Engaging the Rewired Brain

Second Edition

Copyright ©2024 by SAGE Publications, Inc.

jt cot '

This work may not be reproduced or distributed in any form or by any means without express written permission of the publisher.

to the second se

Engaging the Rewired Brain

Second Edition

David A. Sousa



× cC

Copyright ©2024 by SAGE Publications, Inc.

This work may not be reproduced or distributed in any form or by any means without express written permission of the publisher.



FOR INFORMATION:

Corwin A Sage Company 2455 Teller Road Thousand Oaks, California 91320 (800) 233-9936 www.corwin.com

Sage Publications Ltd. 1 Oliver's Yard 55 City Road London EC1Y 1SP United Kingdom

Sage Publications India Pvt. Ltd. Unit No 323-333, Third Floor, F-Block International Trade Tower Nehru Place New Delhi 110 019 India

Sage Publications Asia-Pacific Pte. Ltd. 18 Cross Street #10-10/11/12 China Square Central Singapore 048423

Vice President and Editorial Director: Monica Eckman Publisher: Jessica Allan Content Development Editor: Mia Rodriguez Content Development Manager: Lucas Schleicher Senior Editorial Assistant: Natalie Delpino Editorial Intern: Lex Nunez Production Editor: Tori Mirsadjadi Copy Editor: Typesetter: Exeter Cover Designer: Marketing Manager: Olivia Bartlett

Copyright © 2024 by Corwin Press, Inc.

All rights reserved. Except as permitted by U.S. copyright law, no part of this work may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without permission in writing from the publisher.

When forms and sample documents appearing in this work are intended for reproduction, they will be marked as such. Reproduction of their use is authorized for educational use by educators, local school sites, and/or noncommercial or nonprofit entities that have purchased the book.

All third-party trademarks referenced or depicted herein are included solely for the purpose of illustration and are the property of their respective owners. Reference to these trademarks in no way indicates any relationship with, or endorsement by, the trademark owner.

Printed in the United States of America.

Library of Congress Cataloging-in-Publication Data

[TO COME. IF NOT RECEIVED BY FINAL PROOFS USE PAPERBACK ISBN 978-1-0719-2324-5]

This book is printed on acid-free paper.

23 24 25 26 27 10 9 8 7 6 5 4 3 2 1

DISCLAIMER: This book may direct you to access third-party content via web links, QR codes, or other scannable technologies, which are provided for your reference by the author(s). Corwin makes no guarantee that such third-party content will be available for your use and encourages you to review the terms and conditions of such third-party content. Corwin takes no responsibility and assumes no liability for your use of any third-party content, nor does Corwin approve, sponsor, endorse, verify, or certify such third-party content.

Contents

About the Author

vii

V

_ _ _

INTRODUCTION

2

About This Book	000
Questions This Book Will Answer	000
 Chapter Contents 	• 000
Other Helpful Tools	000
 Who Should Use This Book 	000
 A Note About Effect Sizes 	000
What's Coming	000
CHAPTER I	
Where We Are	000
Views and Status of Technology in Schools	000
 How Technology Is Changing Schools 	000
 How Technology Is Changing Teachers 	000
 Does Technology Improve Student Achievement? 	000
 Measuring the Value of Technology 	000
What Is Student Engagement?	000
 Levels of Student Engagement 	000
 Types of Authentic Student Engagement 	000
What Should Teachers Be Able to Do With Technology?	000
What's Coming	000
Resources	000
Glossary	000
References	000

to the second se

About the Author

DR. DAVID A. SOUSA is an international consultant in educational neuroscience and author of more than twenty books that suggest ways educators and parents can translate current brain research into strategies for improving learning. A member of the Cognitive Neuroscience Society, he has conducted workshops in hundreds of school districts on brain research, instructional skills, and science education at the preK–12 and university levels. He has made presentations to more than two hundred thousand educators at national conventions of educational organizations and to regional and local school districts across the United States, Canada, Europe, Australia, New Zealand, and Asia.

Dr. Sousa has a bachelor's degree in chemistry from Bridgewater State University in Massachusetts, a master of arts in teaching degree in science from Harvard University, and a doctorate from Rutgers University. His teaching experience covers all levels. He has taught senior high school science and served as a K–12 director of science, supervisor of instruction, and district superintendent in New Jersey schools. He was an adjunct professor of education at Seton Hall University for ten years and a visiting lecturer at Rutgers University.

Prior to his career in New Jersey, Dr. Sousa taught at the American School of Paris (France) and served for five years as a foreign service officer and science advisor at the US diplomatic missions in Geneva (Switzerland) and Vienna (Austria).

Dr. Sousa has edited science books and published dozens of articles in leading journals on professional development, science education, and educational research. His most popular books for educators include *How the Brain Learns*, now in its sixth edition; *How the Special Needs Brain Learns*, second edition; *How the Gifted Brain Learns; How the Brain Learns to Read*, second edition; *How the Brain Influences Behavior; How the ELL Brain Learns; Differentiation and the Brain*, second edition, (with Carol Tomlinson); and *How the Brain Learns Mathematics*, second edition, which was selected by the Independent Book Publishers' Association as one of the best professionaldevelopment books. *The Leadership Brain* suggests ways for educators to lead today's schools more effectively. His books have been published in French, Spanish, Chinese, Arabic, Korean, Russian, and several other languages. His book *Brainwork: The Neuroscience Behind How We Lead Others* is written for business and organizational leaders.



Vİİ

Vİİİ

Engaging the Rewired Brain, Second Edition

Dr. Sousa is past president of the National Staff Development Council (now called Learning Forward). He has received numerous awards from professional associations, school districts, and educational foundations for his commitment to research, staff development, and science education. He received the Distinguished Alumni Award and an honorary doctorate from Bridgewater State University and an honorary doctorate in humane letters from Gratz College in Philadelphia.

Dr. Sousa has been interviewed on the NBC *Today* show, by other television programs, and by National Public Radio about his work with schools using brain research. He makes his home in south Florida.

* C