can thus occur either unintentionally or as part of a conscious strategy. There is potential innovation capital in the gaps *between* all of the intended attempts at promoting creativity in a school context (Nielsen, 2009b). I argue that these "gaps" are ideal places for experimenting with that which is taught during school. Breaks in teaching can represent a gap of this sort, as can spaces at school in which students may experiment with various tools and materials.

RESISTANCE FROM THE MATERIAL

The third element in my model of preconditions for creativity is "resistance from the material." Although this phenomenon is rarely spoken of by teachers, it remains a central element in each and every act of renewal.

Materials, tools, or materiality in the world can take on the status of an actor relative to that which we do (Barrett, 1998; Ingold & Hallam, 2007). The tools or materials at our disposal and the practice in which we participate set certain frameworks and conditions for our actions. A particular landscape can invite us to carve a particular sculpture. A chair can invite us to sit. A blank computer screen or sheet of paper can invite us to write (or not!). It is thus not just the subject that acts in the world; rather, it is the exchange between subjects and objects that makes us effective as people. This resistance can be experienced as either productive or frustrating, but it can often serve to encourage creativity. Many artists emphasize the impor-

tance of resistance from the material when describing the preconditions for creativity. We will now see a couple of examples of this.

In a recent interview, master chef René Redzepi offers a good example of how creativity can be encouraged by this "resistance" (Nielsen, 2009b). Redzepi is chef at the famous restaurant Noma (the name stands for "Nordic food" in Danish) in Copenhagen. He says in the interview that the restaurant, which was founded in 2003, at first encountered a certain resistance from the restaurant and food critic establishment. In 2005, the restaurant experienced a true crisis. Customers were not precisely queuing to get in, and the reviews, although nice, were far from fabulous. In the same period, Redzepi was on holiday in Greenland to spend some time with the hunters who supplied game for the restaurant. Redzepi describes how it became clear over the course of the holiday that he needed to change the restaurant's concept. He decided that food on the plates back in the restaurant should reflect the great expanses of Scandinavia:

> While the ice storm raged outside the hut, the idea of Greenland's magnificent and sparsely populated nature crept up on him. He extended his thoughts to the remainder of Scandinavia's enormous land mass, with its population of a measly 25 million. Noma's guests needed to sense the Nordic region's unique and pristine nature. They needed to feel time and place—"I realised that we had to do more to exploit the seasons so that the food tasted like what it was. So you could get this meal here and now. That sowed the seed." (Nielsen, 2009b)

It is thus in confrontation with Greenland's wild nature that Redzepi felt the necessity of changing Noma's concept. Guests needed to sense nature on their plates: When, say, roe deer was on the menu, it needed to be accompanied by snails, shoots of pine, and mushrooms. Just weeks after this "revelation," the restaurant received its first Michelin star. Later in the article, Redzepi describes another occasion that prompted renewal. A reviewer came on an unannounced visit. At first, Redzepi was frustrated and furious, but he and a couple of colleagues gathered together in a corner of the kitchen and managed to create a number of new dishes that the reviewer ate and that have since made it onto the menu. The resistance here is from a different type of ice storm, but it nevertheless prompts the new to arise in the same way.

If we follow these descriptions, we can see that creativity is embedded in a practice that can exercise resistance. It can do so through concrete objects or events that provoke innovation, yet landscape, physical layout, distribution of labor, organization of tasks, routines, or habits can exert a form of resistance. Ingold and Hallam (2007) write concerning the importance of materials for creativity that:

> The ancient knew this when they derived the term "material" from *mater*, meaning "mother" (Allen, 1998: 177). And they knew too, that even the generation of ideas requires sweat, blood and tears when they extended the meaning of the verb 'to conceive' from the development of an embryo in the womb to that of ideas in the mind. By the same token, creativity is *not* a faculty of a disembodied mind of, as it is taken to be in most psychological treatments of the subject, whose designs are actively imposed upon a world of matter that is effectively dead. (pp. 11–12)

The creation of new ideas requires blood, sweat, and tears, and the material with which we work is or becomes alive when we take it into our hands. The new is not created from a dead past, a dead material, or an isolated mind or consciousness but through a dynamic interaction among body, mind, and environment. Thus, creativity is far from being a purely psychological mechanism in an immaterial consciousness. Rather, it plays out in the relationship between an active subject and an environment that challenges and confronts the subject with the necessity of doing something new.

The installation artist Olafur Eliasson provides a concrete expression of this interaction in an interview with Lisbeth Bonde (Bonde, 2009). Eliasson is known today as one of the most influential players in the global contemporary arts scene:

Bonde:	Where do your ideas come from?
Eliasson:	It's not like there's this void when one work is finished until a new idea makes its presence known. Ideas arise in extension to the works—as a result of a dialogue. I definitely don't feel that creativity comes from within, and rather than getting an idea, you give an idea form and in that way test whether it's good enough. I'm more occupied by why I should complete an idea than how I should complete it. It's hugely inspiring.

According to Eliasson, one gives form to an idea, which does not simply appear out of the blue but, rather, emerges in extension to or in dialogue with preexisting works. Instead of thinking of the creative process as an isolated process of the consciousness, Eliasson speaks of the experience of giving form to ideas and asking himself why a task should be completed.

We can thus conclude that all three aspects—immersion in subjects and traditions, experiments and fooling around, and resistance from the material—are important in creativity-promoting teaching and creative learning environments. None of these elements can exist on its own; all are part of the dynamic interchange in the genesis of creativity. This includes an understanding of creativity that more fully incorporates a material perspective than do most existing psychological theories. Creativity is not just a

matter of receiving ideas in an immaterial consciousness. Creativity consists of concrete renewals that make concrete practices better, more fun, more effective, more sustainable, and so on. Next, we will take a closer look at how teachers can enhance their focus on all three necessary elements of creativity.

HOW CAN SCHOOLS GAIN A GREATER UNDERSTANDING OF CREATIVITY?

In this section, I argue that schools can gain a much improved understanding of the importance of interplay among the above three proposed pathways in relation creativity. I hinted above that teachers who contribute to the interviews in this book seem to focus on the importance of experiments and fooling around for creativity. They feel that day-to-day teaching only rarely leads to much in the way of fooling around, opportunities for which are much greater during special theme weeks. This may be on account of the researcher not asking them questions that prompt them to reflect significantly on the importance of immersion in the subject matter. Nevertheless, teachers possess a far better understanding of the importance of experiments for creativity than they do of the importance of the students being introduced to the fundamentals of the subjects. Those teachers who hold this perspective are, perhaps coincidentally, teachers within the natural sciences. A number of the interviewed teachers do not truly see themselves as representatives of a field of study that needs to be communicated and reproduced with the aim of creating a basis for experiments and renewal.

These examples suggest that creativity emerges as a result of and in dialogue with that which exists. None of the teachers, however, speaks directly about the importance of tradition for creativity—they place more emphasis on the unorthodox and on students discovering things that they had not thought possible. Such discovery is, of course, also wonderful to experience, but focusing on it risks overlooking that renewal is also about copying inasmuch as it extends that which exists.

From my perspective, it would be quite incorrect to sharply differentiate among reproduction, creativity, and innovation, as already suggested by the definition of creativity as renewal of something that exists. Traditions, habits, and values are the starting point for each and every renewal—regardless of whether one acknowledges it. It would be a fatal error if school children learned that creativity was mostly about having fun and working together—and if they then faced a rude shock upon leaving school and realizing that this is not how life works. For in life, one unavoidably encounters traditions and resistance if one seeks to change things. It is important to understand that the best arguments against tradition are found while one is investigating tradition.

"But," the critical reader might respond, "is it not often the case that one comes to copy that which others do and thereby sticks too closely to tradition?" This is precisely the point on which Danish management writers (Hildebrandt & Stadil, 2007) have lauded Charmer's (2007) theories of creativity and innovation. Charmer believes that we "download" far too much in the Western world, that we cling too much to the past and produce poor copies of terrible products, and that learning theory is detrimentally preoccupied with reflecting on that which already exists.

I, however, regard imitation and learning from the past as something quite different than copying a set of data on a hard disk. Imitation is part of a learning practice. Countless studies of beginners' learning processes have shown that the novice who succeeds in becoming a skilled composer, researcher, chef, or author has followed in the footsteps of and grown into his or her master's knowledge and ability. On this basis, he or she can create something new. This also means that the necessary knowledge is not ready to be transferred to the novice from the start but, rather, represents something resembling a potentially realizable idea at the end of the journey (Ingold, 2000).

The learning of professional ability—including the necessary skills of improvisation, creativity, and independence—requires that teachers and masters initiate youths into existing traditions, thereby making them sufficiently comfortable with the traditions in order to dare renew them. Learning is less about constructing knowledge than about discovering and being shown the qualities and characteristics of the world, which those with more experience see more clearly than does the novice at the beginning. According to the American education thinker Donald Schön (1987), this requires:

> a safe and risk-free context with access to teachers and trainers who can help and guide students into the tradition and into the subject so that they can use it as a basis for helping them see what each of them needs to see. (p. 7, my translation)

One must thus be initiated into a tradition in which one learns how one should regard a practice, see obstacles, and identify opportunities and learns how to do things in one's own way. As Bruner (1986) points out, there is no clear distinction between learning to know a culture and recreating or reinterpreting this culture—that is, being creative. As an artist puts it in the book *Get Inspired*, "I try to surround myself with people who are funnier, more talented and skilled than I am in the hope that I can borrow a bit of it from them" (Nielsen & Hartman, 2005, my translation). The creative is here regarded as something one can perhaps straightforwardly copy, in the sense of being shown the way to something, yet initiation into a practice also becomes a prerequisite of being able to transcend it. One can, of course, find examples of people who have taken part in an apprentice-

ship of some kind that has not encouraged creativity. The art of renewal does not consist of remaining within the tradition; it consists of renewing it.

