## **Urban Myths about Learning and Education**

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# Urban Myths About Learning and Education

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## Abstract (Preface)

In this book, the most common popular myths relating to learning and education are discussed with respect to whether there is any truth in the myth and what good educational and psychological research has to say about them. Examples of such myths range from: learning styles to neuromyths such as left-brain/right-brain and braintraining programs, how large or small classes and schools should be to the explanation why schools do change (no, really!). This book is written in a concise, humorous, and accessible style, but at the same time based on an extensive scientific review of relevant empirical research. By the way, did you know that there are no pyramids in the work of Maslow and that the NTL has no data to back up Dales' learning pyramid?

Not only does the book debunk most of these Urban Legends in Education, it also discloses some interesting facts about learning and education that do have a proven effect. This book is neither progressive nor conservative; it only attempts to get the facts straight and present them in a way that those involved in teaching and education can understand and use them.

The book consists of four content-based sections (i.e., groups of chapters), with each chapter examining a particular genre of myth. The four content based sections are: 'myths about learning', 'neuromyths', 'myths about technology and education' and 'myths about educational policy'. A fifth and final section discusses why these myths are so persistent (i.e., nearly impossible to eradicate) and possible strategies to combat them.

Besides the basic 'need to know'-text, throughout the book, there are also 'infoclouds' with 'nice to know' information adding background information, additional facts and humorous anecdotes. Many teachers do good work, but all too often on the basis of incorrect theories.

(Pedro De Bruyckere. Paul A. Kirschner & Casper Hulshof)

Thus science must begin with myths, and with the criticism of myths; neither with the collection of observations, nor with the invention of experiments, but with the critical discussion of myths, and of magical techniques and practices.

(Conjectures and Refutations: the Growth of Scientific Knowledge (2002) – Karl Popper)

"But the Emperor has nothing at all on!" said a little child.

"Listen to the voice of innocence!" exclaimed his father; and what the child had said was whispered from one to another.

"But he has nothing at all on!" at last cried out all the people.

(The Emperor's New Clothes (1837) - Hans Christian Andersen)

In religion and politics, people's beliefs and convictions are in almost every case gotten at second-hand, and without examination, from authorities who have not themselves examined the questions at issue, but have taken them at second-hand from other non-examiners, whose opinions about them were not worth a brass farthing.

(Autobiography of Mark Twain (1959) - Mark Twain / Samuel Langhorne Clemens)

No amount of belief makes something a fact

(James Randi - retired stage magician and scientific skeptic)

## Acknowledgements

This book – and its Dutch predecessor - could not have been written without the critical help of many people. For this reason, we would like to thank (in no particular order) Amber Walraven, Jeroen Janssen, Jeroen van Merriënboer, John Sweller, Dick Clark, Frederik Anseel, Stijn Dhert, Wouter Duyck, Bert Smits, Tommy Opgehaffen, Erwin Taets, Martin Valcke, Dimo Kavadias, Dirk Terryn, Elke Struyf, Fredo Fredonis and the GentM-mob, Patrick Vermeren, Daniel Willingham and Donald Clark.

Strange to relate, this book was a real Twitter-work. Not only did the three authors first meet each other via this medium, but it was also later the channel for much of the input exchanged and received. If anyone still doubts that technology can assist knowledge creation, we are now in a position to assure them that it does!

We dedicate this book to the people who still help us to learn every day.

Pedro thanks Helena, Clement, Emile and Remi.

Paul thanks Catherine, Femke, Jesse, Mara and Aron for really appreciating why good education is so important.

Caspar thanks Petra, Myrthe, Benthe and Jessie for the much needed distraction.

