

making it stick the science of successful learning pdf

Making it stick the science of successful learning pdf is a comprehensive guide that delves into the latest research on how humans learn effectively. Whether you're a student looking to improve your study habits, an educator seeking to enhance teaching strategies, or a lifelong learner eager to optimize your knowledge retention, understanding the science behind successful learning is crucial. This article explores the core principles from the renowned book "Making It Stick," along with essential techniques, strategies, and insights that can help you transform your approach to learning. By applying evidence-based methods, you can make learning more durable, engaging, and impactful.

Understanding the Science of Learning

What Is "Making It Stick"?

"Making It Stick" is a bestselling book authored by Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel. It synthesizes decades of cognitive psychology research to explain why some learning methods work better than others. The book emphasizes that effective learning involves more than just passive review or rereading; it requires active engagement and strategic practice.

The Core Principles of Effective Learning

The science of successful learning highlights several key principles:

- Retrieval Practice: Actively recalling information strengthens memory.
- Spacing: Distributing learning sessions over time improves retention.
- Interleaving: Mixing different topics or skills enhances mastery.
- Elaboration: Explaining and describing concepts in detail deepens understanding.
- Generation: Trying to produce an answer before being shown improves learning.
- Reflection: Thinking about what has been learned consolidates knowledge.

These principles challenge traditional methods like massed practice or simple rereading, which often lead to illusions of competence.

Key Techniques for Successful Learning

Retrieval Practice: The Cornerstone of Durable Learning

Retrieval practice involves recalling information from memory without prompts. This technique is proven to significantly improve long-term retention.

- Use flashcards to test yourself regularly.
- Practice free recall by writing down everything you remember about a topic.
- Take practice quizzes or exams to challenge your recall abilities.

Spacing Effect: Learning Over Time

Spacing involves spreading study sessions apart rather than cramming.

- Schedule multiple shorter study sessions over days or weeks.
- Review material periodically to reinforce memory.
- Use calendar reminders to plan spaced repetitions.

Interleaving: Mix It Up

Interleaving involves alternating between different topics or skills during study sessions.

- Instead of practicing one type of problem repeatedly, switch between different types.
- This approach improves discrimination and problem-solving abilities.
- For example, alternate practicing algebra and geometry problems.

Elaboration and Self-Explanation

Elaboration entails explaining concepts in your own words and connecting new knowledge to existing understanding.

- Teach the material to someone else.
- Write summaries and relate concepts to real-life examples.
- Ask yourself "why" and "how" questions to deepen comprehension.

Generation and Testing

Challenge yourself to generate answers before confirming correctness.

- Attempt to solve problems before looking at the solution.
- Use practice tests to assess your knowledge.
- Embrace errors as opportunities to learn.

Reflection and Metacognition

Reflective practices help learners assess their understanding and adjust strategies accordingly.

- After study sessions, review what worked and what didn't.
- Keep a learning journal to track progress.
- Set specific goals for future learning.

Implementing Evidence-Based Learning Strategies

Designing an Effective Study Routine

To maximize learning efficiency, incorporate the following steps:

1. Assessment of Current Knowledge: Identify gaps and strengths.
2. Setting Clear Goals: Define what you want to achieve.
3. Choosing Appropriate Techniques: Use retrieval, spacing, and interleaving.
4. Creating a Study Schedule: Allocate regular, spaced sessions.
5. Active Engagement: Focus on active recall and elaboration.
6. Periodic Review: Reinforce previously learned material.

Using Technology to Enhance Learning

Leverage digital tools and apps to facilitate evidence-based strategies:

- Flashcard apps like Anki or Quizlet for spaced retrieval.
- Spaced repetition software that schedules reviews.
- Online quizzes for self-testing.
- Note-taking apps that support elaborative notes.

Common Learning Myths Debunked

Myth 1: Rereading and Highlighting Are Effective

Contrary to popular belief, passive review methods like rereading or highlighting do not guarantee retention. Active techniques such as retrieval practice are far more effective.