RENEWAL BUILDS ON THAT WHICH EXISTS

I understand creativity as action that contributes to the renewal of a social practice. In a more general sense, this means that creativity is part of the continual consolidation and renewal of the practices in which we participate. This is another element that plays little part in the interviews in this book or in the creativity literature, in which imitating, consolidating, or repeating something is frequently regarded as non-creative (Sawyer, 2012). However, in my research experience, I have found that creativity involves not just fooling around and experiments but also continual consolidation of that which already exists.

The improvisational creativity of actions is a recurrent though somewhat understated aspect of the works of many social theorists and philosophers. McNay (2007) notes that even the most normative forms of social behavior assume inventive elements. One can say that an interchange occurs between innovation and the normative. According to McNay, an understanding of the creative aspects of actions is not necessarily the same as blind worship of all that is new. Actions are not solely creative, and a school seeking to advance teachers' or students' creativity cannot focus on innovation alone. Even the most appropriate innovative practice assumes incorporation into the habits and routines of the social world. Actions that suit the situation cannot be derived exclusively from existing norms but are often dependent on the actors conceiving of hitherto-unknown paths for action.

A more dualistic understanding would elevate creativity to a special plane of human achievement, limit it to particular subjects, or regard it as a particularly abstract portion of a practice. A dualistic understanding would also clearly distinguish between self and environment, body and consciousness, yet it is not such an understanding that I present here.

When we are creative, we rarely produce knowledge that is completely cut off from the previous knowledge of ourselves and others. Perhaps we instead rediscover knowledge, re-create something that previously engaged us, improvise on the basis of a familiarity with that which we already master, or retrieve something we had forgotten. There is thus continuity between learning and being creative, and there is a link between imitation and creativity, just as there is between our continual and habitual dealings with the world and those of moments of practice in which we are coerced by circumstance or encouraged by leisure to reflect over practice.

This in many ways represents a paradoxical issue today. People often say that today's world demands that we be innovative and creative, requiring us to abandon the idea that it can be important to learn things by rote. "Today's employers are especially seeking creativity, innovation, and commu-

nication among their workers. Learning by rote thus becomes less important" (Nielsen, 2009b, p. 6). Such statements are oversimplifications. If one wishes to do something in a given practice, one must know that practice, which necessitates a degree of learning by rote as well as many other activities. There is much that one must learn before one can be creative, even if it is obvious that learning by rote does not in itself make anyone creative. Craft (2008) argues that the concept of creativity is too closely linked to a Western sense of individualism and an accompanying consumer mentality, which leads directly to a "buy-and-dispose culture." If we celebrate the new too one-sidedly, we will have difficulty grasping the necessity of the reusing and recycling that must also play a role in a society in which more people want more things yet in which resources are not limitless.

The creative is thus that which can set others in motion, and people who are permitted to express their creativity can inspire others to invest time, resources, and energy in ideas. This is not a question of a purely intellectual exercise involving combining things in new ways as, for example, cognitive psychology's research tradition suggests (see Chapter 3). The creative also includes a type of emotional newness that moves us to grasp the value and importance of the new—even though it is new. Mastering this is, of course, an art. It is an art to produce something new, something that diverges significantly from that which already exists and yet that others can nevertheless comprehend within their own horizons. From this perspective, it does no good to come up with a brilliant pedagogical concept for teachers or managers if you are unable to convince others to become interested or emotionally invested in it. Creativity is not just about getting a good idea; it is also the process through which ideas are realized and come to play a role in the true renewal and changing of a practice. As an architect put it during a lecture I gave at the Aarhus School of Architecture, "Most of us only have two or three good ideas over the course of our lives. The trick is to realize the ideas we get."

Previously, I discussed in more detail the model containing the three elements of creativity: immersion, fooling around, and resistance from the material. Undoubtedly, some readers may feel that this model fails to take into account games or the inspiration that creative people may feel comes on them quite spontaneously. Thus, I will conclude this model overview with a discussion of the relationship between hard work and inspiration. Following this, I will look briefly at the necessary conditions for teachers to be creative themselves.

A LOT OF HARD WORK AND A DASH OF INSPIRATION

While working out the ideas contained within this book, I undertook an interview with a practicing artist and writer at an advertising agency to test the possibilities for an empirical study of creativity. This gave me a sense of

how one can conduct interviews regarding creativity as well as the possibilities for a comparison with the statements from teachers, as presented in the previous chapters.

The person who I interviewed agrees with these ideas on how creativity in practice is mostly about hard work and a lot of repetition:

> Especially when I teach at the university or design school, I hear that it's the same myths that are flourishing. They often misunderstand that creativity is arduous work. Maybe you come up with 30 headlines before you get it right. It's a misunderstanding if you think that as long as you go around in a clever t-shirt or work in a room with bean bag chairs and funny lamps and sofas while drinking Coke, you'll get ideas, and you'll be creative. That's not how it is. It's not necessarily the case that that will make you creative.

If we follow the premises set out here, we cannot assume that we will be blessed with creativity simply because we wear certain clothes and have decided to be creative. It requires a good deal of hard work to be creative, yet it also requires that others see and recognize our creativity. Once a new approach has been recognized and integrated into a practice, we can speak of creativity. My interview subject continues:

> When I paint. . . . When I'm in the studio. . . . There are a lot of days I just paint straight out. It's just craftsmanship and technique and instinct. If I've identified my theme in advance, then it's definitely going to be late in process before anything starts happening. I've truly clearly defined my composition, my pallet, my idea, and what's more, so many things will have been set in advance when you start producing a concept at a bureau. There can be guidelines, a historic previous campaign, external partners. Only when all of that is in place can you start to take action.

According to this individual, creativity can sometimes emerge after many days' preparation and practice, and numerous rules, set procedures, and habits must be accommodated.

Nevertheless, a minority of people will likely agree that creativity can only be based on hard work, exertion, and familiarity with an existing practice. Maybe this is also why the teachers in the interview place so little emphasis on hard work, imitation, and reproduction. Many will have experienced that there are some moments in a practice when one is more creative than during other moments. There can be situations in which life takes on a particular quality, a particular intensity that we experience as particularly inspiring. In *A Secular Age*, the Canadian philosopher Charles Taylor (2007) writes quite incisively about such experiences:

> Most would say that their lives or the spaces in which they live possess a spiritual or moral horizon. Somewhere or other, in connection with certain types of activities, there is a fullness, a richness. At that place (during that activity

> or circumstance), life is richer, more fully lived, has a deeper meaning, is more worth living, is more worth striving for. Maybe it is a place that holds a power; a power we often experience as deeply moving and inspiring. (p. 5, my translation)

Such situations or places in practice can be particularly moving or inspiring. Taylor notes that religious individuals typically regard such circumstances as religiously motivated whereas non-believers will regard them as bounded by life rather than being caused by any higher power. There can be no doubt that creativity requires hard work, a degree of imitation, and the like, but nor is there is any question that we experience moments in a practice in which the urge, need, or inspiration to be creative becomes particularly evident.

In an interview in the book *Get Inspired* (Nielsen & Hartman, 2005), the well-known Danish artist Per Arnoldi points to a similar understanding of the inspiring moments in his work:

> I cultivate a huge number of ideas that I never throw away again because maybe I'll use them later. I have this idea that all ideas are there. I let them come to me like an open book when I sit down, have a cup of coffee, or take in a picture. You can't force a good idea, and you can't make it disappear again either. (my translation)

One does not get ideas through hard work alone but also by playing or perhaps just being an "open book." According to Arnoldi, ideas cannot be forced, yet once they are there, they are difficult to make go away. The large amount of preparation, imitation, and hard work are thus perhaps the most productive aspects of the creative process even if the experiencing of particularly inspiring moments, situations, or places tends to conceal this. I have sought to lift the veil before creativity, showing that it is not just about experiments, having fun, and feeling inspired. There is considerable work, knowledge acquisition, and creativity-conducive teaching and learning behind it all, despite that we often emphasize inspiring experiences instead.

WHAT ABOUT TEACHERS' CREATIVITY?

At the start of this book, I stressed that it is impossible to be creative on command. But when is it, then, that people experience the need to be creative? One answer to this question, suggested by researchers such as Schön (1987), is that when our habitual practices are no longer possible to execute or when a break in our routine occurs, we have the opportunity to do something different. In other words, we need to take a closer look at what actually drives our actions and causes us to do things in particular ways. It may be here we can discover the need for something new.

The opportunities for creativity are optimized in that instant we realize that we must do something different. This means that the opportunities from creativity are intensified by such moments of practice in progress. For example, we expect teachers at a school to follow basic rules of good pedagogy and physicians at a hospital to prescribe medicine in accordance with guidelines if the patient is sick, yet it would be a poor teacher and a poor doctor who followed procedures strictly and blindly. Such action would be mechanical and no doubt lead to absurd situations in practice. Some students or patients simply might not fit into existing templates. In these situations, a professional might need to stop for a moment, reconsider things, draw on her previous experience, and ask colleagues for advice. Precisely in these situations, the teacher or doctor could use a touch of creativity in practice—perhaps by finding a new means of doing things, either in the individual instance or by setting a collective process of change in motion in which one begins describing or actually developing new products, approaches, and methods.

The muddy, unclear situations in practice often motivate us to do something different than we have done before. If the teacher has never before heard a question of a certain sort from a student or if the doctor has never before seen a similar combination of symptoms from a patient, then, according to Schön (1987), "If she is to act reasonably, then she must do so via a type of improvisation, she needs to invest and test her own strategies in the situation" (p. 5).

Normally, one would extend Schön's (1987) argument by saying that such a break in practice creates space for reflection. I go a step further in this book and argue that such breaks in practice create space for creativity, that is, for changed practice, for renewal of the professional's practice in progress. From this perspective, "reflection" is far too intellectualized and rational a term. We do not just reflect back on a process when we reconsider things. We have already begun to act, meaning that improvisational creativity has already been set in motion. If this does not occur, the practice in question will congeal, wither, and die. There may be good reasons for permitting this to happen, but my point is that it is the continually creative recreation of practices (e.g., in school) that allows teachers and students to flourish as participants in these practices. Creativity is thus a prerequisite for teachers successfully carrying out their profession. The teacher who does not settle for reflection but who *does* something with a dysfunctional practice is being both professional and creative simultaneously.

