

SpringerBriefs in Psychology

Hermundur Sigmundsson



**How We Learn and
Become Experts**
Igniting the Spark

SpringerBriefs in Psychology

SpringerBriefs present concise summaries of cutting-edge research and practical applications across a wide spectrum of fields. Featuring compact volumes of 55 to 125 pages, the series covers a range of content from professional to academic. Typical topics might include:

- A timely report of state-of-the-art analytical techniques
- A bridge between new research results as published in journal articles and a contextual literature review
- A snapshot of a hot or emerging topic
- An in-depth case study or clinical example
- A presentation of core concepts that readers must understand to make independent contributions

SpringerBriefs in Psychology showcase emerging theory, empirical research, and practical application in a wide variety of topics in psychology and related fields. Briefs are characterized by fast, global electronic dissemination, standard publishing contracts, standardized manuscript preparation and formatting guidelines, and expedited production schedules.

Hermundur Sigmundsson

How We Learn and Become Experts

Igniting the Spark

 Springer

Hermundur Sigmundsson
Department of Psychology
Norwegian University of Science and Technology
Trondheim, Norway

ISSN 2192-8363 ISSN 2192-8371 (electronic)
SpringerBriefs in Psychology
ISBN 978-3-031-61644-0 ISBN 978-3-031-61645-7 (eBook)
<https://doi.org/10.1007/978-3-031-61645-7>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2024

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

If disposing of this product, please recycle the paper.

Foreword: How We Learn and Become Experts: Igniting the Spark

Noticing the Miracles

Miracles of learning and training are so commonplace that we hardly take note. We glance briefly at our screens as two swimsuit-clad bodies perch atop a 10-meter platform. They hold their arms out to their sides as they creep back until just the balls of their feet ground them above the shimmering water far below. Some silent count begins, and they bob once, twice, knees bending deeper each time. Then their bodies explode into synchronized motion. Their legs pop up in the air, arms clasped tight they spin and flip as they plummet toward the water accelerating rapidly. They mirror each other as arms flap in and out, legs bend and straighten, and they dart into the water. How did they ever learn to do that? I briefly imagine myself trying the same and wonder exactly how far my limbs would be flung once I splatted flat on my back, the dispersion of my arms and legs dramatically illustrating stuff I should have learned better back in high school: $f = ma$, *hydrogen bonds*, *Newton's first law of thermodynamics*.

Every time someone completes a skateboard trick on the school steps without banging their elbows or knocking the coffee out of some poor student's hands; every time someone switches from Spanish to Quechua, from Hindi to Gujrati, from Hmong to Chinese, from Hausa to Igbo, from English to Australian (just kidding) and back again; every time someone knows exactly how to eyeball the angle on the tabs and impressions of an intricate wooden joint, or to whip out the perfect knot to secure a shifting load, or to add just a touch of gochujang to the chocolate torte, aren't these miracles? As far as I can tell, the entire skill set I had when I was born was screaming and resisting the intrusion of pureed green beans into my mouth. And look at me now, I even know how to use the internet to learn the most commonly spoken languages in Nigeria! (Igbo and Hausa.). Why are we so blasé about the miraculous transformations that can be achieved through learning.

It is my hope that in this book, Hermundur Sigmundsson will not only kindle a much more vibrant appreciation of the potential that we humans can unleash through learning, but also equip us to more effectively help people achieve that potential. This book weaves together research from across fields to create a model for

learning, illustrated with outstanding examples of some who learned their way to spectacular achievements. Although we may never measure up to sports stars, geniuses, courageous civil rights leaders, chess champions, coaches, or authors, we can nonetheless see how the learning model proposed in this book can stoke and harness our motivation, and help us achieve meaning through our own kind of excellence. Imagine applying this model of finding and developing your passion, seeking improvement and mastery as you work on your passion, persisting and working hard at focused and specialized skill training, and being challenged and supported by a mentor. Certainly, you can see how your skills would improve, and if you really are dedicating this time, energy, focus, and mindset to a passion, you can see how your life would benefit, as well. Learning in a way that improves our own lives might be just the start, though.

We live in a world facing up to immense challenges. We know that our own actions are responsible for so much of our suffering, present and future. To a powerful degree, we are participating in calamities that are disrupting our lives even today, and quite possibly will distort the lives of future generations beyond current recognition. We see these problems bearing down on us, yet we don't seem to change our behavior much at all. To thrive, and possibly survive, with our societies, cultures, and futures intact, we need better learning. And fast! We need to learn better ways of generating, regulating, and using energy. We need to learn better ways of consuming and distributing natural resources and economic resources. We need to learn better ways to see each other's uniqueness, diversity, and dignity. We need to learn better ways to avoid, resolve, and heal from conflict. It is all very serious and depressing stuff, I must admit. It is much less depressing, though, to imagine that we can learn all these better ways of living by harnessing our passions, by being resilient in the face of setbacks and by stoking mighty appetites for growth and mastery, by focusing determinedly on what we need to figure out and shutting out some of the insidious distractions seeking to divert us, by pressing on with dedication and perseverance, and by learning from each other. Learning is inevitable, I suppose. We will either learn to solve and prevent problems, or learn to live with those problems in a diminished, damaged world. I believe each of us wants to do our part to learn to help solve and prevent problems. By grounding itself in developmental and positive psychology, this book offers a win-win for us all: we can learn and expand our capacities, and we can thrive in meaningful lives while we do so. This book has the potential to equip us with an exciting, enticing, and empowering vision of how we can learn, and how we can nurture the learning of children and young people who will inherit the future.

Department of Psychology, Center for Meaning and Purpose Michael F. Steger
Colorado State University
Fort Collins, CO, USA

Optentia Research Programme
North-West University
Potchefstroom, South Africa

Acknowledgement

I would like to express my gratitude to my students at all levels—bachelor, master, and PhD—for their engaging discussion on the topics that are the focus of this book. In particular, I want to extend my thanks to Magdalena Elnes, Benjamin H. Dybendal, and Jonas Leversen. I am also grateful to my good friend, Snorri Magnússon, for his assistance and encouragement. Special thanks are also due to Monika Haga for providing feedback on an earlier draft of the book. Lastly, I want to thank my family for their unwavering support.