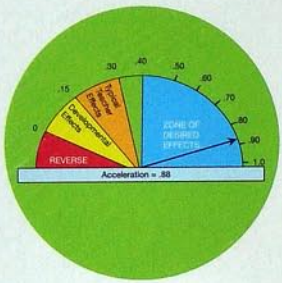
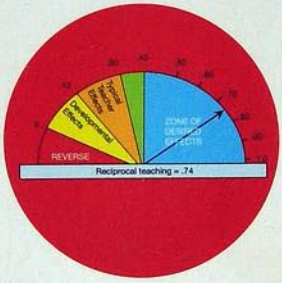
VISIBLE LEARNING

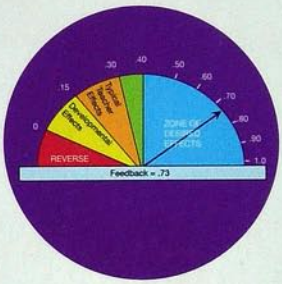
A SYNTHESIS OF OVER 800 META-ANALYSES RELATING TO ACHIEVEMENT

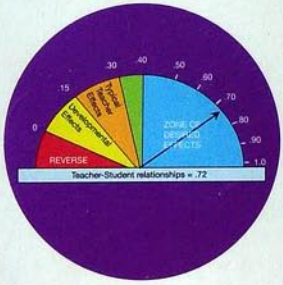
"Reveals teaching's Holy Grail"

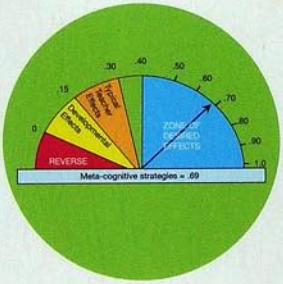
The Times Educational Supplement

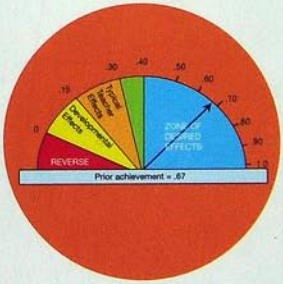












JOHN HATTIE

ROUTLEDGE

Visible Learning

i-40153

A synthesis of over 800 meta-analyses relating to achievement

John A. C. Hattie

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

M.F.Axundov adına
Azərbaycan Milli
Kitabxanası

B37

First published 2009
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
270 Madison Avenue, New York, NY 10016

Reprinted 2009 (three times), 2010 (three times)

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2009 John A. C. Hattie

Typeset in Bembo by
Bookcraft Ltd, Stroud, Gloucestershire
Printed and bound in Great Britain by
CPI Antony Rowe, Chippenham, Wiltshire

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
Hattie, John.
Visible learning: a synthesis of meta-analyses relating to achievement/John A. C. Hattie.
p. cm.
Includes bibliographical references.
1. Learning—Longitudinal studies. 2. Teaching—Longitudinal studies. 3. Effective teaching—Longitudinal studies. 4. Teacher effectiveness—Longitudinal studies. I. Title.
LB1060.H388 2008
370.15'23—dc22 2008021702

ISBN10: 0-415-47617-8 (hbk)
ISBN10: 0-415-47618-6 (pbk)
ISBN10: 0-203-88733-6 (ebk)

ISBN13: 978-0-415-47617-1 (hbk)
ISBN13: 978-0-415-47618-8 (pbk)
ISBN13: 978-0-203-88733-2 (ebk)

Contents

List of tables vi
List of figures vii
Preface viii
Acknowledgments x

1 The challenge 1

2 The nature of the evidence: a synthesis of meta-analyses 7

3 The argument: visible teaching and visible learning 22

4 The contributions from the student 39

5 The contributions from the home 61

6 The contributions from the school 72

7 The contributions from the teacher 108

8 The contributions from the curricula 129

9 The contributions from teaching approaches—part I 161

10 The contributions from teaching approaches—part II 200

11 Bringing it all together 237

Appendix A: the meta-analyses by topic 263
Appendix B: the meta-analyses by rank order 297
Bibliography 301
Index 375