SUMMARY

- Creativity is defined as renewal that manages to move others.
- Practice, preparation, imitation, and hard work are conducive elements within a creativity process.

- Creativity is not just a question of getting new ideals but is also about the ability to adapt, adjust, and transgress that which exists in a changeable world.
- Creativity can be understood as improvisational changing of social practices and as a necessary component of professional work.
- There are moments in a practice when the urge to, necessity of, or inspiration for creativity is experienced to a particularly high degree.
- The ability to preserve something is an expression of creativity—for example, it is always a challenge to adapt existing plans to a continually changing practice.

GOOD ADVICE ON DEVELOPING CREATIVITY

- Do not worry that you are not getting thousands of good ideas every week. Seek instead to establish the conditions for your being able to realize the ideas you do get.
- Remember that creativity is not primarily about acquiring new ideas but about moving others to invest in your suggestions for renewal. Spend time on this.
- It is hard to be creative when you are alone. Make sure to construct a working life, system, or organization that can support your quest for renewal.
- Recognize that renewal requires a solid foundation of knowledge. If you wish to renew a practice, you first need to know which buttons to press. If you wish to renew a particular genre, you need to learn the language, techniques, and mechanisms of that genre before you can embark on its renewal.
- Do not be afraid of hard work and immersion. The idea that creativity falls down from the Heavens is basically a fantasy.
- One of the most important tasks for teachers today is to teach students to work hard, in a focused manner, and toward immersion in the subject. Research shows us that this virtue is key to promoting creativity.
- Prior experience is not a barrier to creativity as long as such experience is not understood in terms of fixed and unassailable truths. Experience must be regarded as open to debate, thereby making renewal possible.

In other words, seek to teach your students about traditions and history, but remember that experimenting and fooling around with these conditions represents the offspring of creativity.

CHAPTER 10

THE INEVITABILITY OF CREATIVITY IN MODERN SOCIETY

The preceding chapters suggest that creativity is necessary for maintaining and renewing social practices and maintaining and renewing ourselves as participants in these practices. A critical reader, however, might argue that this is an exaggeration: "Is it not enough to undertake a good education as a teacher, childcare worker, or something else entirely? Is it really necessary to think of ourselves as creative?" The present chapter will take a closer look at these objections.

BETWEEN STANDARDIZATION AND IMPROVISATION

One objection to focusing on creativity in a school and educational context must be that schools in the Western world in general are already extremely creative. The Danish teacher Søren Bøjgaard's (2008) book, *Break the Chalk: A Recommendation for Primary Schools of the Future*, suggests, however, that this is not actually the case:

Fooling Around: Creating Learning Pathways,
pages 131–137.

> There is a strange tendency that every time someone proclaims that we need to think differently, that now school needs to be brought up to date and adjusted to the lessons from pedagogical research, yes, the end result is always the same, namely a product that remarkably resembles the school with which the political decision makers are themselves familiar and to which they can relate, and a final result that, plus/minus a paltry few percent, ends up resembling other countries' school systems more and more. (p. 15, my translation)

Bøjgaard feels that the more we speak about being different and thus being "creative," the less we do so. Proclamations of a willingness to change may have more to do with standardization than the advocates of the discourse wish to admit. This means that the pedagogical world is under pressure from the ongoing standardization efforts that make it difficult to be creative and establish the conditions that allow children to learn in creative ways. This can mean that we are increasingly all doing the same thing. If we take a closer look at the interviews in this book, we must conclude that the teachers' statements match up well with Bøjgaard's premise that creativity is under attack. The teachers experience increasing standardization, which expresses itself in the form of ever-more requirements that students be able to answer questions correctly on a centrally prepared test. I am convinced that if the possibilities for everyday improvisation among teachers and childcare workers are swept away, the same will happen to creativity. Others may feel, as we shall see below, that there is too much focus on creativity.

WHEN ORIGINALITY BECOMES NORMAL

In a critical piece on creativity in the educational journal *Dansk Pædagogisk Tidsskrift*, Kristensen (2006) writes that creativity has become one of today's hobbyhorses. He feels that creativity has become a fixation, nearly an unarguable mantra along the lines of learning and skills development. Who could be opposed to creativity, learning, and skills development?

Specifically in relation to creativity, one can indeed argue that recent years have witnessed a celebration of the creative at the expense of the stable, the new rather than the old, the talented and the elite instead of the collective, and the self-realized individual as opposed to society, at least in a Western context.

In this book, I seek to break down these dichotomies. Creativity can, for example, be encouraged by situations in which people work together. It is not always necessary to stand alone against the collective if one wishes to be creative. In fact, the opposite could be argued inasmuch as most types of creativity in practice are expressions of collective work in which people work together to transcend that which already exists. Even the most sublimely innovative artists have, at one point or another, been under the ap-

prenticeship of others or are perhaps surrounded by various more or less invisible assistants (McDermott, 2006).

A traditional approach links creativity with the individual, thereby risking that we overlook creativity's collective origin story (Nielsen, 2009). In Western historical development, creativity has been posited as an individual's natural ability. The creative is thereby naturalized and individualized whereas culture is omitted from the assessment and is, indeed, often regarded as exerting a decidedly negative influence on an individual's creative expression. This fundamentally Romantic assumption is that when people have the freedom to express themselves (including being creative), they also develop as people. If culture stands in the way of human free expression, then humanity is hindered, its nature withers, and evil arises. It has been argued that this Romantic understanding of creativity has been central to the entirety of the Western cultural understanding of subjectivity (i.e., of what it means to be a person).

Inspired by situated learning, pragmatic, and anthropological studies of creativity, such as my own and those of Ingold and Hallam (2007) and Hastrup (2007), this book seeks to correct this naturalized understanding of creativity. I describe creativity as an opportunity for renewal and improvisational re-creation of social practices and not as something that exists on a plane above these practices. I regard creativity as potentially accessible to all and not just to a tiny, limited elite. This grants many people the opportunity to think in terms of creative opportunities in their own lives.

Kristensen (2006) is, however, correct that the idealization of existential creativity—that is, the idea that everyone can be creative—could be regarded as a new form of adaptation, as a form of normalizing originalization. If everyone wants to be original, then this becomes the normal. There is nothing new about the term "creativity" or about the valorization of the original, but something new may be afoot in the linking of creativity with the individual's relationship with herself in all areas of life, whether these be work or leisure. We are, according to Kristensen, commanded to "be creative" in our economic and working lives. This command has become both a goal of and a principle for the self-realized individual. This can cause all sorts of rationales to be jumbled up within the category of "creativity," with uncertain results for working life and education. Creativity is, in other words, increasingly regarded as the immaterial productive force. A country like Denmark, lacking vast natural resources, must cultivate its human resources to survive. Economic growth through innovation has thus become an individual affair, linked with and dependent on creativity and personal growth. Yet an economically grounded innovation risks smothering spontaneous human creativity. It may be that stress, burnout, and depression have become the national illness of the creative age precisely because these illnesses represent that which one must not be if one will be creative: passive,

cowardly, drained of energy. I believe that creativity does not just consist of being energetic and displaying initiative but can also be cultivated through a slow process of immersion. If one wishes to be creative, then there is just as much a need for rest and relaxation as there is for growth and initiative. The teachers stress this point as well. Nor does the desire to promote creativity necessarily mean that we must be creative all the time. It would make more sense to conclude that we need to be creative when our practices are functioning poorly.

CREATIVITY AS PART OF MODERNITY'S PROGRESSIVE NARRATIVE OF SELF

According to Ingold and Hallam (2007), a focus on creativity belongs to modernity's narrative of self. In modernity and in the idea of the modern, we find an underlying assumption of the continual, progressive development of new ideas and a better society. There is great faith that the steady advance of science and technology will ensure a better and more effective society. Enlightenment and education have taught us to also believe that we will create better citizens and a more useful labor force. Modernity is thus constructed on a fundamentally progressive and creative understanding (Usher & Edwards, 1998). My own discipline, psychology, is a child of modernity as well in the sense that—unlike, say, a religious understanding

FIGURE 10.1. Dirty Creativity?

of Creation as having been created once and for all—psychology possesses the idea that the psyche can be developed, optimized, and improved (Taylor, 2007).

However, numerous people, including the so-called postmodernists (Kvale, 1982), have challenged this idea of progress. It is, of course, true that we now possess better cars and houses than we did a century ago, and we no longer accept mental illness as an inevitability in life as we did 100 years ago. At the same time, however, we must also admit that we have developed high-tech warfare, the Earth is polluted, and the number of psychological illnesses continues to grow. Our ideology of growth has not *just* triumphed; it has also resulted in a variety of new and apparently insurmountable problems both within and outside the Western world. If we turn toward a more isolated discussion of creativity, we can understand this phenomenon both progressively and regressively.

Creativity can be edifying in the sense that our society and we as teachers, managers, or whatever develop new and beneficial things. Perhaps the concept of creativity appeals to us because it contains the idea that our world and our own lives are not predetermined and that we possess a degree of freedom to actively change our own situation. Nevertheless, we must also recognize that creativity can lead to destruction when the new things it produces unexpectedly destroy the lives and requirements for life of ourselves and others. Similarly, creative accounting is not, generally speaking, a good thing, either for the individual or for society, despite being creative.

A key question could be to ask which form of creativity we should cultivate. Should it be the loner's more individualistic rebellion against others or the more pluralistic ideals of creativity? I argue that creativity can be viewed as associated with other virtues, such as wisdom, reason, and sustainability (Craft, Gardner, & Claxton, 2008). In his book on the history of the concept of creativity, the British historian Pope (2005) suggests that we consider replacing the concept of creativity with a concept of re-creation or re-application. Like Ingold and Hallam (2007), he regrets that the concept of creativity is so thoroughly associated with modernity's exaggerated celebration of the new, the different, and the original. Conceptualizing things in terms of re-creation would, in contrast, leave space for the existing, the sustainable, the stable, and the traditional as well as represent a socially sensitive and ecological model of creativity that can supplement or perhaps even replace the dominant technologically and economically driven understanding of creativity that we find, for example, in books on creativity management (Bilton, 2007). Such an understanding accords in many ways with the present book's emphasis on creativity as renewal—as the building on top of and transformation from within of that which exists.