Myth 2: Cramming Is the Best Way to Prepare

Cramming often leads to short-term memorization but poor long-term retention. Spaced learning over time consolidates knowledge more effectively.

Myth 3: Intelligence Is Fixed

Research shows that effortful learning and practice can improve cognitive abilities, emphasizing growth mindset principles.

Overcoming Challenges in Learning

Procrastination

Combat procrastination by breaking tasks into manageable chunks and setting specific deadlines.

Maintaining Motivation

Create a reward system for completing study sessions. Track progress to see tangible improvements.

Dealing with Frustration

Recognize that difficulty is part of learning. Use mistakes as learning opportunities rather than setbacks.

Summary of Key Takeaways

- Active retrieval and spaced repetition are essential for durable learning.
- Interleaving different topics enhances mastery.
- Elaboration deepens understanding.
- Reflection and self-assessment improve strategies.
- Technology can support effective learning practices.
- Challenging misconceptions leads to better outcomes.

Conclusion

Understanding and applying the principles from "Making It Stick" can revolutionize your approach to learning. By embracing evidence-based strategies like retrieval practice, spacing, interleaving, and elaboration, you make your learning more effective and long-lasting. Whether you're studying for exams, acquiring new skills, or simply expanding your knowledge base, these scientifically supported techniques can help you learn smarter, not harder. Remember, successful learning is an active process that requires effort, reflection, and strategic planning. By making these principles a part of your routine, you can unlock your full potential and make your learning endeavors truly stick.

Optimize your learning today by downloading the "Making It Stick" PDF and integrating these science-backed strategies into your daily routine.

Frequently Asked Questions

What are the key principles of 'Making It Stick' that enhance long-term learning?

The book emphasizes principles such as retrieval practice, spaced repetition, interleaving, elaboration, and reflection to promote durable learning and help information stick in memory.

How does retrieval practice improve learning according to 'Making It Stick'?

Retrieval practice involves actively recalling information rather than passively reviewing it, which strengthens memory traces and enhances long-term retention.

What role does spaced repetition play in making learning more effective?

Spaced repetition involves reviewing material at increasing intervals, which helps consolidate knowledge, prevents forgetting, and promotes durable learning over cramming.

Why is interleaving different topics or skills beneficial according to the science presented in 'Making It Stick'?

Interleaving helps learners distinguish between concepts, improves problem-solving skills, and promotes better transfer of knowledge by encouraging the brain to differentiate and connect related ideas.

How can educators and learners apply the insights from 'Making It Stick' to improve study and teaching strategies?

They can incorporate frequent low-stakes quizzes, space out study sessions, mix different topics during practice, and encourage elaboration and reflection to enhance understanding and retention.

Additional Resources

Making It Stick: The Science of Successful Learning PDF

In the realm of education and self-improvement, the quest to learn more effectively has always been a central theme. From students preparing for exams to professionals acquiring new skills, the challenge remains the same: How can we make knowledge stick? Enter "Making It Stick: The Science of Successful Learning," a comprehensive guide that distills the latest scientific research into practical strategies for durable learning. This article offers an in-depth review of the core concepts from the PDF, dissecting the science behind successful learning and how you can apply these principles to your own educational pursuits.

Understanding the Foundations of Effective Learning

Before delving into specific techniques, it's essential to grasp the fundamental principles that underpin successful learning. The PDF emphasizes that effective learning is not about simply exposing oneself to information repeatedly or cramming before exams. Instead, it's about engaging with material in ways that promote long-term retention and transferability.

The Myth of Rereading and Highlighting

Many learners rely heavily on passive review methods such as rereading texts or highlighting passages. While these may provide a temporary sense of familiarity, they are often ineffective for durable learning. The PDF stresses that passive review tends to create illusions of mastery rather than genuine understanding.

Scientific Insight:

Research shows that active retrieval—trying to recall information from memory—strengthens neural pathways more effectively than passive review. This process, known as desirable difficulty, makes learning more effortful but ultimately leads to better retention.

