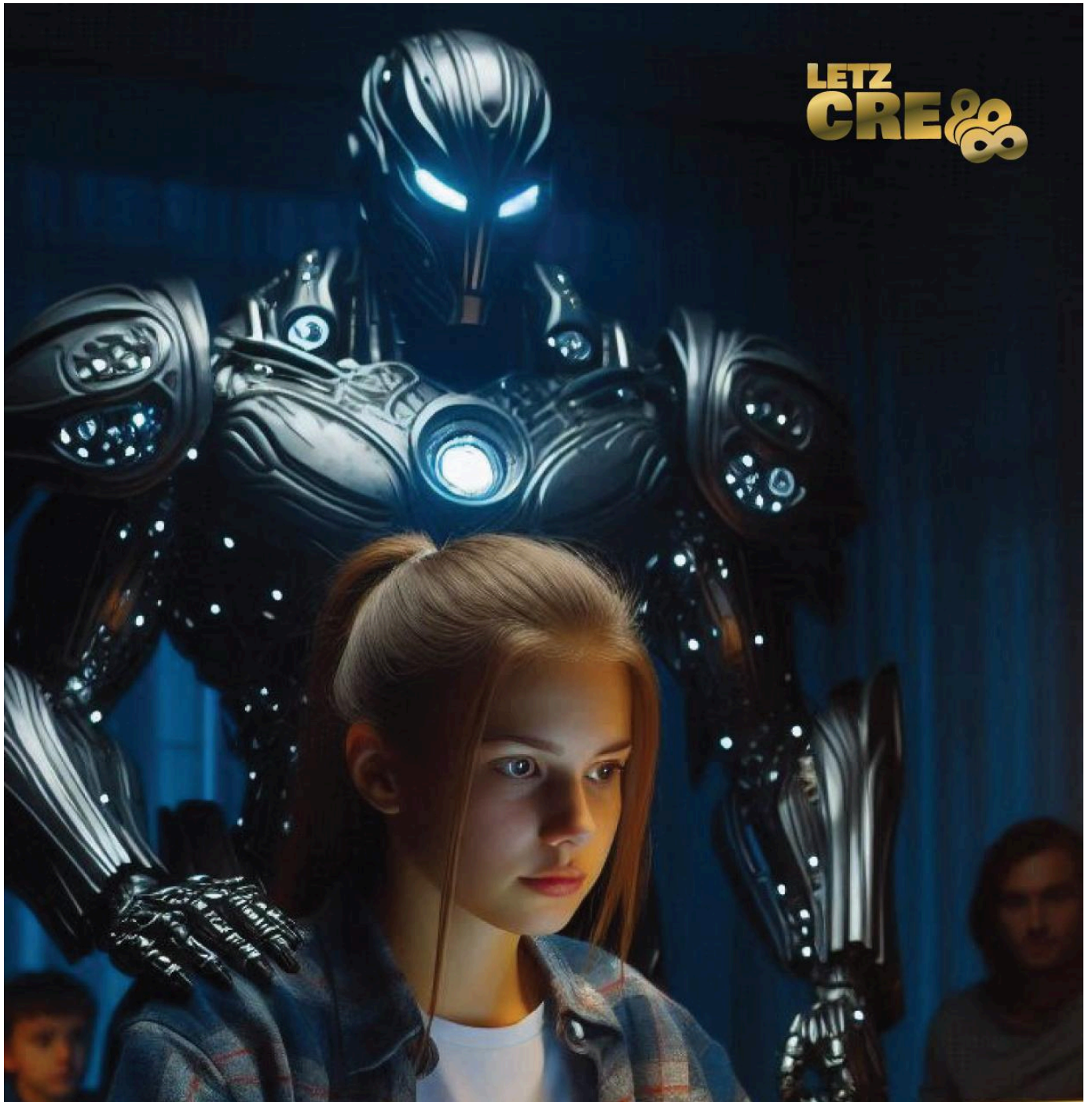


AI Study Skills: Faster, Smarter, Better

LETZ
CRE&O



AI STUDY SKILLS
FASTER, SMARTER, BETTER
ROB MITCHELL

Rob Mitchell

AI Study Skills
Faster, Smarter, Better
Rob Mitchell

LetzCre8 Publications

First published in Great Britain by LetzCre8 Publications:

November 2024

Copyright © 2024 by Rob Mitchell

Cover painting: A Helping Hand Copyright © 2024
by Rob Mitchell and Leonardo

The moral right of the author, Rob Mitchell, has been
asserted.