But how can we cope with this in a school context? We know, for example, that creativity is often associated with childishness, and adults who are

creative in fields such as art, literature, and research are thought to score highly on certain psychopathological tests (Simonton, 2008). Few people would regard primary school's role to develop childish and psychopathological traits among students. Nevertheless, we often base our discussions of creativity on the self-representations of artists. Artists may often present themselves as creative loners who seek to live up to this nonconformity through their lifestyles.

It is thus vital, as noted by Craft, Gardner, and Claxton (2008), to recognize that creativity cannot be regarded as an isolated goal of pedagogical initiatives or employee management. Creativity must necessarily be linked with ideals of wisdom, sustainability, and consideration for others. The ideal is no longer originality alone but also concerns how we can make ideas more functional and adaptable. This draws on ideals of moral and social responsibility rather than of an egocentric quest for personal goals. In other words, it is not just a question of who can shout the loudest and thereby gain recognition for original ideas but also of considering the consequences and social values of the ideas one has. That which is lost in terms of opportunity for individual expression is perhaps counterbalanced by the gain in societal usefulness and value.

Modernity's celebration of the new and the "buy-and-dispose culture" is hardly a path to a sustainable society. The point is that the egocentric, individualistic type of creativity is neither inherently desirable nor necessarily leads to sustainable production.

Naturally, society cannot do without original loners who inspire others and create epoch-making works, but a Western understanding of creativity as a goal worth striving for by all people should always be linked to questions of why and for what purpose creativity is possible.

There can be little doubt from a societal perspective that it would be problematic if creativity led only to a celebration of the elite and the talented at the expense of others. The public resources that go to establishing honors classes and special initiatives for elites are often taken from the pool of resources that has been set aside for the teaching of special needs groups. More important, we should be wary in our use of the term "creative." To avoid an association between creativity and the elite, I argue that it is vital that creativity is seen as part of everyday renewal, understood as the ability to adjust and adapt actions to those situations in which one finds oneself and to thereby act professionally. This understanding of creativity incorporates rationality, sustainability, and consideration for others.

The tall and the short of it is that contributions to creativity come from a wide range of sources. Social relationships and power relationships obviously come to determine what is recognized as creative. Not everything is equally creative, but it is important to be open to the idea that obscure and mundane everyday processes can be creative. This contributes to a normal-

ization and democratization of creativity, something that a minority might decry but that could perhaps grant many more people the will to be creative.

SUMMARY

- From a traditional and naturalized perspective, creativity is regarded as a natural ability of the individual, something that can be obstructed by culture. This understanding of creativity causes us to focus on individual creation and overlook the social arrangements that make creative actions possible.
- In contrast to an individualised conceptualization, I argue for a collective and situated understanding of creativity in which people work together to create something new. This is the case even if they sometimes work alone.
- The rhetoric of creativity can be problematic if we elevate it to an all-encompassing ideal for life or posit it as something that can be executed on command. Rather, creativity arises when we are the process of continually modifying, improvising, and thereby creating the practices in which we participate.
- A key question is which form of creativity we should cultivate. In this book, I argue that creativity is not about loners' more or less individualistic rebellions against others. Instead, I regard creativity as associated with other virtues, such as wisdom (familiarity with tradition), rationality (consideration of the expediency of the new ideas or recommended changes), and sustainability (consideration of the consequences of each innovation).

CHAPTER 11

CREATIVITY IN CHILDREN'S LIVES

An Unconditional Good For Whom?[1]

> *Creativity as a term and concept, is one of the most prized commodities of capitalism, just as it is one of the most cherished benefits of democracy.*
>
> —Pope, 2005, p. 29

This chapter follows up on the preceding chapter's critical reading of the fascination of creativity. It does so by addressing the question of whether and how creativity is important in children's lives in relation to creative expression in school. It starts by outlining different conceptions of creativity. The first-generation view considers it largely innate and specific for a selected few; the second-generation perspective (mostly adopted in this book) "democratizes" creativity and emphasizes that we can both teach and learn it. On the background of this latter approach, I analyze the common claim that schools can "kill" creativity and the implications of this assertion. This leads to a consideration of the implicit and explicit epistemological and ontological assumptions behind creativity theories and the realization

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that adopting a "romantic" view of what it means to create can actually be counterproductive in a school setting, at least for some students. An invitation to engage with creativity critically and reflectively in education is offered toward the end.

QUESTIONING CREATIVITY?

While research related to the possible relation between functional skills and creativity (Cropley, 2005) has been extensive within creativity studies, in this chapter, I will raise the more fundamental question of whether creativity is always to be regarded as an unconditional good in children's lives and, importantly, for whom? In light of the introductory quotation from Pope, highlighting creativity as a good in people's lives, made possible by increased participation in societies characterized by democratic citizenship and capitalism, it is indeed necessary to treat the phenomena of creativity constructively, critically, and reflectively. The key question here is undeniably what happens to creativity, and to children, when we make explicit the intention to find, foster, and develop creativity in children's lives—in school and beyond.

CHILDREN'S CREATIVITY

Most people would immediately, if asked, say that they regard children as creative beings. In her doctoral dissertation, Swedish creativity researcher Cecilia Levin (2008) states that most people (researchers included) think that children are most creative until they reach 10 years of age; thereafter, school and adults are typically blamed for smothering creativity in the attempt to teach children to answer questions correctly rather than discovering and creating new ones. In light of this, Glăveanu (2011) writes that the Western conception of creativity, and not least the conception of children's creativity, is often romantic. We regard the playing, dancing, singing, and drawing child as the utmost and most precise sign of creativity in general, in a Western cultural context. According to Gardner (1982), it is "our romantic tradition, remolded in terms of a modernist ethos, [that] has made us responsive to the notion of the child as artist, and the child in every artist" (cited in Glăveanu, 2011, p. 92).

That is, some scientific understandings of creativity, including modern-day ones, support the unquestionable belief in children's creativity or artistic talent. The counterargument is formulated in light of research results indicating that children's creativity is not simply "there" but needs to be recognized, cultivated, and trained to lead to eventual creativity in the context of the demands of a future adult life; children's creativity is maybe only the first of many steps in their lives. How are we to conceive of this possible, currently changing conception of creativity moving away or sideways with a

more romantic conception? What do these changes mean in relation to our idea of creativity among children? Ultimately, how are creative dimensions to be identified and fostered?

FROM FIRST- TO SECOND-GENERATION CREATIVITY

Has creativity become "open" and available to everybody as the prior sections in this book might indicate? Some researchers, and politicians and managers alike, currently point to the fact that creativity, as well as human imagination and fantasy, is vital for developing new products, new technologies, and new and sustainable solutions to global, societal, and economic challenges in an increasing open and globalized knowledge-based, creative world economy (Peters, 2010). This belief is indeed a requirement for opening up the possibility of becoming creative to many more than the selected few within specific domains of life. Definitely many researchers (myself included) have contributed to loosening the close and exclusive

FIGURE 11.1

connection between creativity and art or design by arguing that creativity can be found within many other fields, such as architecture and literature. They argue that creativity can be taught and learned and that creativity is much more collectively achieved than hitherto considered in a Western context (Craft, 2005; Glăveanu, 2010, 2011; McWilliam, Dawson, & Pei-ling Tan, 2011). In the words of Csikszentmihalyi (2006), "Creativity is no longer a luxury for the few, but a necessity for all" (p. xviii). One could say that we are moving from a first-generation to a second-generation conception of creativity challenging the exclusive, romantic conception, something also touched on in the earlier chapter concerning the story behind the boarding school Herlufholm taking a strategic lead concerning creativity.

According to McWilliam (2011), there is globally on the work market an increased tendency to recognize and seek creative and relational capabilities rather than more restrictive and functional, instrumental skills. From seeing creativity in a romantic key, as largely individual and inborn, many now conceive of creativity as pluralistic, manifold, and something we learn while living. This second-generation conception of creativity has been growing for the last 20 years, and it does suggest that the schools and institutions (and families) in which children spend their lives can actually do something to promote the much sought after creativity.

Rather than considering creativity as inborn and only available for a few, carefully selected and exceptionally gifted talents, a second-generation conception would rather look for the possible interplay between a child's disposition or signs of creativity and the carefully designed, stimulating environment promoting creativity. Children can indeed have many different dispositions to act creativity. For example, as evidenced by Gardner's (1993) research on multiple intelligences, some children are extremely good with words, others with using their bodies in sports, and still others with dancing, singing, using their imagination, playing with others, and creating events or engaging in arts and painting. For some children, these different abilities cross different domains. Moreover, if children live in a more simulating environment, with fewer barriers blocking their development, their intrinsic ability to act creatively within their respective fields of mastery will eventually thrive.

In this view, creativity is to be thought of as a general human capacity rather than as something exclusively connected with the arts, even if arts may still be, for good reasons, the archetype of creativity. That is, all people can be creative to achieve a more fulfilling life, but barriers stand in the way. Supporting the pluralistic and domain-specific conception of creativity, a literature review concerning texts on creativity and innovation within the European Union (EU) has suggested a distinction between creative learning and innovative teaching and pointed to the fact that innovative teachers are required to help students develop their creative abilities and engage in

creative learning (Ferrari, Romina, & Punie, 2009), a distinction also supported by empirical studies in a Danish context (Tanggaard, 2008, 2010a, 2011) and in the present book.

WHERE DO WE GO FROM HERE?

There are at least two interesting tendencies concerning creativity in children's lives that need further reflection. One tendency is for the discourse on creativity to act as a kind of counterculture in an age where functional, instrumental skills are accounted for and tested to a higher extent than ever in schools. As seen previously, we tend to celebrate creativity in the EU and elsewhere, but it might be so because we actually discourage it along the way. The other aspect to think about is that literature and research on creativity seem to point to particular conceptions of what it means to be human or what "buildung" (general education) and good education consist of, and this does have significant implications for our understandings of children and youth. Overall, creativity appears as good, something to care for and develop in children, something that control societies, like bulldozers, can drive over and "flatten." As follows, an elaboration of these two tendencies in light of my research experiences regarding creativity is presented.

