



DESCRIPT
VIDEO MAGIC



LALALL.AI
AUDIO MASTERY



AUTHORY
ARCHIVES &
PORTFOLIOS



SCRIBE
STEP-BY-STEP
GUIDES

GAME-CHANGING AI TOOLS FOR EVERY CLASSROOM

Introduction

In case you missed it, education was revolutionized over the last Christmas holidays. Since the release of ChatGPT3, social and traditional media have been consumed with the promise and peril of (say it in an ominous and echoey voice) “AI in Education.” Since it is irresponsible to build pens around children or sequester them from their world, educators should find constructive ways to embrace emerging opportunities to amplify human potential by incorporating new technology in purposeful teaching strategies. That said, artificial intelligence (AI) need neither be greeted with hype or hysteria. *Sometimes AI is just software.*

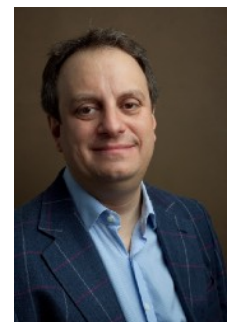
When I heard that you will be able to communicate with Adobe Photoshop by giving it instructions and having the software produce the desired graphics results, I immediately thought to myself, “Finally, I will be able to use Photoshop!” Despite more than 45 years of computer use, I find a lot of contemporary graphics and video tools incomprehensible. I can however explain or describe what I want the software to *do for me*. Rather than concern myself with the societal shifts and threats spurred by the AI of an uncertain future, my life may be enhanced today using software that already or will soon exist.

About the Author

Dr. Gary Stager is a recognized pioneer in 1:1 computing, online learning, and computer science for all students. He has taught learners from preschool through the doctoral level and spent four decades helping teachers around the world embrace technology as way of amplifying the potential of each student.

Gary is a popular keynote speaker known across the globe for his fearless advocacy on behalf of teachers and children. Educators leave his presentations energized and empowered to change their practice and the world for the kids they serve.

He is the founder of the [Constructing Modern Knowledge](#) summer institute for educators, co-author of the *Invent to Learn: Making, Tinkering, in the Classroom* and editor of *Twenty Things to Do with a Computer - Forward 50*.



Four Software Tools I Use... and Why You Should Too

This whitepaper focuses on four AI-enhanced software environments — [Authory](#), [Descript](#), [Lalal.ai](#), and [Scribe](#) — and explores how they might be applied within a K–12 educational context by both students and educators.

If [Authory](#), [Descript](#), [Lalal.ai](#), and [Scribe](#) do not represent the vanguard of generative artificial intelligence, they are certainly AI-adjacent. These “smart” tools allow me and busy educators like yourself to get work done. This is achieved by improving the workflow and output quality of media production, editing, and distribution. Without such software, our productivity is hampered by time and technical skill.

I use these software tools to create and communicate — two pursuits at the center of my work as a teacher educator, speaker, author, and book publisher. There may be other or better software available options, progress will certainly deliver new ones in the future. However, the power, ease-of-use, reliability, and affordability found in [Authory](#), [Descript](#), [Lalal.ai](#), and [Scribe](#) are essential prosthetics for me *today*. Although I just use a tiny bit of each tool’s functionality, they allow me to get my work done — faster and better. After all, computers should work for us and make our lives richer, more creative, better organized, and more efficient. Each of these software environments satisfy those criteria. Best of all, each software environment features a low threshold and high ceiling. They make it easy to do simple things immediately, while making complexity possible. [Authory](#), [Descript](#), [Lalal.ai](#), and [Scribe](#) just plain work.

This is not a tutorial. You NEED TO PLAY with each of these tools yourself. A small investment of time will pay great dividends. *Note: The links in this whitepaper offer special benefits to you and may result in an incentive for me as well.*

Descript

Reinventing video editing

Once a decade or so, I encounter a piece of software that does something new or significantly better than anything that has existed before. Even less frequently do I find software so ingenious that it takes my breath away. [Descript](#) is that rare find. It borders on magic.