All rights reserved. No part of this publication [LCP003] may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means (examples include, but are not limited to photocopying, scanning or photography), without the prior permission in writing of the publisher, nor be otherwise circulated in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.



All correspondence should be directed to:

LetzCre8Publications@Gmail.com

A Division of LetzCre8 Ltd.

Contents

Title Page	~	Page 1
Copyright Page	~	Page 2
Contents	~	Page 3
Foreword	~	Page 6
Rob's Note	~	Page 8
Disclaimer	~	Page 11
Overview: AI Tools in Education	~	Page 12
Chapter 1:		
Introduction to Free Online AI Tools	~	Page 14
Chatbots: A 24/7 Personal Tutor	~	Page 14
AI Writing Assistants: A Personal Editor	~	Page 17
AI-based Study Platforms: Personalised Learning	~	Page 19
Research and Summarisation Tools	~	Page 21
AI Code Assistants: Your Programming Partner	~	Page 22
Ethical Considerations and Best Practices	~	Page 23
Key Takeaway	~	Page 24
Chapter 2:		
Create A Safe and Ethical Study Environment	~	Page 26
Establishing a Secure Study Space	~	Page 26
Online Safety Practices	~	Page 28
Ethical Use of AI-Tools	~	Page 29
Creating an Ethical AI Study Routine	~	Page 31
Case Study: Ethical Use of ChatGPT in Essay Writing	~	Page 32
Key Takeaway	~	Page 33

Chapter 3:

[Sapphire] How to Communicate with Chatbots	~	Page 34
Prompt Engineering	~	Page 35
Provide a Context	~	Page 39
Crafting Effective Prompts: An Iterative Process	~	Page 41
Key Takeaway	~	Page 44

Chapter 4:

[Emerald] Effective Techniques Using AI Tools	~	Page 45
Fifty Ways AI Supports Home Study	~	Page 46
Summarising Key Points	~	Page 51
Offering Simplified Definitions	~	Page 54
Helping to Draft Formal Letters	~	Page 56
Create Bullet Points or Lists	~	Page 57
Explaining Mathematical Formulas	~	Page 58
Assisting with Foreign Language Learning	~	Page 61
Assisting in Applying the Feynman Technique	~	Page 63
Suggesting Comparisons	~	Page 65
Assisting with Creating To-Do Lists	~	Page 67
Offering Tips for Improving Focus and Concentration	~	Page 70
Key Takeaway	~	Page 74
End of Chapter Appendix	~	Page 75

Chapter 5:

[Ruby] From Continuity to Context, Congruity to Confabulation:		
Frustrations and Problems with Chatbot Results	~	Page 77
Cut-off Date	~	Page 81
Bias	~	Page 84
Confabulation	~	Page 89
Lack of Parity	~	Page 93
The Compromise of Context Versus Continuity	~	Page 98

Key Takeaway	~	Page 99
--------------	---	---------

Chapter 6:

Critical Thinking Skills: Taking Learning to the Next Level	~	Page 100
CTS Self-Assessment Questionnaire	~	Page 101
Developing Your CTS	~	Page 103
Cognitive Biases	~	Page 105
Practical Steps to Improve CTS Using AI	~	Page 108
Adopting CTS Into Everyday Life	~	Page 110
Key Takeaway	~	Page 112
End of Chapter Appendix	~	Page 112

Chapter 7:

[Amber] Combining AI-Tools with Traditional Study Methods	~	Page 116
Traditional Study Techniques: The Exam Board	~	Page 118
Organising Your Notes	~	Page 120
Text Book Resources	~	Page 120
Adopt a Section by Section Approach	~	Page 121
Boosting Traditional Study with AI-Tools	~	Page 122
The Dangers of Excessive Over-Dependency on AI	~	Page 138

Chapter 8:

"Some" Final Thoughts	~	Page 144
Addressing Scepticism: Is AI Really Any 'Good'?	~	Page 144
The Upside of AI in Learning	~	Page 147
The Bottom Line	~	Page 147
Using AI to Encourage a Path of Lifelong Learning	~	Page 148
Peering Into the Crystal Ball	~	Page 149
AI and the 'Reverse-Pandora's Box' Effect	~	Page 153

Foreword

Dear reader,

Welcome to "**AI Study Skills: Faster, Smarter, Better**" by Dr Rob Mitchell. You've made a brilliant choice in picking up this book, as you're about to embark on a journey that will transform the way you approach learning in our rapidly evolving digital age.