Retrieval Practice: The Cornerstone of Learning

Retrieval practice involves actively recalling information without prompts, such as answering quiz questions or summarizing concepts aloud. The PDF highlights this as one of the most powerful techniques supported by cognitive science.

Why it works:

- Reinforces neural connections associated with the learned material.
- Identifies gaps in knowledge, guiding further study.
- Enhances ability to transfer knowledge to new contexts.

Practical Tips:

- Use flashcards with questions on one side and answers on the other.
- Practice free recall by writing summaries from memory.
- Test yourself regularly, rather than just reviewing notes.

Strategies for Durable Learning

Building on the core principles, the PDF offers a suite of evidence-based strategies designed to improve retention and understanding.

Spacing Effect: Distributing Learning Over Time

One of the most robust findings in cognitive psychology is the spacing effect. Instead of massed practice (cramming), spreading learning sessions out over days or weeks leads to better long-term retention.

Implementation:

- Schedule multiple shorter study sessions rather than one marathon.
- Review material at increasing intervals (e.g., after 1 day, 3 days, 1 week).
- Use spaced repetition algorithms or apps to optimize review timing.

Benefit:

Spacing combats the forgetting curve, ensuring information remains accessible over time.

Interleaving Different Topics

Interleaving involves mixing different types of problems or topics within a study session, as opposed to blocking similar content together.

Why it matters:

- Improves ability to discriminate between concepts.
- Promotes flexible application of knowledge.
- Mimics real-world scenarios where multiple skills are used simultaneously.

Example:

Instead of practicing only one type of math problem repeatedly, alternate between algebra, geometry, and word problems.

Elaboration and Generation

Active engagement with material through elaboration—explaining concepts in your own words or relating them to existing knowledge—enhances understanding.

Generation involves attempting to solve problems or answer questions before being shown the solution, fostering deeper learning.

Practical approaches:

- Teach concepts to someone else or pretend to do so.
- Create analogies or real-world examples.
- Attempt to answer questions before reviewing the answer key.

Addressing Common Learning Challenges

The PDF discusses typical pitfalls and how to overcome them with science-backed solutions.

Overconfidence and the Illusion of Mastery

Learners often overestimate their understanding after passive review. This false confidence can lead to inadequate preparation.

Solution:

Regular self-testing to accurately assess what has been learned.

Procrastination and Motivation

Lack of motivation or procrastination can derail effective study routines. The PDF suggests establishing clear goals and creating accountability mechanisms to stay on track.

Tip:

Set specific, measurable goals for each session and track progress.

Managing Cognitive Load

Too much information at once can overwhelm working memory, hampering learning. The PDF recommends breaking complex topics into manageable chunks and gradually building complexity.

Strategies:

- Use scaffolding to connect new knowledge with what is already known.
- Limit simultaneous new information to prevent overload.

Applying the Principles: Practical Tips and Tools

The PDF not only explains theories but also provides actionable advice to embed these strategies into your learning routine.

Designing an Effective Study Schedule

- Incorporate spaced sessions with active retrieval.
- Mix different topics (interleaving) within study periods.
- Use varied formats: reading, testing, teaching, applying.

Leveraging Technology

Numerous apps and tools facilitate the science-backed techniques discussed:

- Flashcard apps: Anki, Quizlet (for spaced repetition and retrieval practice).
- Scheduling tools: Google Calendar, Todoist (for planning spaced study).
- Self-assessment: Practice tests, online quizzes.

Creating a Conducive Learning Environment

- Minimize distractions.
- Set specific goals for each session.
- Use cues and routines to signal study time.

The Role of Mindset and Motivation in Learning

While techniques are crucial, the PDF emphasizes that psychological factors also influence success.

Growth Mindset

Believing that intelligence and abilities can be developed encourages persistence and resilience. A growth mindset fosters a willingness to embrace challenges and learn from mistakes.