Although I lack patience and talent, I have been editing video on a computer since the late 1980s. Over time, I have found the available software tools increasingly complex and hard to use. As a result, I have hard drives full of raw video that may never be sufficiently edited to share. The process is still too cumbersome to perform simple editing goals worthy of an audience. Apple’s iMovie has changed metaphors so many times in the name of “simplicity” that simple editing now seems impossible.

[Descript](#) reinvents video editing in a fashion so obvious and natural that I am amazed it never occurred to me. Take a video (or audio) file and upload it to [Descript](#). The software then transcribes

*Descript
borders on
magic.*



The Descript logo consists of a blue icon on the left, which is a stylized 'D' formed by three horizontal bars of varying lengths, and the word 'descript' in a bold, lowercase, sans-serif font to its right.

the text on-the-fly. Once you have a transcript alongside the video, you can manually correct the transcription errors, turn them into close captioning, or export the transcript – this functionality alone makes [Descript](#) quite handy.

But wait! There's more! Search for "filler words" – the ums, likes, etc... and ask [Descript](#) to delete them. *Voila!* Not only is your transcript better and more intelligible, but the video itself is edited!

That's right, any edit you make in the transcript changes the video.

You know those Zoom recordings that contain a lot of mucking about trying to share a window, mute a participant, or struggle with screen sharing? No one wants to watch a rerun of your live debacle. Scan your [Descript](#) transcript of that session, delete the detritus like you would with a word processor and your video is cleaned-up instantly!

Wish you had said something in a different order or repeat yourself? Select text, move it (cut/paste), or delete it, and your video is edited!

Trying to make a short video advertising an event or dropping some knowledge? Upload all your takes to [Descript](#), transcribe the video, and edit the text to create a master take making you look like Master Thespian.

[Descript](#) is continuously adding all sorts of wicked cool functionality. You can already perform green screen tricks, improve audio fidelity, export your video in a plethora of ways, and even use the same video/audio source in different formats, for example audio and video podcasts, YouTube videos, social media clips, and audiograms.

With [Descript](#), I can cleanup an hour-long webinar, podcast, or interview in just a few minutes. With polished media, I am much more likely to share that work for others to enjoy or learn from.

*Descript will
forever change
how you edit
media.*



Additional Features

1. **Overdub Voice Synthesis:** Descript's Overdub technology enables the creation of realistic, synthetic voices that can be used to 'speak' transcribed text.
2. **Cloud Syncing:** Users can access and work on their projects from different devices.
3. **Export Options:** Exports are possible in a variety of formats, meeting different user needs.
4. **Non-Destructive Editing:** Edits made in the script don't affect the original media, allowing for risk-free editing.
5. **Collaboration:** Descript allows multiple users to work on the same project simultaneously, facilitating collaborative work.

Expanded Benefits

1. **Simplification of Video Editing:** Descript reduces the technical barriers of video editing, making it more accessible.
2. **Efficient Revision Process:** By editing the transcript text, users can make adjustments to their video or audio content more efficiently.
3. **Advanced Accessibility:** Descript's transcription and captioning features make multimedia content accessible for students with hearing impairments.
4. **Enhanced Content Creation:** The Overdub feature allows for the creation of voiceovers without needing additional recording sessions.

Imagine the benefits kids without spectacular oral communication skills will experience when they get another chance to say what they wanted to say clearly. “Debugging” one’s speech and making it better is a powerful idea made possible by a new generation of tools led by the ingenuity of [Descript](#).



My teaching rule is that anything that leaves the classroom needs to be correct. If it is published online, sent home, or posted in the corridors, the work needs to be as correct as is developmentally appropriate. This expectation is doubly true when applied to teachers. Spelling errors, sloppy grammar, or using the wrong form of to/two/too in a letter to parents or guardians is unacceptable. Generative AI and software, like [Descript](#), should improve one’s work in all forms of media.