Cast your mind back to when you first stepped into a classroom. The tools at your disposal were likely limited to textbooks, notebooks, and perhaps a trusty calculator. Fast forward to today, and the landscape of education has shifted dramatically. We find ourselves in an era where artificial intelligence is not just a concept from science fiction, but a powerful ally in our quest for knowledge.

As someone who has witnessed the meteoric rise of AI in various sectors, I can't help but feel a sense of excitement about its potential in education. The free AI tools discussed in this book, such as ChatGPT, Quizlet, and Anki, are akin to having a personal tutor available at your fingertips, 24/7. They're revolutionising the way we absorb information, tackle complex problems, and even approach creative tasks.

But with great power comes great responsibility. Dr Mitchell doesn't just show you how to use these tools; he guides you on how to use them ethically and effectively. This book is your compass for navigating the sometimes murky waters of AI-assisted learning, ensuring you stay on the right side of academic integrity while maximising your potential.

What I find particularly compelling about this book is its holistic approach. It's not just about AI – it's about creating a balanced, safe, and productive learning environment. From setting up a secure study space to fostering critical thinking skills, Dr Mitchell covers all bases. He recognises that while AI is a powerful tool, it's most effective when combined with traditional study methods and good old-fashioned brain power.

As you delve into these pages, you'll discover how to craft essays with AI assistance, solve maths problems more efficiently, and even tackle coding challenges. You'll learn how to collaborate with peers using AI tools, preparing you for a future where teamwork and technology go hand in hand.

To the students reading this: embrace this opportunity. The skills you'll gain from this book will serve you well beyond your academic years. In a world where adaptability is key, understanding how to harness AI effectively will give you a significant advantage.

To the parents and educators: this book is an invaluable resource in supporting the next generation of learners. It will help you understand the tools your children or students are using, and guide you in fostering a responsible approach to AI-assisted learning.

As we stand on the cusp of a new era in education, 'AI Study Skills: Faster, Smarter, Better' is your guidebook to the future. So, sit back, make yourself comfortable, and prepare to revolutionise your approach to learning.

Colin Debenham

Co-Founder of LetzCre8 Publications

Rob's Note

As a self-proclaimed 'Geek,' I've always been more comfortable with my head in a book than in front of a TV. After earning a PhD in Biochemistry and working in academia and biotech, I found my true calling as a private tutor and exam marker for GCSE and A-level science students. Over the years, I've come to realise that many students approach their studies the wrong way - relying too heavily on teachers' notes, avoiding practice questions, and often not even knowing which exam board they're taking.

But today's students have access to artificial intelligence, in the form of AI Chatbots and platforms that use these powerful systems. This technology is poised to revolutionise the way we study and learn at home. Chatbots, while not perfect, are a powerful tool that can help you research topics, deepen your understanding, and become a more efficient and effective student. And with AI becoming increasingly integrated into the business world, it's crucial to develop a strong grasp of these transformative systems.

This book aims to introduce you to the world of chatbots and AI-driven platforms, and shows you how to leverage them to improve your home study habits. The focus will be on developing your critical thinking skills - you'll need these to evaluate the outputs of AI and integrate them into your learning strategies. I'll provide real-world examples, tips, and interactions with various chatbots to help you navigate this new technological landscape.

You'll see four robot '*assistants*' throughout the book, each representing a different aspect of the content, so please meet the team:



Amber will share specific field-tested tips and strategies that have helped my students achieve remarkable real-world improvements. She'll also discuss combining AI and traditional study practices.



Sapphire will show you actual chatbot interactions, so you can see how small changes to your 'prompts' can dramatically impact the results.



Emerald will highlight specific techniques I've used for my own research and writing that have been highly effective.



Ruby will point out the limitations, frustrations, and common mistakes that chatbots make, which is crucial for understanding their capabilities and, more importantly, their limitations.

The overall tone here is one of exploration and experimentation. I encourage you to try different approaches, challenge yourself, and constantly re-evaluate what works best for you. AI is a powerful tool, but it's not infallible - developing your critical thinking skills will be essential, as you'll need to carefully evaluate the outputs of AI and thoughtfully integrate them into your learning strategies.

So strap yourself in and, with the right mindset, you can harness the power of these transformative technologies to become a faster, smarter, and ultimately more successful student.

Chapter 4: [Emerald] Effective Techniques Using AI Tools



In today's digital age, Artificial Intelligence has become a game-changer in how we approach learning, offering countless ways to enhance study routines at home. While it's simply impossible to cover every single benefit

AI provides, this list highlights some of the most effective and established ways that AI can support students in their studies.