Self-Compassion and Patience

Learning is a process fraught with setbacks. Being patient and forgiving oneself enhances motivation and reduces anxiety.

Intrinsic Motivation

Finding personal meaning or interest in the material boosts engagement. Connecting learning to personal goals can sustain effort over the long term.

Conclusion: Making Learning Stick in Practice

"Making It Stick: The Science of Successful Learning" PDF provides a research-driven roadmap for transforming the way we approach education. By understanding the science behind memory, retrieval, spacing, and interleaving, learners can adopt strategies that promote durable, transferable knowledge. Active techniques like retrieval practice, spaced repetition, and elaboration are emphasized as non-negotiable tools for lasting mastery.

Ultimately, successful learning is a combination of applying cognitive science principles, cultivating the right mindset, and establishing consistent habits. Whether you're a student, professional, or lifelong learner, integrating these insights will help you not only learn more effectively but also retain and apply knowledge long after the initial study session.

Final Takeaway:

Invest in active, spaced, and varied learning methods, and pair them with a growth mindset and disciplined routines. The science is clear: these approaches are your best bet for making learning truly stick.

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making it stick the science of successful learning pdf: Make It Stick Peter C. Brown, Henry L. Roediger III, Mark A. McDaniel, 2014-04-14 To most of us, learning something the hard way implies wasted time and effort. Good teaching, we believe, should be creatively tailored to the different learning styles of students and should use strategies that make learning easier. Make It Stick turns fashionable ideas like these on their head. Drawing on recent discoveries in cognitive psychology and other disciplines, the authors offer concrete techniques for becoming more productive learners. Memory plays a central role in our ability to carry out complex cognitive tasks, such as applying knowledge to problems never before encountered and drawing inferences from facts already known. New insights into how memory is encoded, consolidated, and later retrieved

have led to a better understanding of how we learn. Grappling with the impediments that make learning challenging leads both to more complex mastery and better retention of what was learned. Many common study habits and practice routines turn out to be counterproductive. Underlining and highlighting, rereading, cramming, and single-minded repetition of new skills create the illusion of mastery, but gains fade quickly. More complex and durable learning come from self-testing, introducing certain difficulties in practice, waiting to re-study new material until a little forgetting has set in, and interleaving the practice of one skill or topic with another. Speaking most urgently to students, teachers, trainers, and athletes, *Make It Stick* will appeal to all those interested in the challenge of lifelong learning and self-improvement.

making it stick the science of successful learning pdf: Making Every Lesson Count

Shaun Allison, Andy Tharby, 2015-06-11 Packed with practical teaching strategies, *Making Every Lesson Count* bridges the gap between research findings and classroom practice. Shaun Allison and Andy Tharby examine the evidence behind what makes great teaching and explore how to implement this in the classroom to make a difference to learning. They distil teaching and learning down into six core principles challenge, explanation, modelling, practice, feedback and questioning and show how these can inspire an ethos of excellence and growth, not only in individual classrooms but across a whole school too. Combining robust evidence from a range of fields with the practical wisdom of experienced, effective classroom teachers, the book is a complete toolkit of strategies that teachers can use every lesson to make that lesson count. There are no gimmicky ideas here just high impact, focused teaching that results in great learning, every lesson, every day. To demonstrate how attainable this is, the book contains a number of case studies from a number of professionals who are successfully embedding a culture of excellence and growth in their schools. *Making Every Lesson Count* offers an evidence-informed alternative to restrictive Ofsted-driven definitions of great teaching, empowering teachers to deliver great lessons and celebrate high-quality practice. Suitable for all teachers including trainee teachers, NQTs, and experienced teachers who want quick and easy ways to enhance their practice and make every lesson count. Educational Book Award winner 2016 Judges' comments: A highly practical and interesting resource with loads of information and uses to support and inspire teachers of all levels of experience. An essential staffroom book.

making it stick the science of successful learning pdf: The Online Teaching Survival Guide