Want to develop kids’ language skills? Try storytelling with audio only. It requires a focus on storytelling, articulate communication, editing, and clarity without the visual distractions and effects associated with video editing. [Descript](#) allows you to work with audio from the start or export audio from a video project.

Every single accomplished author and book about writing tells you that no matter how clever you think you are, you need a copyeditor. All written word benefits from being edited and it’s even better to have a fresh set of eyes applied to your work. Tools like [Descript](#) and ChatGPT can and should be thought of through this lens. In this case, AI makes writing and the writer better.

You can edit existing audio or video files in [Descript](#) or record directly into the app. The possibilities are endless. [Descript](#) is a subscription-based software service that I simply cannot live without.

Descript’s Applications in K-12 Education

Students can use Descript for:

1. **Revise Lectures:** Students can access the transcribed content of recorded lessons, revisiting topics at their own pace.
2. **Group Projects:** Collaborative video or podcast projects can be easily managed and edited within the platform.
3. **Presentation Skills:** By reviewing transcriptions of their presentations, students can improve their public speaking skills.
4. **Creative Writing:** Using Overdub, students can turn written stories into audio dramas.
5. **Foreign Language Learning:** Descript's transcription can be used to practice listening and comprehension in foreign languages.

Teachers can use Descript for:

1. **Flipped Classroom:** Video lectures can be created for students to watch at home, using class time for interactive problem-solving.
2. **Feedback:** Teachers can provide precise feedback on student presentations by referencing the transcription.
3. **Subtling School Productions:** Descript can be used to subtitle school performances, making them accessible to a wider audience.
4. **Language Classes:** Teachers can create custom listening exercises and provide the transcription for self-correction.
5. **Shared Resource Creation:** Teachers can collaborate on the creation of multimedia resources for shared use.

Lalal.ai

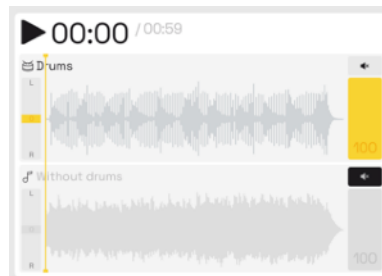
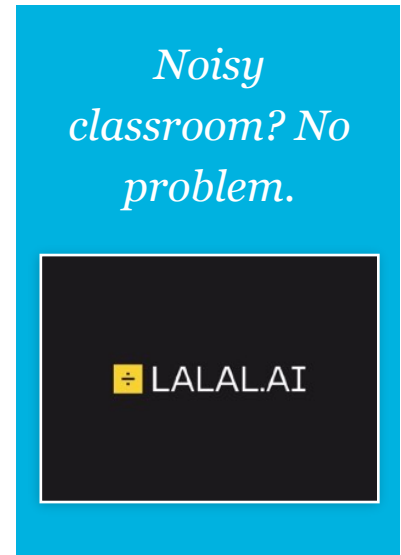
Clean up audio recordings

Not an audio engineer? Me either. Is your classroom noisy? Is that recording of the class poetry reading filled with noise? Do you wish that you could hear your quiet student better in your class podcast? If you answered any of those questions in the affirmative, then [Lalal.ai](https://lalal.ai) is for you. [Lalal.ai](https://lalal.ai) uses artificial intelligence to make your audio file or audio track from a video sound better. It cleans up the mess associated with amateur and classroom audio production without requiring you to know anything about sound engineering.

Clear articulate communication requires audible sound. Clear audio incentivizes coherent writing and oration. While many people advocate for multimedia project development as a platform for student writing and oral language development, I find audio more educationally nutritious than video. Without the distractions of special effects or the lazy “drama” of toy dinosaurs crashing into each other, effective audio storytelling requires writing, reading, speaking, and editing.