AI tools like **ChatGPT** are more than just clever gadgets - they have the potential to complement traditional learning approaches, making studying smarter, faster, and even more enjoyable. Whether it's helping you understand tricky concepts, boosting your writing skills, or guiding you through exam preparation, AI can adapt to different learning needs, making it easier to stay on top of your studies.

The methods included here show how AI can offer personalised guidance, encouragement, and interactive support, blending seamlessly with textbooks, class notes, and other tried-and-tested learning strategies. By combining these AI tools with your usual study habits, you'll be able to make the most of technology's potential to enhance your educational journey, helping you reach your academic goals more efficiently.

Below is a list of **fifty easily implemented** ways that AI can be used to support your studies at home. At the end of the list, they have been blocked into broad categories to help you find the techniques that might suit you more easily. Later in the Chapter, I have 'selected' some specific techniques and provide worked examples to support your learning.

Fifty Ways AI Supports Home Study

As a student, you already know that success comes from hard work, focus, and smart study strategies. But what if you could take your learning to the next level? What if there was a tool that could help you stay organised, think

critically, and even make your writing shine—right from the comfort of your home?

Enter **chatbots**, designed not only to answer questions but to transform how you study. Whether you're trying to understand a tricky maths problem, writing an essay, or simply getting your thoughts organised, **chatbots** can complement your traditional study habits in ways you've never imagined. It's like having a personal tutor, study buddy, and writing assistant—all rolled into one.

Why should you care? Here's the thing: a **chatbot** doesn't just give you information; it helps you engage with your studies in a more interactive and efficient way. You won't just memorise facts; you'll learn to think critically, solve problems creatively, and communicate your ideas effectively. The best part? It's available 24/7, ready to assist you whenever you hit a roadblock or need a nudge in the right direction.

Want to boost your essay writing skills? Need help organising your study schedule? Looking for a fresh perspective on a tough concept? The possibilities are endless.

Here are **fifty powerful ways** chatbots can supercharge your study routine, giving you the tools to not only keep up but thrive in college-level work. Get ready to explore how AI can elevate your learning experience and become your ultimate study companion. [Sapphire](#) will show you how to create a similar (or even expanded) list on your own.

Chapter 5: [Ruby] From Continuity to Context, Congruity to Confabulation: Frustrations and Problems with Chatbot Results



Being honest at the outset, this was the chapter of the book I had most difficulty planning and executing. I want the overall tone of the book to be one that expounds the positivity of using AI for home study, but no book on the subject would be complete without discussing some common issues, frustrations and limitations associated with chatbots.

In the two years that I have been using these tools, the playing field has both broadened and deepened, with now more AI tools available than ever. This said, though, many of the issues with using these tools have not been addressed to any significant degree of satisfaction, and so it's necessary to 'warn' users, or at least make users aware of the problems they may experience.

As I progress through these in more detail, I'd like you to keep an open mind about two things, each broadly obeying the 80:20 rule. Firstly, about 80% of the content you generate will be well produced, and error free. Secondly, about 80% of the issues arising are due to a lack of care and *critical analysis skills* of the user, and are not actually the fault of the chatbot.

To kick us off, here is a list of twenty common, most pressing frustrations users have associated with AI use, that have been prioritised by importance:

1. **Inaccuracy of Information:** Chatbots can provide incorrect or misleading answers, which can affect the quality of learning and research.
2. **Bias in Responses:** Chatbots may reflect cultural, political, or social biases in their answers, influencing how users understand various topics.

Chapter 7: Combining AI-Tools with Traditional Study Methods



During my years as a personal tutor, I specialised in GCSE Sciences and A-level Chemistry and Biology in the UK. Back then, AI-tools weren't part of the learning equation, but I developed a method that worked - leveraging **free resources** from students' specific exam boards to help them organise and prioritise their study efforts. This approach zeroed in on exam preparation, using the board's own materials to align learning with what would actually show up in the examination they'd face.

Now, in the final chapter of this book on AI study skills, I want to bring you the best of both worlds - showing you how to integrate the power of online AI tools with the tried-and-tested methods I used as a tutor. Earlier, I explored **50 ways AI can turbo-charge your study routine**, whether it's by summarising large quantities of information, clarifying tricky concepts, or generating personalised quizzes. But to truly maximise your success, it's all about blending these modern tools with the structure and precision of traditional methods, especially when exams are the target. This combination of tech and tailored study strategies will ensure you're not just working hard, but working smart—and in sync with what your exam board expects.



"For the purpose of this section I have selected the United Kingdom Examination Boards as an example. However, these can be replaced by the boards of whichever country you are from."