Judith V. Boettcher, Rita-Marie Conrad, 2016-08-29 Essential reading for online instructors, updated to cover new and emerging issues and technologies *The Online Teaching Survival Guide* provides a robust overview of theory-based techniques for teaching online or technology-enhanced courses. Covering all aspects of online teaching, this book reviews the latest research in cognitive processing and related learning outcomes while retaining a focus on the practical. A simple framework of instructional strategies mapped across a four-phase timeline provides a concrete starting point for both new online teachers and experienced teachers designing or revamping an online course. Essential technologies are explored in their basic and expanded forms, and traditional pedagogy serves as the foundation for tips and practices customized for online learning. The tips cover course management, social presence, community building, integration of new technologies, discussion and questioning techniques, assessment, and debriefing, along with new coverage of intensive or accelerated courses, customizing learning strategies, developing expertise, advanced course design, and assessment techniques exclusive to this new second edition. The theory and techniques of successful online teaching can be significantly different from those used face-to-face. With more and more classes being offered online, this book provides a valuable resource for taking your course to the next level. Understand the technology used in online teaching Learn specialized pedagogical tips and practices Examine new research on cognition and learning Adopt a clear framework of instructional strategies The explosion of online learning has created a demand for great online teachers. Increasingly, faculty who normally teach face-to-face are being asked to cover online courses—yet comprehensive pedagogical resources are scarce. The learning curve is huge, and faculty need a practical approach to course design and management that can be quickly and easily

implemented. The Online Teaching Survival Guide provides that essential resource, with a customizable framework and deeper exploration of effective online teaching.

making it stick the science of successful learning pdf: Mark. Plan. Teach. 2.0 Ross Morrison McGill, 2021-01-21 'A must-read for school leaders and teacher trainers ... I wish every school leader would read this book' Dr Min Du, Teacher, researcher and international education consultant The new, fully updated edition of Ross Morrison McGill's bestselling Mark. Plan. Teach., now complete with a visual guide to the key ideas, illustrated by Oliver Caviglioli. Mark. Plan. Teach. 2.0 includes an illustrated visual booklet, a foreword by Professor Andy Hargreaves and exciting new ideas in line with current best practice, recent thinking and developments around marking and feedback. There are three things that every teacher must do: mark work, plan lessons and teach students well. This refreshed guide from Ross, bestselling author of 100 Ideas for Secondary Teachers: Outstanding Lessons, Teacher Toolkit and Just Great Teaching, is packed full of practical ideas that will help teachers refine the key elements of their profession. Mark. Plan. Teach. 2.0 shows how each stage of the teaching process informs the next, building a cyclical framework that underpins everything that teachers do. With teachers' workload still at record levels and teacher recruitment and retention the number one issue in education, ideas that really work and will help teachers not only survive but thrive in the classroom are in demand. Every idea in Mark. Plan. Teach. 2.0 can be implemented by all primary and secondary teachers at any stage of their career and will genuinely improve practice. The ideas have been tried and tested and are supported by evidence that explains why they work, including current educational research and psychological insights from Professor Tim O'Brien, leading psychologist and Honorary Professor at UCL Institute of Education.

making it stick the science of successful learning pdf: Making Every MFL Lesson Count James A Maxwell, 2019-11-21 James A. Maxwell's Making Every MFL Lesson Count: Six principles to support modern foreign language teaching shows modern foreign languages (MFL) teachers how they can take their students on a learning journey that both educates and inspires. Writing in the practical, engaging style of the award-winning Making Every Lesson Count, experienced MFL teacher James A. Maxwell empowers educators with the strategies and know-how to boost their students' attainment, engagement and enthusiasm in the MFL classroom. Making Every MFL Lesson Count is underpinned by six pedagogical principles challenge, explanation, modelling, practice, feedback and questioning and helps MFL teachers ensure that students leave their lessons with richer vocabulary, a better grasp of grammar and the skills and confidence to put the language learnt into practice. Bursting with templates, examples and flexible frameworks, this gimmick-free guide provides educators with a range of practical techniques designed to enhance their students' linguistic awareness and help them transfer the target language into long-term memory. James skilfully marries evidence-based practice with collective experience and, in doing so, inspires a challenging approach to secondary school MFL teaching. Furthermore, he concludes each chapter with a series of questions that will inspire reflective thought and encourage teachers to relate the content to their own classroom practice. Suitable for MFL teachers of students aged 11 to 18 years.