Creativity as Counterculture

The interview study concerning the conceptions of creativity among school teachers in Denmark presented in Chapter 5 (this volume) made it clear that teachers were worried about the increased weight placed on the control of pupils, on standard, national tests, and on the various accountability measures set in place to compare schools' performance. They saw this as lowering their motivation to experiment with innovative teaching practices. These teachers feared the likely consequences of innovation when knowing that manual-based, "teaching to the test" techniques would make pupils score higher on tests. In contrast, if teachers spent too much time experimenting, not knowing the exact results their actions can have on learning, they would risk being blamed by parents and the school principal for not achieving appropriate results. Even if they believed in the beneficial effect of innovative teaching practices in relation to the development of pupils' skills, they felt less motivation toward being creative in their teaching.

Another tendency in the interviews was for teachers to recognize the creativity of learners who try to avoid schoolwork or homework. They pointed to the most unorthodox behavior and unexpected attitudes among their pupils as a result of creativity. Viewed in light of other results in this area, these observations are recurrent. In a study conducted by Anfiliou and

Murphy (2010), teachers say that they would like to promote creativity, but they feel that greater political ambitions and goals hinder this process.

However, it seems that the difficulties to develop creativity in schools are what are mostly touched on in the literature concerning creativity in school. Levin (2008) is cited for her concern about the lack of ability among school actors to recognize and develop children's creativity. According to Levin, many teachers respond when asked about their opinion concerning creativity that they would like to see more creativity in their classes, but they find it hard in practice to actually include and find the appropriate space and room for the most creative children (Karwowski, 2010). There is, as such, a disconnection between intention and behavior. Creative children are potentially seen as being day-dreamers, not always concentrating on the given task and being reluctant to follow the proposals put forward by teachers in class. Indeed, creativity is often associated with stubbornness and nonconformism, and teachers seldom celebrate these behaviors (Sawyer, 2012; Sternberg & Lubart, 1995).

Turning toward research on creativity among recognized creative actors in Western societies, many of them report not having liked school, dropping out of high school, or having been taught at home (Csikszentmihalyi, 1996; Tanggaard & Stadil, 2012). So even if we are used to feeling acknowledged if somebody praises us for our creativity, undercurrents of counterculture are likely connected to the phenomena of and discourse about creativity as it is used and practiced in everyday life. This might be the reason that some people prefer to talk about innovation rather than creativity. However, it is indeed a fact that many people who eventually make a living from their own creativity do not always feel that school contributed to this, but does this indicate that schools need to change? Or is it the existing structures of school that actually invite these people into a creative life trajectory? One way to address these questions is to look more closely at the conception of human life celebrated, more or less explicitly, through the current optimism concerning creativity.

CREATIVITY AND CONCEPTIONS OF HUMAN LIFE

To further our critical study of dominant creativity discourses, we need to study more carefully the implicit idea of human life celebrated within them. Sawyer (2012) claims that early studies on creativity had an obvious talent focus. There was an explicit interest in finding the true, creative talents and finding ways in which to care for their flourishing. As pointed out by various sources, there is thus a remarkable similarity between themes and topics in the "genius" research from the 19th century and contemporary "creativity" research (Albert, 1969; Becker, 1995: Runco & Albert, 2010).

The current interest in creativity differs from earlier approaches to "genius" in one important respect, however. Creativity is today thought of as in-

dispensable for the future prosperity of the knowledge economies. Creative skills and processes may be extraordinary, but it seems of great political and economic importance that not only specially gifted persons start acting creatively. As argued previously, creativity is more or less thought of as a general competence requirement by those who want to "make it" on the global labor market. While creativity was formerly closely tied to the elite, it is currently being democratized, at least in relation to the ways in which creativity is talked about. In this regard, schools do play a great role.

Sawyer (2012) and Tanggaard (2008) note that it takes about 10 years to really master a domain or skill (e.g., playing the piano), and schools are quite good at teaching children basic material to be used for future creative achievements. However, what schools are less good at is allowing children to play creatively with these materials. What should schools do? Are they to celebrate and support the ability to always turn things upside down, to think radically different? What kinds of consequences would this approach have? Is what follows also endorsing a view of human life as having to always question everything and be ready to fight others for one's views? Many assessments of creativity measure the ability of individuals to think divergently. However, the obvious critique is that such measures are not always an indicator of what it means to be creative in real life, outside of the testing situation (Tanggaard, 2008, 2010; Zeng, Proctor, & Salvendy, 2011). Real-life creativity does not rely exclusively on divergent thinking or on the ability to act appropriately in relation to the practices in which the creative is to be recognized as such. Accordingly, some people might need to be good at divergent thinking whereas others might need to be good at analyzing the practicalities of acting creatively.

The prior observation is central in relation to didactical and educational practices because it directs teachers and other educational actors' attention toward particular aspects of creativity, maybe at the expense of others. Sometimes it might be divergent thinking that needs attention while, at other points in time, it may be the ability to actually recognize what is creative. Some new products are actually only old wine in new bottles, and the ability to recognize this is central to creative action. Above all, every kind of creativity or learning theory follows particular epistemological and ontological assumptions (Greeno, 1997). If the discourse of creativity is meant to imply that everybody must learn to turn everything upside down (a view that has romantic overtones), some children risk exclusion. It might even be those who are excellent in relation to finding out what would be relevant to turn upside down. While school in the form known for centuries in the Western context has been focused on teaching children to be quiet and patient, answering questions correctly, having maybe contributed to problems for those who like to take action and find their own questions, the opposite would just marginalize other children. Indeed, this is where

didactical competence is vital among teachers to avoid bringing forth too many new problems while changing educational ideals, which is currently going on in relation to creativity. To turn back to the initial quote, creativity as norm-breaking is not necessarily good for everybody at all times, even if we sometimes we tend to forget this (Pedersen, 2011).

CONCLUSION

This chapter started with a quote from Pope, reminding us of creativity's ties to both democracy and capitalism. It points to an interesting double aspect of the concept, which indicates that creativity is indeed good for somebody but not necessarily for everybody. I discussed how the concept of creativity has gone through some interesting changes in the last decades, from being tied to specific talents, often within the arts, to being something for everybody, to be discovered in its diverse forms, trained and learned. One of these current forms was then analyzed, focusing on the possible counterculture elements of the discourse of creativity (which might also be the reason that some politicians prefer to talk about innovation). Last, some implicit and/or explicit epistemological and ontological assumptions "hiding" within creativity theories were highlighted not least in relation to the point that while schools may have difficulties with finding and supporting creativity among pupils, they would face new problems if they really decided to go down the road of creativity.

Despite having passed to a second-generation view of creativity and believing in the universality and educability of creative expression, we also tend to operate with counterproductive assumptions associated with the more romantic view. Accordingly, reflexivity and didactical sensitivity are necessary if creativity is to be placed at the top of the school agenda in order to avoid one-sided competence ideals, either favoring creativity or not. At the least, a strategy emphasizing the need for more creativity would need to be followed by a careful educational reflection concerning the likely consequences associated with how we define creativity—how we conceive of "creative students" and innovative teaching.

In the following, I will move toward a conclusion by summing up the creativity model proposed in the different chapters so far and by dwelling on the last two chapters' more critical reading of the modernistic and present-day creativity hype. Following the conclusion, I will add one more chapter concerning the methodology driving the making of the empirical material and the theoretical discussions of the book. I will place this chapter in the background as it can be left out by those readers who do not find themselves comfortable with such discussions. However, they are indeed opening up and making visible some of the creative craftwork that I believe is necessary to write a book on creativity.

NOTE

1. An earlier version of this manuscript was published in Tanggaard and Glaveanu (2013).

CHAPTER 12

CONCLUSION AND PERSPECTIVES

The creativity learning model developed in this book emphasizes the relationship among experiments, immersion, and resistance in creative learning processes and creative learning environments. It is based on empirical analyses from an "impure," situated, and pragmatic theoretical perspective. This locates creativity relative to people and materials, relative to the new and the old. In the conclusion of this book, I will briefly set out a number of implications of and issues that arise from this perspective.

In this book, I have presented a vision for how creativity and renewal can flourish in various forms of pedagogical practice as well as how succeeding on this point can be something of an art. We have seen how artists, apprentices, primary school teachers, school principals, chiefs, and many others discuss creativity and have analyzed their statements in light of theories of creativity, using them directly to develop a pragmatic and situated understanding of creativity.

This book shows that creativity does not always appear in the places we tend to look for it. Apprentices speak of in-between zones and fooling around, where they work on the subject outside of the masters' and

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teachers' judgmental oversight. Andreas Golder speaks of the necessity of continuing on one's painting and having faith that the process will result in a work for which a public exists. One can nearly sense a sort of uncontrollability and spontaneity when it comes to creativity.

It is, however, important not to completely reject the possibility that schools and other formalized learning contexts can provide creativity-promoting teaching. This is because creativity does not just suddenly appear the instant the school door shuts behind us. Instead, school prepares us to be creative in the situations and work contexts that will come to play significant roles in our lives when we are not in education. As Lave echoes in 1999,

> We often participate in a certain context to realise goals or interests that originate in and "belong" to another context. We thereby make use of certain connections between these contexts, or we and others create and develop these connections in order to realise goals and intentions in one context by participating in another. . . . Human action has potential and varied cross-contextual expansion and depth. (p. 51, my translation)

Creativity-promoting teaching does not necessarily result in creative actions in the here and now but instead increases the student's or learner's chances for expressing creativity in other contexts. The learner carries these transformations across contexts and social practices while these are being transformed. If we are to seriously study the extent to which teaching leads to the development of the individual student's creative potential, we must research this in both the practice in which the potential may be realized and the contexts in which the learner participates. Ideally, creativity should be researched in longitudinal or cross-cultural studies in which individuals' participation and learning trajectories are tracked over time. This ambition is behind the research of the apprentice Søren's learning trajectory as presented in Chapter 8. Thus, the learner's ability to creatively combine his experiences makes it possible for him to transform things in his own style. These transformations are key to the development of creativity. This principle is evident in some forms of elite childraising, in which one is instructed by various masters and thereby develops one's own style, whether in music, sports, research, or business (Kvale, 1999; Zuckerman, 1977).

