

Research
Edition

The Science of Learning for Teachers

Volume 1: Foundations of Learning

Research & Evidence Edition

Marko Koskinen

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About the Publisher

Association for Educational Progress is a Finnish educational organization promoting effective learning, democratic education, and student participation. The association develops international initiatives including the Science of Learning Academy, which aims to promote evidence-based teaching practices worldwide.

AI Assistance Disclosure

Parts of this publication were developed with the assistance of generative AI tools, including ChatGPT (OpenAI), which were used to support drafting, editing, and structuring of text. All content has been reviewed, edited, and verified by the author. The author takes full responsibility for the accuracy, interpretation, and final form of the material.

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Editor: Marko Koskinen

Publisher: Association for Educational Progress

Kerava, Finland

First edition published 2026

Publisher websites:

www.kehittyvakoulu.fi

www.scienceoflearning.academy

Layout: Marko Koskinen

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Foreword

Why This Booklet Exists

This booklet has been created by the **Association for Educational Progress** in Finland with a clear mission: to support more effective teaching and learning, and to strengthen genuine student participation in schools. It builds on the work of the Science of Learning Academy, which aims to transform insights from learning science into practical tools for educators and school designers.

Across the world, educators and leaders are asking the same fundamental question: *How can we ensure that all students thrive, are motivated, and experience real progress in their learning?* The Science of Learning offers answers grounded in research and experience, bringing evidence from cognitive science into everyday practice so that classrooms become more vibrant, engaging, and purposeful places for both teachers and students.

At the same time, too much time, energy, and effort are spent on approaches that don't fully align with what we now know about how human learning actually works. Many traditional practices and outdated theories persist not out of ill intent, but simply because better alternatives have not yet reached classrooms everywhere. Our goal is not to criticise, but to offer tools and understanding that help teachers work more confidently and joyfully, and help students experience school as a place of inspiration and deep engagement.

Central to our global mission is **the Global Teacher Cognitive Literacy Target 2037** — a vision where 80–90 % of teachers around the world are trained in core learning science principles, where understanding how learning works becomes a standard part of teacher education, and where educational technologies, including artificial intelligence, are used in ways that truly support how students learn best. By anchoring this goal to a clear global target year, we invite educators everywhere to join a shared movement toward stronger learning ecosystems that benefit all.

How to Use This Booklet

This booklet is designed to be a **practical companion** to your own journey in bringing modern learning science into everyday teaching and school development. Think of it first and foremost as a **source of inspiration** — a way to reconnect your work with

what research tells us about how human minds learn, how environments can support deep thinking, and how teaching practices can become more purposeful and engaging. The examples, questions, and frameworks are meant to spark new insights and help you reflect on your own context as you continue to grow professionally.

Before or after engaging with the wider Science of Learning Academy offerings, **use this booklet to prepare for the free webinar** and other learning opportunities. Even a quick look at the glossary and key terms will make it easier to follow core principles and integrate them into your practice with confidence. The academy's materials are grounded in research and organised to support teachers in accessing practical tools that align with evidence-based approaches to designing lessons, organising classrooms, and understanding learning processes.

Share this booklet with your colleagues as a **tool for collective growth and school-wide development**. When learning science becomes part of the dialogue among teams, leaders, and professional learning communities, schools can become places where educators learn together, support one another's practice, and build cultures that value curiosity, reflection, and continuous improvement. By working collaboratively with these ideas, your school can shape learning environments that feel both effective and inspiring for everyone involved.

Who This Is For

This booklet is primarily aimed at **teachers** — professionals who design learning environments and guide students on a daily basis. It has been written to support you in understanding how insights from the science of learning can be translated into your practice with clarity and confidence, and to help you bring research-aligned tools into your classrooms and schools.

At the same time, we recognise that learning is a concern for many people beyond the classroom. That is why we also offer a **separate booklet for parents and students alike**, designed to open up the conversation about how learning works from perspectives that resonate with home and individual learners — and to complement the ideas presented here for educators.

Even if you are not a classroom teacher yourself, this booklet can still be a **useful reference** for anyone interested in learning — especially if you want to understand learning from the perspective of those who work with learners every day. Leaders,

school developers, teacher educators, and other education professionals will find in these pages a way to connect research and evidence to practice, helping deepen collective understanding and dialogue.

Embedded throughout this booklet are **references to scientific research and evidence** that explain not just what works in teaching and learning, but *why* it works. For readers who enjoy tracing ideas back to their research roots, this makes the booklet a rich starting point for exploration, further study, and informed discussion grounded in the growing body of work on how people learn.