making it stick the science of successful learning pdf: Teaching and Learning STEM Richard M. Felder, Rebecca Brent, 2016-02-22 Rethink traditional teaching methods to improve student learning and retention in STEM Educational research has repeatedly shown that compared to traditional teacher-centered instruction, certain learner-centered methods lead to improved learning outcomes, greater development of critical high-level skills, and increased retention in science, technology, engineering, and mathematics (STEM) disciplines. Teaching and Learning STEM presents a trove of practical research-based strategies for designing and teaching STEM courses at the university, community college, and high school levels. The book draws on the authors' extensive backgrounds and decades of experience in STEM education and faculty development. Its engaging and well-illustrated descriptions will equip you to implement the strategies in your courses and to deal effectively with problems (including student resistance) that might occur in the

implementation. The book will help you: Plan and conduct class sessions in which students are actively engaged, no matter how large the class is Make good use of technology in face-to-face, online, and hybrid courses and flipped classrooms Assess how well students are acquiring the knowledge, skills, and conceptual understanding the course is designed to teach Help students develop expert problem-solving skills and skills in communication, creative thinking, critical thinking, high-performance teamwork, and self-directed learning Meet the learning needs of STEM students with a broad diversity of attributes and backgrounds The strategies presented in Teaching and Learning STEM don't require revolutionary time-intensive changes in your teaching, but rather a gradual integration of traditional and new methods. The result will be continual improvement in your teaching and your students' learning. More information about Teaching and Learning STEM can be found at <http://educationdesignsinc.com/book> including its preface, foreword, table of contents, first chapter, a reading guide, and reviews in 10 prominent STEM education journals.

making it stick the science of successful learning pdf: Mark. Plan. Teach. Ross Morrison McGill, 2017-09-07 There are three things that every teacher must do: mark work, plan lessons and teach students well. This brand new book from Ross Morrison McGill, bestselling author of 100 Ideas for Secondary Teachers: Outstanding Lessons and Teacher Toolkit, is packed full of practical ideas that will help teachers refine the key elements of their profession. Mark. Plan. Teach. shows how each stage of the teaching process informs the next, building a cyclical framework that underpins everything that teachers do. With teachers' workload at record levels and teacher recruitment and retention the number one issue in education, ideas that really work and will help teachers not only survive but thrive in the classroom are in demand. Every idea in Mark. Plan. Teach. can be implemented by all primary and secondary teachers at any stage of their career and will genuinely improve practice. The ideas have been tried and tested and are supported by evidence that explains why they work, including current educational research and psychological insights from Dr Tim O'Brien, leading psychologist and Visiting Fellow at UCL Institute of Education. Mark. Plan. Teach. will enable all teachers to maximise the impact of their teaching and, in doing so, save time, reduce workload and take back control of the classroom.

making it stick the science of successful learning pdf: Teaching Human Geography Erin Hogan Fouberg, Janet Stuhrenberg Smith, 2023-03-02 This timely book examines advances in teaching and learning at undergraduate level from the disciplines of geography education, neuroscience and learning science. Connecting these disciplines, the chapters integrate research on how students learn and explain how to teach students to think geographically and develop a deeper understanding of their world.