HUMAN CREATIVITY IS UNIQUE, BUT IS IT THUS ALSO ABSTRACT?

In his book, *Explaining Creativity: The Science of Human Innovation*, Sawyer (2012) writes that creativity is among the highest of human attributes. This notion is correct in the sense that human creativity can triumph over even the grandest data processing machine's more predictable, procedure-based actions. Creativity allows us to act in new and hitherto unseen ways. The

present book, however, shows that creativity cannot be placed in the traditional hierarchies of human cognitive processes in which the most abstract thinking is usually placed at the top. If it is, as this book suggests, correct that creativity emerges in the meeting between individuals and situations requiring new solutions, between the new and the old, and between materials and human actions, then it would be incorrect to understand creativity as an abstract mental activity that takes place inside people's heads. Creativity is situated and unique but is not therefore necessarily abstract. Instead, creativity begins, as Andreas Golder puts it, with a splotch of ink on the canvas, backed by all sorts of reproductions and imitations and confronted with the necessity of doing something new in a learning environment in which something that may prove to be new instantaneously appears.

The present book thus connects recent years' intensive research into situated learning with a sociocultural research tradition that distances itself from the premise of "learning as something that takes place 'inside the head of the learner' and typically up through a vertical hierarchy of increasingly generalized and abstract knowledge and skills" (Moss, Pullin, Gee, & Haertel, 2005). The point of departure is instead that learning and creativity arise through changed participation, the other participants, and the tools and materials (symbolic or physical) that are available in a given context. This means that creativity consists of acting and participating in social practices in new ways, whether it is a case of an individual sensing that her participation has changed or us recognizing that we have developed something new in a more general sense that changes the ways in which multiple people participate in social practices (new products and ideas).

ARE THERE LIMITS TO CREATIVITY?

In the last two chapters, I mentioned a number of problems associated with the uncritical elevation of creativity as a general human necessity—also within school. The dilemma for me involves two aspects: (a) Without creativity, our practices will wither and die, and our ability to respond to new and unexpected situations is vital to the maintenance and development of existing practices, human institutions, and structures. (b) Pressuring people to be creative often prevents creativity (see also Amabile, 1996). This book's humble aim is to identify a compromise position—in part by showing that people who create something new are often supported by tradition or borrow from the old, thereby balancing between the demand for inventiveness and the assistance that can be found in that which already exists. Potential solutions include, of course, simply rejecting the creativity discourse and instead speaking of the continuation of tradition, as Golder does in Chapter 6, or instead using terms such as "re-creation," as recommended by Pope (2005).

HOW TO INCREASE CREATIVITY IN LEARNING ENVIRONMENTS

This book has been framed by a discussion of the relationship between creativity and learning. But what should one do if one wishes to promote and become better able to discover creativity in learning environments? The teacher interview project provides many fine points here, as partially illustrated in Chapter 5.

Teachers often regard unanticipated alternative solutions to be the most direct expressions of creativity. The emphasis here is on the breaking of rules or norms as expressions of creativity. The teachers, for example, talk about one student's approach to mathematics, which at first sight appears to be absolutely incorrect but nevertheless sets in motion a collective investigation by the teacher and students into whether this might represent an entirely new rule for calculating equations. When the teachers recognize things as creative, it is because they either represent particularly good contributions to the subject or the students' actions are quite simply surprising and unorthodox from the teacher's perspective and are thus good tools for learning.

Collaborative Learning

The teachers' examples of creative students or products mostly involve workshop or theme-oriented teaching (i.e., an active, experimental, exploratory form of learning focused on specific assignments). The teachers explain that students inspire one another, utilize one another's approaches, and urge one another to try new things. In addition, the teachers say that they require inspiration from other teachers: No one is creative without sometimes needing the help or assistance of others. Yet we must be careful here. Is collaboration always necessary for creativity?

One of Hargreaves' (1994) arguments is that if teamwork is forced, one risks destroying the potential for individuality—an individuality in which the teacher or student can express his or her personal vision, take initiative, and displace creativity as part of the work. Voluntary solitude can be necessary if one is to have the time for second thoughts, reflection, independence, imagination, and personal initiative. Individuality can also be directly linked to the experiencing of one's own ability. The ability to be alone can be an expression of intellectual maturity. It is thus that the egoists, the prima donnas, and the "private tutors" who love to teach alone can be sources of creativity (Hargreaves, 1994). This is important to keep in mind in an era in which it is nearly impossible—nearly heretical—to refuse to work with others. Creativity may often be realized collectively by various people working together, yet this does not negate the value of more solitary creativity.

The Circus Performance

The teachers bring up this metaphor in which creativity is regarded as jumbling around the known or combining mastery of individual skills into a new whole. The circus metaphor highlights the importance of mastering a combination of basic skills (tightrope walking, clowning around, riding a unicycle) in the service of creating an entire performance—a new product that can only be explained on the basis of the individual skills. The metaphor refers to the opportunities for combining isolated skills and abilities, emphasizing that specific creativity-promoting teaching must be combined with fundamental reproductive approaches, such as learning to ride a unicycle or learning a language's grammar.

Aesthetic Learning Processes

These support professional ability. The teachers point out that many students can enhance their factual knowledge acquisition by working aesthetically. They feel, in fact, that students recall things better when they have worked on a subject at various levels or planes.

Solid Subject Knowledge and Ownership

Some of the teachers point out that students achieve the most and are most creative when they possess an overview of the subject and can use this to begin "testing the boundaries" and experimenting. The feeling of control and influence provides a sense of ownership over problem solving. Creativity research agrees that solid subject knowledge and ownership promote creativity, and the research stresses the importance of practice, domain-specific knowledge, and long-term training.

The Good Example

Students learn to be creative when they are around adults who show signs of being actively creative (e.g., teachers who experiment with collaborative and organizational forms). While we cannot test this with any degree of precision, it seems as though teachers' own working methods influence and inspire students. For instance, the mathematics teacher Ivan says that more students pay attention to lessons when he moves the teaching outside onto the school lawn. Like the other teachers, however, he also says that this more practically based and creative form of teaching is under pressure, especially in lower secondary education, where the teaching is becoming increasingly paper- and book-oriented.

Interlude Pedagogy

The teachers stress that creativity cannot be forced and actually works best in the transition among rest, relaxation, and activity. They say it is impossible to work at a high tempo all the time. People need breaks, and in these breaks, collaboration can come as a relief. When one runs out of energy, is having a "bad" day, or just needs some breathing room, then someone else can take over. The term "interlude pedagogy" also refers to the fact that, if creativity becomes an all-encompassing ideal, we risk overlooking the necessity of so much else and that, in a creativity-promoting pedagogy, there should perhaps also be space for the promotion of reproduction, which can help consolidate what has been learned.

Practical Pedagogy

Practical pedagogy is a creative pedagogy. While the teachers say that experimental teaching is important, some of them also assert that a practical pedagogy is a creative pedagogy. Working with one's hands, moving the teaching onto the lawn and away from the school papers, working with art and physical movement, using all of one's senses—these things promote creativity. This suggests that we can speak of a productive or manual pedagogy as a creative pedagogy. Thus, we can describe pedagogy in school through some of its overarching traits, and this places demands on individual teachers in their daily practice.

We are now at the end of the road for a book that has grappled with the concept of creativity in a theoretical, empirical manner. It is clear that a variety of perspectives on what it means to be creative, on learning in creative ways, and on teaching creatively and teaching to promote creativity exist in practice. Creativity and innovation demand that we establish a positive framework and recall that imitation, reproduction, and standards can also be prerequisites for the sought-after creativity. These conditions become particularly clear in a situated perspective on creativity, which places the subject in its sociohistorical context. Learners and apprentices are also creative, just as engineers, cleaners, computer programmers, physicians, nurses, and so on are all creative. Therefore, this book represents a contribution to the opening up of creativity research to areas that are rarely studied (see also Sawyer, 2012). It is vital that we widen our perspectives on what counts as a creative act.

I end the book with a methodology appendix. It can be read for fun, or it can be read to give you, the reader, more insight into the coming into being of the empirical parts of the book now read. As such, it is focused more on methodology than creativity even if it might be a kind of hybrid, a kind of creative methodology.

CHAPTER 13

CONCLUDING REMARKS ON THE METHODOLOGY DRIVING THE EMPIRICAL PARTS OF THE BOOK[1]

I cannot explain how deconstruction happens, but it does if one has read enough and puts it to work.

—St. Pierre, 2011, p. 620

INTRODUCTION

The aim of the present chapter is to put forward and critically discuss the research procedures and approaches applied in the preceding chapters. In line with the ideas of the book, I will argue that the research approach has been creative in itself by not having followed any particular methods approaches. As stated in Sawyer's (2013) book on creativity, "Start your work without too detailed a plan; expect valuable accidents to happen" (p. 87).

Fooling Around: Creating Learning Pathways,
pages 155–165.

Basically, in this chapter, I will indeed trouble and literary "shake" the idea of methods as the founding ground of qualitative inquiry in general and of empirical research in creative processes in particular, being in the situation of having to follow these processes unfolding.