Tables

2.1 Average effect for each of the major contributors to learning 18
4.1 Summary information from the meta-analyses on the contributions from the student 39
5.1 Summary information from the meta-analyses on the contributions from the home 61
6.1 Summary information from the meta-analyses on the contributions from the school 74
6.2 Synthesis of meta-analyses and major studies reducing class size from 25 to 15 87
7.1 Summary information from the meta-analyses on the contributions from the teacher 109
8.1 Summary information from the meta-analyses on the contributions from the curricula 130
9.1 Summary information from the meta-analyses on the contributions from teaching approaches 162
9.2 Relation between goal difficulty and performance 165
9.3 Difficult compared to "do your best" goals 165
9.4 Relation of self-efficacy to goal attainment 166
9.5 Various metacognitive strategies and the effect sizes (Lavery, 2008) 190
10.1 Summary information from the meta-analyses on the contributions from teaching approaches 201
10.2 Effect sizes for various teaching strategies (from Seidel & Shavelson, 2007) 202
10.3 Effect sizes for various teaching strategies (from Marzano 1998) 203
10.4 Summary of effects from comprehensive teaching reforms (Borman *et al.*, 2003) 216
10.5 Summary of effects from computer-based instruction 222
10.6 Summary of effects from computers as substitute and as supplement to the teacher 223
10.7 Summary of effects from using computers with the same or a different teacher 223
10.8 Summary of major uses of computers in classrooms 224
11.1 Effect sizes for teacher as activator and teacher as facilitator 243
11.2 Effect sizes from teaching or working conditions 244

Figures

1.1 Percentage of responses as to the claimed influences on student learning by students, parents, principals, and teachers 5
2.1 An achievement continuum 7
2.2 Distribution of effect sizes across all meta-analyses 16
2.3 Number of meta-analyses above and below the h-point 19
2.4 A typical barometer of influence 19
2.5 Funnel plot of the effect size and sample size from each meta-analysis 21
7.6 Effect sizes for nine teacher–student relationship variables 119
8.10 The percentage of students performing below, at, and above expectation in each year level 141
8.24 Higgins *et al.* four-part thinking model 156
9.9 A model of feedback 176
10.18 The number of computer-based meta-analyses and their overall effect size 220
10.19 Relation between effect sizes for computer-based instruction and year of publication 221
11.1 A model of Visible teaching – Visible learning 238
11.2 The means for the National Board certified teachers (NBCTs) and non-National Board certified teachers (non-NBCTs), and the effect size of the difference between these two groups 260
11.3 Percentage of student work from NBCTs and non-NBCTs classified as surface or deep learning 260

j-40153

"Visible Learning is the definitive book on sorting out th of teaching strategies - a must read for those who want to improve teaching and learning."

– Michael Fullan

This unique and ground-breaking book is the result of 15 years' research and synthesises over 800 meta-analyses relating to the influences on achievement in school-aged students. It builds a story about the power of teachers and of feedback, and constructs a model of learning and understanding.

Visible Learning presents research involving many millions of students and represents the largest ever collection of evidence-based research into what actually works in schools to improve learning. Areas covered include the influences of the student, home, school, curricula, teacher, and teaching strategies. A model of teaching and learning is developed based on the notion of visible teaching and visible learning.

A major message within the book is that what works best for students is similar to what works best for teachers. This includes an attention to setting challenging learning intentions, being clear about what success means, and an attention to learning strategies for developing conceptual understanding about what teachers and students know and understand.

Although the current evidence-based fad has turned into a debate about test scores, this book is about using evidence to build and defend a model of teaching and learning. A major contribution to the field, it is a fascinating benchmark for comparing many innovations in teaching and schools.

John Hattie is Professor of Education and Director of the Visible Learning Labs, University of Auckland, New Zealand.

EDUCATIONAL RESEARCH

Routledge
Taylor & Francis Group
www.routledge.com/education

"ADA" Kitab Mərkəzi ***
43M
9 780415 476188

“Müəlliflik hüququ və əlaqəli hüquqlar haqqında” Azərbaycan Respublikası Qanununa və nəşr ilinə, ölkə üçün mühüm əhəmiyyət kəsb etdiyinə görə bu elektron resursdan yalnız kitabxananın “Lokal şəbəkədən istifadə üzrə oxu zalı”nda istifadə etmək olar.

* * *

Due to Law of Azerbaijan Republic on “Copyright and related laws”, year of publication and for this reason that this material is important for our republic you can use this electron resource only in the “Local network reading hall”.

* * *

Принимая во внимание закон Азербайджанской Республики "Об авторском праве и сопутствующим правам", год издания, и чрезвычайную важность для страны, получить доступ к данному электронному ресурсу можно только в библиотечном "Читальном зале по использованию локальной сети".