making it stick the science of successful learning pdf: Powerful Pedagogy Ruth Powley, 2018-03-19 How can we teach better quicker? In Powerful Pedagogy, Ruth Powley, Love Learning Ideas blogger and experienced teacher and school leader, debunks teaching and learning myths and shows how the more we know about pedagogy, the more able we are to make informed and efficient choices about our practice, saving ourselves valuable time. Focusing on building sequences of learning rather than one-off lessons, it is an antidote to 'quick fix' books, empowering teachers as professionals in possession of 'powerful' pedagogical knowledge that can be used to improve teaching in a sustainable way. Powerful Pedagogy draws extensively from a wide range of educational writers and research, offering an accessible synthesis of what really works in the classroom. Together with strategies to put theories and research into practice, each chapter contains a handy list of questions for the reflective practitioner. It explores reasons for the confusion over what constitutes effective pedagogy in recent years and presents practical research-based solutions, outlining successful and efficient: Modelling of excellence Explaining for understanding Practising to fluency Questioning as assessment Testing to permanency Marking for improvement Effective planning of lessons and curriculum sequences. Powerful Pedagogy allows teachers to understand how to make the best choices about what works in the classroom, improving the quality of teaching. It is an essential companion for trainee and experienced teachers in all sectors, and for

school leaders and educational trainers.

making it stick the science of successful learning pdf: Art & Science in the Choral Rehearsal Sharon J. Paul, 2020-04-01 In recent decades, cognitive neuroscience research has increased our understanding of how the brain learns, retains, and recalls information. At the same time, social psychologists have developed insights into group dynamics, exploring what motivates individuals in a group to give their full effort, or conversely, what might instead inspire them to become free loaders. *Art and Science in the Choral Rehearsal* explores the idea that choral conductors who better understand how the brain learns, and how individuals within groups function, can lead more efficient, productive, and enjoyable rehearsals. Armed with this knowledge, conductors can create rehearsal techniques which take advantage of certain fundamental brain and social psychology principles. Through such approaches, singers will become increasingly engaged physically and mentally in the rehearsal process. *Art and Science in the Choral Rehearsal* draws from a range of scientific studies to suggest and encourage effective, evidence-based techniques, and can help serve to reset and inspire new approaches toward teaching. Each chapter outlines exercises and creative ideas for conductors and music teachers, including the importance of embedding problem solving into rehearsal, the use of multiple entry points for newly acquired information, techniques to encourage an emotional connection to the music, and ways to incorporate writing exercises into rehearsal. Additional topics include brain-compatible teaching strategies to complement thorough score study, the science behind motivation, the role imagination plays in teaching, the psychology of rehearsal, and conducting tips and advice. All of these brain-friendly strategies serve to encourage singers' active participation in rehearsals, with the goal of motivating beautiful, inspired, and memorable performances.

making it stick the science of successful learning pdf: Teaching Naked Techniques José Antonio Bowen, C. Edward Watson, 2017-01-03 Put Teaching Naked to work in your classroom with clear examples and step-by-step guidance Teaching Naked Techniques (TNT) is a practical guide of proven quick ideas for improving classes and essential information for designing anything from one lesson or a group of lessons to an entire course. TNT is both a design guide and a 'sourcebook' of ideas: a great companion to the award-winning Teaching Naked book. Teaching Naked Techniques helps higher education faculty design more effective and engaging classrooms. The book focuses on each step of class preparation from the entry point and first encounter with content to the classroom 'surprise.' There is a chapter on each step in the cycle with an abundance of discipline-specific examples, plus the latest research on cognition and technology, quick lists of ideas, and additional resources. By rethinking the how, when, and why of technology, faculty are able to create exponentially more opportunities for practical student engagement. Student-centered, activity-driven, and proven again and again, these techniques can revolutionize your classroom. Create more effective, engaging lessons for higher education Utilize technology outside of the classroom to better engage during class time Examine discipline-specific examples of Teaching Naked Techniques Prepare for each class step by step from the student's perspective Teaching Naked flips the classroom by placing the student's first contact with the material outside of class. This places the burden of learning on the learner, ensures student preparation, and frees up class time for active engagement with the material for more effective learning and retention. Teaching Naked Techniques is the practical guide for bringing better learning to your classroom.