My trouble is that I have never conducted research according to a defined and regular plan—or rather my plans and the realized research are seldom identical constructs, and any description of methods in my writing is at best retrospective and a kind of subsequent rationalization of what was done. Consequently, even if I do have a research plan (as I carry a map or a GPS when travelling), unexpected things always happen, newly constructed roads turn up, and research paths that could not be foreseen surface. Why is this so? Well, as Flyvbjerg (2006) notes, following his qualitative case-based research on mega-projects (such as building a new infrastructure in modern-day cities), "Predictive theories and universals cannot be found in the study of human affairs. Concrete, context-dependent knowledge is, therefore, more valuable than the vain search for predictive theories and universals" (p. 224). Likewise, predictive methods cannot be found in researchers' studies of human and social affairs, which are what most qualitative researchers are up to. The rules of research, often formulated in many research-guide books, are good to know, especially for the novice research, but they are not identical with the concrete, realized research. The latter requires experience-based researcher skills (observing, describing, listening, reading, and writing), which are accumulated and embodied over the years. These are the main reasons that my research reports are always a backward reading of how my empirical material came into being rather than a (blind) result of following the prescribed rules of a method (Ingold & Hallam, 2007). In an attempt to take this seriously, this presentation aims to explore possible alternative approaches to qualitative research, which are, to my knowledge, not frequently described in qualitative methods textbooks. Accordingly, I have found three kinds of research practices: (a) searching for associations between actors of both human and non-human kinds, (b) following the traces of many kinds of actors, and (c) doing a theoretical reworking of materials. If these themes are not of general interest, they have at least come to represent what I tend to do when conducting qualitative research, and I hope they can serve as inspiration for other researchers alike. However, before explaining these concepts in more detail, we will have to study why methods became so popular in the first place.

WHY DID RESEARCH METHODS BECOME SO POPULAR? A SHORT STORY

As a university psychology teacher for the last 15 years, I have noticed that we tend to teach students research methods more intensively than we did just a few years ago. As part of our local psychology education at Aalborg

University in Denmark, students are obliged to conduct two major research studies while at the bachelor level (i.e., one major qualitative project and one major quantitative project, each lasting one semester). They are taught how to do so in separate methods courses, and they carry out their empirical projects in groups, with a supervisor helping them. Only five or six years ago, they also wrote projects, but they did so without having to conduct empirical work and without being examined as intensively in research methods as they currently are. There are a number of reasons, I believe, that this increased focus on teaching research methods is occurring.

The Performative Role of Research Methods

One consequence of the local prioritization of research methods in teaching is that there is now less "innocence" concerning research methods among students than just a few years ago. They learn to define phenomenology, grounded theory, and analysis from the second semester, and empirical work is valued to a higher extent than ever before, which is a relief for those who believe empirical work ensures progress of the discipline. In contrast, theoretical work is facing a hard time; while students' projects formerly tended to concentrate on the particular subject matter of, say, social and/or personality psychology, some of them are now more obsessed with the methods than with the actual subject of their research. Furthermore, methods are increasingly seen as more or less content-independent tools with which to handle almost everything. Consequently, many of our students conduct an interpretative phenomenological analysis (IPA) of almost everything ranging from childhood suffering to elderly joy and happiness. They do so because we teach them to do it, and IPA is indeed instructive in its delimitation of the possible concrete steps to follow in a phenomenological-interpretative type of analysis. Accordingly, IPA is popular among our students because it represents an easily applicable and useful analytical approach, but the problem might be that it is overinclusive and seems to be perceived by the students (and also the teachers) as immediately useful almost everywhere regardless of the content of the project, even if this is actually not always the case. At least, this is what we discuss at the lunch table in the teacher's room without really having found ways to tackle this issue other than encouraging students to also do something else.

One may speculate why research methods have taken such a superordinate position. At an analytical level, Lyotard's (1984) analysis of the performative role of knowledge as a circulating and easily exchangeable entity in a postmodern world would be one way to look for an explanation. "Be performative or die" is the dictum of the postmodern condition, and methods are surely playing a performative role when they show their applicability almost everywhere, independent of particular content. According to Lyotard's analysis, knowledge is increasingly seen as a circulating entity

and not as embodied, connected to expertise, and context-bound. That is, instead of spending years as an apprentice among experienced researchers, scholars today often learn the tools of research from research methods courses, not integrated into particular fields, as researchers did years ago. The former practice carried the risk of being misguided or suffered from the exploitation of a "master" figure but also offered students the chance to learn from experts in the field rather than from the cookbook of science as embodied by many research books (Kvale, 1999). That is, along with the apparent democratization of research practices, with methods books and courses offering a relatively easy, fast-food approach to the world of science, there is also the real risk of compartmentalization of research into easy digestible bites, not lasting long. Nevertheless, being unsure about the value of "truth" in knowledge construction in the postmodern condition, research methods seem to be one of the more secure anchors when faced with the postmodern flood. Meanwhile, the content, or the craft of research, tends to slip away, critics would claim.

LEGITIMIZATION CRISIS?

Another way to understand the popularity of research methods today, not just generally but also in relation to qualitative inquiry, is related to an overall legitimization crisis within research and science. In the moment of performance, when knowledge does not seem to be an end in itself, deeply ingrained in realization of the idea or the empowerment of people, control slips away from all, including the researcher. Accordingly, the whole idea of a research method, by which data can be handled with reference to specific guidelines and procedures, represents an attempt of systematization, formalization, and maybe a kind of semi-control of the whole research process, which can be a relief for a discipline trying to legitimatize itself as a science and still recognizing the value of qualitative work. For example, Giorgi's (1975) description of the phenomenological approach to the analysis of interview data played a major role for psychologists striving to turn psychology into a human science. It represented a systematics with which to make sense of often complex qualitative data. The initial formulation of grounded theory by Glaser and Strauss (1967) did a similar job in the social sciences. Furthermore, the growing number of books concerning qualitative methods is also an indication of the apparent need for reference points and typologies of data handling in order to make research publishable (or whatever the goal of the researcher might be). However, this practice risks locking the researcher into using only ascribed methods while more creative thinking, digressions, and the simple following of the object of the research at the expense of procedure are not happening and/or are seen as something to hide. The reader is thus made to believe that data were analyzed using the prescribed and familiar steps.

According to Valsiner (2012), one consequence of the streamlining of methodology, taking the discipline of psychology as an example, is that psychology has been in a conceptual limbo over the last century:

> As an aspiring science, it has found its methodology to resemble that of "the real sciences," in which theories are accepted as finished and immutable conglomerates of thoughts. Thus, much of psychological discourse has been devoted to issues of the following key thinkers of the past—Jean Piaget, Lev Vygotsky, B. F. skinner, to mention a few, rather than transcending their legacies in new directions. Following in science indicates an inferiority complex. (p. vii)

This critique is interesting in light of the fact that psychology has been an extremely productive discipline with new journals, peer-reviewed articles, and books coming up in a fast accelerant tempo but without remarkable breakthroughs in the understanding of the psyche. The streamlining tendency is not only a phenomenon within psychology. Considering the popularity of methods books, it might be the time to look at them in a more critical vein. As stated by St. Pierre (2011),

> My critique is not that qualitative inquiry is unscientific, my critique is that, to a great extent, it has been so disciplined, so normalized, so centered—especially because of recent assaults by SBR—that is has become conventional, reductionist, hegemonic, and sometimes oppressive and has lost its radical possibilities to produce knowledge differently. (p. 613).

According to St. Pierre (2011), the many textbooks advising researchers to organize their empirical material in categories like research design, data, data collection, data analysis, interviews, observations, and representations convince researchers that these are suitable for organizing and getting a hold on the material. The failure is that this is maybe not always true, and new inventions and the discipline of science risks being under threat because these categories may work restrictively at the expense of the invention of new categories with which to handle empirical material more in line with the material at hand. St. Pierre's inspiration comes from Derrida's deconstructionism, meaning "the overturning and displacement of a structure so that something(s) different can be thought/done." Without seeing myself as a deconstructivist per se, I will, in the following, trouble the concept of methods when this implies the following of a linear and regular plan, which can, beforehand, determine the ways of the researcher in the empirical field. I think something else can and is actually done within qualitative inquiry. I do so by introducing three different concepts I have found useful for describing my own empirical work and can maybe not overturn the popularity of methods but at least trouble our conceptions of what qualitative inquiry is in the 21st century.

QUALITATIVE INQUIRY AS SEARCHING FOR ASSOCIATIONS

One of the claims and points of critique voiced by St. Pierre (2011) is that qualitative inquiry is presently locked in the image of the humanistic "I" taking control over the research process, with the appropriate coding tools (methods) in hand. Is qualitative inquiry a matter of the "I" of the researcher conducting research according to a regular and linear plan, asks St. Pierre? My claim in the following is that this is seldom the case, and the role of the qualitative researcher is much more one of searching for associations between humans and between humans and things revealing themselves as part of the inquiry. Let me develop this point a bit further.

One of the assumptions in St. Pierre's (2011) text cited earlier is that deconstruction concerns challenging taken-for-granted concepts. In qualitative research, these concern, for example, many concepts based on the basic assumption of a humanistic "I" (e.g., the participant, the self, voice, lens, subjectivity, objectivity, dialogue, reflexivity, or identity). Working with the idea of entanglement inspired from deconstructionism and quantum physics, St. Pierre believes that everything is entangled with everything else and with everyone and that our individuality is, rather than a stable and defined unity, more akin to a chain of events and more about becoming than about a defined beginning and end. Accordingly, it is indeed hard to determine exactly where the "I" of the researcher begins and ends. Am I, for example, the same "I" after having conducted a piece of empirical research? Was the piece of research done according to the plan of the "I" of the researcher or were there many other "I"s (eyes) present? The changeability of the field and the entanglement of everything with everything else make these distinctions hard to find out there.

Taking entanglement as the ontological point of departure, it does indeed become problematic to assume that we can then still stand on the shoulders of the "I" invented by humanistic psychology when we do qualitative inquiry. The "I" as a concept or category in the world is for St. Pierre closely coupled with the ideal of the transparent researcher who is able to make distinctions between the I and the world, the subjective versus the objective, the researcher versus the researched, but these distinctions do become blurred when the field is moving you, the researcher, in unexpected directions and when the groupings of participants in the field encountered yesterday turn into something else the next day. Even if it is hard to write oneself out of the "I" or the above distinctions, a more moveable, entanglement approach would be preferable in these cases. It would furthermore help account for the experience mentioned in the introduction of the present text, namely, that the actual research practice is so moveable and dependent on the events in the fields studied that it can be hard to determine beforehand what is going to happen and even harder to explain

what guided the concrete steps along the way. The field can literally move the researcher in unexpected directions.