#### THE BIG CLEAR-OUT FOUT! BLADWIJZER NIET GEDEFINIEERD. **SOMETIMES WE ARE LAZY** FOUT! BLADWIJZER NIET GEDEFINIEERD. FOUT! BLADWIJZER NIET GEDEFINIEERD. THINKING IN BOXES **OUR VISION OF EDUCATION?** FOUT! BLADWIJZER NIET GEDEFINIEERD. FOUT! BLADWIJZER NIET GEDEFINIEERD. Brass farthing CREAM-CAKES FOUT! BLADWIJZER NIET GEDEFINIEERD. **DEAR EXPERTS...** FOUT! BLADWIJZER NIET GEDEFINIEERD. A WHO'S WHO OF THE WORLD OF EDUCATION RESEARCH FOUT! BLADWIJZER NIET GEDEFINIEERD. MYTHS ABOUT LEARNING FOUT! BLADWIJZER NIET GEDEFINIEERD. 1. People have different styles of learning FOUT! BLADWIJZER NIET GEDEFINIEERD. 2. THE EFFECTIVENESS OF LEARNING CAN BE SHOWN IN A PYRAMID FOUT! BLADWIJZER NIET GEDEFINIEERD. 3. YOU LEARN 70% INFORMALLY, 20% FROM OTHERS AND JUST 10% THROUGH FORMAL EDUCATION FOUT! BLADWIJZER NIET GEDEFINIEERD. 4. IF YOU CAN LOOK EVERYTHING UP, IS KNOWLEDGE SO IMPORTANT? FOUT! BI ADWIJZER NIET GEDEFINIEERD. 5. KNOWLEDGE IS AS PERISHABLE AS FRESH FISH FOUT! BLADWIJZER NIET GEDEFINIEERD. 6. YOU LEARN BETTER IF YOU DISCOVER THINGS FOR YOURSELF RATHER THAN HAVING THEM EXPLAINED TO YOU BY OTHERS FOUT! BLADWIJZER NIET GEDEFINIEERD. 7. YOU CAN LEARN EFFECTIVELY THROUGH PROBLEM-BASED EDUCATION FOUT! BLADWIJZER NIET GEDEFINIEERD. 8. BOYS ARE NATURALLY BETTER AT MATHEMATICS THAN GIRLS FOUT! BLADWIJZER NIET GEDEFINIEERD. 9. IN EDUCATION, YOU NEED TO TAKE ACCOUNT OF DIFFERENT TYPES OF INTELLIGENCE FOUT! BLADWIJZER NIET GEDEFINIEERD. 10. OUR MEMORY RECORDS EXACTLY WHAT WE EXPERIENCE FOUT! BLADWIJZER NIET GEDEFINIEERD. 11. DOES SCHOOL KILL CREATIVITY? FOUT! BLADWIJZER NIET GEDEFINIEERD. 12. 93% OF OUR COMMUNICATION IS NON-VERBAL FOUT! BLADWIJZER NIET GEDEFINIEERD. SO WHAT EXACTLY DO WE KNOW ABOUT LEARNING? FOUT! BLADWIJZER NIET GEDEFINIEERD. FOUT! BLADWIJZER NIET GEDEFINIEERD. **NEUROMYTHS** 13. WE ARE GOOD MULTITASKERS FOUT! BLADWIJZER NIET GEDEFINIEERD. 14. WE ONLY USE 10% OF OUR BRAINS FOUT! BLADWIJZER NIET GEDEFINIEERD. 15. THE LEFT HALF OF THE BRAIN IS ANALYTICAL, THE RIGHT HALF IS CREATIVE FOUT! BLADWIJZER NIET GEDEFINIEERD. 16. YOU CAN TRAIN YOUR BRAIN WITH BRAIN GYM AND BRAIN GAMES FOUT! BLADWIJZER NIET GEDEFINIEERD. 17. MEN HAVE A DIFFERENT KIND OF BRAIN FROM WOMEN FOUT! BLADWIJZER NIET GEDEFINIEERD. 18. WE CAN LEARN WHILE WE ARE ASLEEP FOUT! BLADWIJZER NIET GEDEFINIEERD. 19. Babies become cleverer if they listen to classical music FOUT! BLADWIJZER NIET GEDEFINIEERD. **DOES IT HELP TO HAVE A CORRECT KNOWLEDGE OF HOW THE BRAIN WORKS?** FOUT! BLADWIJZER NIET GEDEFINIEERD. MYTHS ABOUT TECHNOLOGY IN EDUCATION FOUT! BLADWIJZER NIET GEDEFINIEERD. 21. New technology is causing a revolution in education FOUT! BLADWIJZER NIET GEDEFINIEERD. 22. INTERNET BELONGS IN THE CLASSROOM BECAUSE IT IS PART OF THE PERSONAL WORLD EXPERIENCED BY CHILDREN FOUT! BLADWIJZER NIET GEDEFINIEERD. 23. TODAY'S DIGITAL NATIVES ARE A NEW GENERATION WHO WANT A NEW STYLE OF EDUCATION FOUT! BLADWIJZER NIET GEDEFINIEERD. **24.** THE INTERNET MAKES US DUMBER FOUT! BLADWIJZER NIET GEDEFINIEERD. 25. YOUNG PEOPLE DON'T READ ANYMORE FOUT! BLADWIJZER NIET GEDEFINIEERD.

**26. YOU LEARN NOTHING FROM GAMES OTHER THAN VIOLENCE** FOUT! BLADWIJZER NIET GEDEFINIEERD.

**27.** YOU CAN HELP POOR CHILDREN TO LEARN JUST BY GIVING THEM ACCESS TO COMPUTERS FOUT! BLADWIJZER NIET GEDEFINIEERD.

**LEARNING AND TECHNOLOGY: A FEW TIPS**FOUT! BLADWIJZER NIET GEDEFINIEERD.

## MYTHS IN EDUCATIONAL POLICY

## FOUT! BLADWIJZER NIET GEDEFINIEERD.

**28. YOU CAN JUSTIFIABLY COMPARE THE SCHOOL RESULTS OF DIFFERENT COUNTRIES**FOUT! BLADWIJZER NIET GEDEFINIEERD.

**29. CLASS SIZE DOESN'T MATTER**FOUT! BLADWIJZER NIET GEDEFINIEERD.

**30. LARGER SCHOOLS ARE BETTER THAN SMALL ONES** FOUT! BLADWIJZER NIET GEDEFINIEERD.

**31. SEPARATE EDUCATION FOR BOYS AND GIRLS IS MORE EFFECTIVE THAN MIXED EDUCATION** FOUT! BLADWIJZER NIET GEDEFINIEERD.

**32.** Boys benefit if they have lessons from men more regularly Fout! Bladwijzer niet gedefinieerd.

**33. GRADE RETENTION – BEING LEFT BACK – HAS A POSITIVE EFFECT ON LEARNING**FOUT! BLADWIJZER NIET GEDEFINIEERD.

**34. More money means better education**FOUT! BLADWIJZER NIET GEDEFINIEERD. **35. EDUCATION NEVER CHANGES**FOUT! BLADWIJZER NIET GEDEFINIEERD.

## MYTH PERSISTENCE AND MYTH BUSTING FOUT! BLADWIJZER NIET GEDEFINIEERD.

WHY ARE THESE MYTHS SO PERSISTENT

MORAL PANIC AND EDUCATIONAL MYTHS

WHAT CAN WE DO ABOUT THIS?

HOW CAN I AVOID BELIEVING MYTHS OR PASSING THEM ON TO OTHERS?

INTO THE FUTURE: WHAT ABOUT THE MYTHS TO COME?

FOUT! BLADWIJZER NIET GEDEFINIEERD.

FOUT! BLADWIJZER NIET GEDEFINIEERD.

FOUT! BLADWIJZER NIET GEDEFINIEERD.