making it stick the science of successful learning pdf: The Power of Agency Paul Napper, Anthony Rao, 2025-06-25 Introducing The Power of Agency, a science-backed approach to living life on your own terms. Agency is the ability to act as an effective agent for yourself—reflecting, making creative choices, and constructing a meaningful life. Grounded in extensive psychological research, The Power of Agency gives you the tools to help alleviate anxiety, manage competing demands and help you live your version of success. Renowned psychology experts Paul Napper and Anthony Rao will help you break through your state of overwhelm by showing you how to access your personal agency with seven empowering principles: control stimuli, associate selectively, move, position

yourself as a learner, manage your emotions and beliefs, check your intuition, deliberate and then act. Featuring stories of people who have successfully applied these principles to improve their lives, *The Power of Agency* will give you the insights and skills to build your confidence, conquer challenges, and live more authentically.

making it stick the science of successful learning pdf: *Differentiated Instruction Made Practical* Rhonda Bondie, Akane Zusho, 2018-01-29 Need to decide when, why, and how to differentiate instruction in the classroom? *Differentiated Instruction Made Practical* introduces teachers to All Learners Learning Every Day (ALL-ED), an easy-to-use framework that enables tailored instruction for every learner. These unique, self-regulated learning routines were developed by an experienced K-12 teacher and researcher in collaboration with an educational psychology scholar. Filled with useful classroom examples, evaluation procedures, self-reflection activities, and relevant background information, this essential guide will help classroom teachers think on their feet and promote success for all students—not just the middle of the pack.

making it stick the science of successful learning pdf: *Campus Conversations* Jeffery W. Galle, Denise Pinette Domizi, 2021-11-15 The eight essays in *Campus Conversations* provide some of the best scholarly work emerging from individual faculty learning communities in a statewide program called the Chancellor's Learning Scholar (CLS) program. The CLS program began in 2018 as an initiative designed to include large numbers of the University System of Georgia's (USG) about 12,000 fulltime teaching faculty in the USG's statewide student success efforts. The approximately 2,000 faculty who have participated in the first two years of the CLS program learned about the eight pedagogies of student success which can help engage students more deeply, thereby retaining them and deepening their learning. These pedagogies include small teaching (based on the Jim Lang book), inclusive pedagogy, Transparency in Learning and Teaching (TiLT), course design, high impact practices (HIPs), brain-based learning, academic mindset, and the Scholarship of Teaching and Learning (SoTL). As teaching and learning scholarship, each essay has its origin in the topic for which the learning community was formed. The collection demonstrates the range of topics and many of the ways in which USG faculty have explored and applied these pedagogies to their own institutional contexts and courses. The essays selected for inclusion in this volume also embody different responses to the outcomes of the program as set out at the inception of the program.

making it stick the science of successful learning pdf: *Mindset for Success* Terry Goodin, Heather K. Dillard, 2024-09-03 When educators believe they are capable of overcoming challenges and that their work matters, they make a lasting impact on students' academic success. Using a problem-based learning (PBL) approach, the authors equip teachers with guided PBL scenarios to facilitate a shift in thinking so they feel mentally prepared to adopt a growth mindset and commit to the professional learning community (PLC) process. This book will help K-12 school leaders, teacher leaders, trainers, and administrators: Apply the PBL method to the PLC process through the use of guided PBL scenarios Adopt a growth mindset with tips on making each thinking shift Utilize the "Think This, Do This" approach to ease the transition to a collaborative PLC Build collaboration, will, and skill with numerous tools and strategies Honor and trust their team members and the PLC process Contents: Introduction Part 1: The Will and Skill Chapter 1: Building a Powerful Partnership—PLC at Work and PBL Chapter 2: Building Collaborative Will Power—Learning to Trust the PLC Process Using PBL Chapter 3: Building Collaborative Skill Power—Problem-Based Learning Part 2: PBL Training Modules Chapter 4: Shifting From Teaching to Learning Chapter 5: Shifting From Isolation to Collaboration Chapter 6: Shifting From Intentions to Results Reproducibles Afterword References and Resources Index

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