What I (sic) suggest instead is that qualitative inquiry is a matter of searching for associations between humans (the many participants and also the researcher) and between humans and things in the field, and that the change in associations between these entities shows us what the field is made of, what happens, and what changes are interesting. Rather than beginning with predetermined concepts and looking for assembles out there "in the real world," we do, co-construct, associate, and make empirical material as we go along. For example, within a field study approach, often the reactions among participants toward the researcher and vice versa show what the values, norms, and habits of the field are (e.g., how they are used to welcome strangers and what they emphasize, leave out, or don't focus on). As the participants guide the researcher around, he or she learns what to look for, where to go, and what there is to know. As the traveling goes along, it becomes evident how abstract most theoretical constructs can be, and how they can actually be redefined along the way as associations are found and (re)changed. One example of this can be found in my descriptions of how I had to change my conception of learning confronted with apprentices in vocational education who objected to the researcher (me) trying to describe them during research interviews as learning subjects—subjects of learning (Tanggaard, 2007). Instead they wanted to be seen as becoming professional mechanics, and they believed that the term "learning" and its associated educational discourse made it difficult for them to describe themselves as craftsmen, and that it furthermore, at least metaphorically, kept them on the school bench, something they did not want. Indeed, in research interviews, the interview is the site of empirical production, a space of co-production, and a social practice in which the field is spoken and respoken—to and about—in new ways (see also Tanggaard, 2009a; Tanggaard & Szulevicz, 2013).

Finding a way to describe this co-production approach to research, which radically critiques the idea of the researcher as the sole "I" or knowledge producer in research, I have consulted St. Pierre but also Latour's (2005) actor network theory. In the words of Latour, "For the sociologists of associations, any study of any group by any social scientist is part and parcel of what makes the group exist, last, decay, or disappear" (p. 33). Accordingly, it is no longer enough to limit actors to the role of informers offering cases of well-known types. We have to grant them back the ability to make up their own theories of what the social is made of, and we have to follow the actors themselves. As such, the researcher is not following a method understood as a linear and regular plan but must follow the actors and learn from their objections. Indeed, we should not impose meta-narratives on the stories of the actors, but let the movements, the words, the events,

and the actors speak for themselves as much as possible. In this way, you are constantly searching for associations between actors you did not know of before, stories you did not know could be told but show themselves as important. That is, we cannot begin with more or less empty concepts such as the "social" and the "psyche" and then expect to find these categories out there. Again, in the words of Latour (2005),

> The word social cannot replace anything, cannot express anything better, cannot be substituted—in any form or guise—for anything else. It is not the common measure of all things, like a credit card widely accepted everywhere. It is only a movement that can be seized indirectly when there is a slight change in one older association mutating into a slightly newer or different one. (p. 37)

Accordingly, searching for associations implies letting the stories, the words, and the concepts of the actors stand out. There is no "on top" researcher defining what is wrong or right or whose voice is to determine the conclusions. Rather, the aim is to follow, describe, and be part of the associations of the field.

QUALITATIVE INQUIRY AS FOLLOWING THE TRACES OF MANY KINDS OF ACTORS

My second claim in this chapter is that qualitative researchers must follow the traces of many kinds of actors. The aim of much qualitative research, and not least interview projects, is to study the subjective experience of something (Kvale & Brinkmann, 2008). There is nothing wrong per se with subjective experiences, but what we may tend to forget, if action is limited a priori to what is subjective, intentional, and human, are the many other things that may modify the state of affairs in a given situation. Even if we are still interviewing persons and not things, we may risk counting out these other materials in our stories. In a recent study of creative activity, this notion became evident to me. Many psychological treatments of the phenomena of creativity define it as the ability to think in novel and valuable ways (Craft, 2005; Glăveanu, 2010, 2011). A central component of this is often perceived to be the divergent thinking of the individual person. However, what became evident while interviewing 25 persons about their creative practices was that they continuously referred to things, events, and materials in their stories. One of the interview persons who did this was the Russian-born painter, Andreas Golder. As I interviewed him, we wandered through one of his exhibits. At one point, a number of particularly lovely works caught our eyes: miniature people on miniature easels on a shelf. We asked Andreas how he got this idea in particular, and his story of the miniature easels brilliantly captures the importance of materials and non-human actors in the process of creative painting:

> Well, I was walking around in a big store with painting supplies and that sort of things. Then, I saw these little easels, and I thought, well, I need to make some miniature works. Because all works of art are getting bigger and bigger, so why not go the other way and make something really little? . . . I have around 20 books of sketches or photos I've taken with my mobile phone. It could be anything I come across. Before, I sometimes just got straight to work on the painting, but this caused a lot of mistakes, which meant that I had to paint the whole thing over again. Now, I test at least three or four colours before I get started in earnest on the actual canvas. Other times, I just go around searching. For example, I walked around my friend's workshop. There were all sorts of junk—modern things and things from the Middle Ages. So I went there and got a lot of ideas. (Tanggaard & Stadil, 2012)

It seems that inspiration for Andreas's work processes comes from many sources and that Andreas samples ideas from all of the materials and sources of inspiration that he has at hand: "I once did a show for the White Cube. It was a really compact show, and all of the paintings were closely linked. It was very dark and *memento mori*, Catholic pictures and so on, but it was more of a hodgepodge of all sorts of things."

Which methodological implications follow from these examples? Well, they point to other elements than intentional, human actors, showing an interest in what might turn up: the cellar room, the notes blocks, the mobile phone, the canvas. As such, we follow the actors' own ways and begin our travel by the traces left behind by their activity of forming and dismantling everyday life. The researcher needs to describe these movements, lines, and traces and must engage in a kind of backward reading of how the final product came into the world. Similarly, we are not beginning with predetermined and frozen concepts such as social class, gender, ethnicity, personality traits, or other known and rather abstract concepts taken almost for granted in the human and social sciences, but we are searching for the traces leaving boundary markers, which can rematerialize in new forms as soon as the researcher leaves.

QUALITATIVE INQUIRY AS THEORETICAL REWORKING OF MATERIALS

The inspiration for the last point in my chapter comes from having considered how I conduct the analysis of a given empirical material and how my students do this. Consulting the literature, the inspiration came from the writings of St. Pierre (2011), Kvale and Brinkmann (2009), and Brinkmann (2012). It concerns the work researchers do when they are writing up their empirical material in research papers and books. While we sometimes distinguish between empirical and theoretical work, my point is that both kinds of activities are ordering materials, either on paper, in notebooks, or whatever media is used, often in words, pictures, or figures. This is, in my

viewpoint, not done to present a better ordering than what the actors in a given field may establish themselves. Rather, it is done to give examples of a particular reading of a field, which may, considering the point of departure, either inform, propose a critical reading, destabilize, or help reform, rebuild, or simply do something to a given practice. Theoretical work is definitely a kind of reworking and recollection of a material, done from a particular standpoint, which literally informs the reading of a field.

Describing qualitative inquiry in everyday life, Brinkmann (2012) proposes six steps of research: (a) choose a topic, (b) collect materials, (c) consult the literature, (d) continue collecting materials, (e) do analytic writing, and (f) publish your text. Considering qualitative inquiry as a theoretical reworking of materials, Phases c and e are presently the most interesting. Consulting the literature means considering whether, for example, a given theoretical framework like Butler's gender analytic may inform a material concerning gender issues or whether something else might be relevant. In my own experience, writing blocks often result from having read too little or not knowing how to infuse energy into the text. Categorizing or condensing empirical material is certainly one way to go, but it is often described in methods books as a rather technical affair of "cut and paste." However, theoretical concepts can help unpack a given material because theories represent a way to look at a phenomenon, which can serve as inspiration.

Furthermore, as stated by Brinkmann (2012), "What brings rigor and scientific quality to small-scale projects is a disciplined and analytic awareness informed by theory" (p. 4). Informing this view of theories as helping tools in the writing process is the pragmatic standpoint that theories are tool with which we make sense of and grasp the world. As such, theories may help us move from a personal to a social analysis using what Mills (1959) famously called social imagination. All in all, this calls for images of scientific craftsmanship, which destroy distinctions between theory and methods, and Brinkmann (2012) cites Ingold (2001) stating, "there is no division, in practice, between work and life. [An intellectual craft] is a practice that involves the whole person, continually drawing on past experience as it is projected into the future" (p. 4). This echoes St. Pierre (2011) arguing, "data are collected during thinking and, for me, especially during writing" (p. 621). Furthermore, St. Pierre suggests that analytical writing is not only informed by theory, dry as it may be, but also by all kinds of transgressive, emotional, dream, and sensual data (i.e., data that might not be visible and might challenge our usual distinctions between mind and body, reflection and action, etc.). However, until one begins to think, one cannot know what one will think with. I guess there is no other proper way to summarize this argument, for the moment, than to cite St. Pierre (2001) again on writing:

> That work about subjectivity (an inadequate concept) required a simultaneity of living, reading, and writing. I needed living (experience is inadequate) for which humanist individuations no longer worked (me with the woman in space-time simultaneously), theories that provided language to think living differently (the "posts" and theories of space-time and memory), and the setting-to-work of writing that forced the rupture and demanded I move on. When writing the next word and the next sentence and then the next is more than one can manage, when one must bring to bear on writing, in writing, what one has read and lived, that is thinking that cannot be taught. That is analysis. (p. 621)

CONCLUSION

This chapter has been devoted to troubling methods. I suggested three kinds of research practices: (a) searching for associations between actors of both human and non-human kinds, (b) following the traces of many kinds of actors, and (c) doing a theoretical reworking of materials. All three research practices were described and serve to trouble the idea of the (rational) researcher conducting research according to a defined research plan predicting each research step. Rather than following plans, I argue that plans are often rewritten during research, and many descriptions of research practices are retrospective, being a post-rationalization of what was actually done during the process. To avoid the often boring and superficial character of such descriptions, I argue for the insertion of more flesh and blood in research reports, using the words of everyday actors, reworking and engaging in dialogue with them. The three kinds of research practices or procedures are based on the idea of scientific craftsmanship challenging distinctions between mind and body, human and non-human, theory and method. Instead, research practice is conceived of as something we live every day, and research is understood as an activity in which we follow the traces of many kinds of actors and order material in new ways as we write it up.

NOTE

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