You might say that is the golden age of radio. Outstanding fiction and non-fiction storytelling exist in the form of podcasts, public radio, and audio books. Shows like [This American Life](#), [The Moth Radio Hour](#), or any of these [popular podcasts for kids](#) may serve as inspiration for student projects. Radio projects breathe new life into the writing process. Even recreating [classic radio scripts](#) develops performance, oral interpretation, organizational, and production skills. Watching today’s kids try to recreate Abbott and Costello’s *Who’s On First?* or figure out how to manage a team of three people recreating a Superman script featuring seven characters can as hilarious as it is illuminating.

Like Script, Authory, and Descript, [Lalal.ai](https://lalal.ai) is simple to use, but includes many additional tools and power under the hood. You can clean up audio, separate a speaker from background music, separate audio tracks, and more. You really must try [Lalal.ai](https://lalal.ai) and consider adding it to your toolbox.



Additional Features

1. **High Precision Isolation:** Lalal.ai uses AI to isolate vocals and instruments with high precision.
2. **Multiple Track Isolation:** Lalal.ai allows users to separate multiple tracks at once.
3. **Simple User Interface:** The platform is designed for easy and intuitive use, even for those without technical expertise.
4. **Quality Options:** Users can choose the level of precision for their isolation, allowing for flexibility based on needs.
5. **Cloud-based Processing:** Lalal.ai processes audio in the cloud, so it doesn't require a powerful local machine.

Expanded Benefits

1. **Music Exploration:** Lalal.ai enables users to explore music by separating different components.
2. **Creativity:** Users can create new compositions by mixing isolated audio tracks.
3. **Audio Cleanup:** Lalal.ai can be used to clean up audio tracks by removing unwanted elements.
4. **Accessibility:** The simple UI makes advanced audio processing accessible to non-technical users.
5. **Flexibility:** By offering different quality options, Lalal.ai can cater to a wide range of user needs.

Lalal.ai's Applications in K-12 Education

Students can use Lalal.ai for:

1. **Music Projects:** Students can create unique compositions for music class using isolated tracks.
2. **Sound Effects for Projects:** Isolated audio tracks can be used to create sound effects for multimedia projects.
3. **Audio Cleanup for Recordings:** Students can improve the quality of their recordings for podcast or video projects.
4. **Music Appreciation:** By isolating different tracks, students can gain a deeper understanding of how music is composed.
5. **Accessibility:** Students with hearing impairments can use isolated vocals to better understand lyrics in music class.

Teachers can use Lalal.ai for:

1. **Multimedia Resource Creation:** Teachers can create unique audio resources for classroom use.
2. **Interactive Music Lessons:** Teachers can use isolated tracks to teach specific aspects of music theory.
3. **Podcast and Video Projects:** Lalal.ai can enhance the audio quality of student projects.
4. **Language Teaching:** Teachers can isolate vocals from songs in foreign languages to use as a fun and engaging teaching tool.
5. **Lesson Creation:** Teachers can use isolated audio elements to create unique multimedia lessons.

Authory

Your personal archivist

Prolific author and television journalist David Pogue brought [Authory](#) to my attention. It solved a critical problem I had archiving and keeping track of my written output. In many ways it serves as a personal assistant, lending much needed organizational prowess to my messy, chaotic, and disorganized life. Although [Authory](#) does a whole lot more, I use it to locate, organize, and archive/preserve/protect my intellectual property.

Over the course of my career, I have written thousands of articles, papers, and blog posts. Such publications are critical representations of my thinking, ideas, and teaching. The ability to preserve, locate, and share these materials are essential to my work as a teacher, author, publisher, and teacher educator. But I'm a slob and have learned the hard way that a box of papers in a garage is more durable than in digital form.

I wrote a magazine column for a dozen years. That magazine continues to exist in some form on the web. Therefore, my articles *should* be easy to find and sell advertising against. The magazine paid for that content and has a vested interest in keeping it available to readers, but alas incompetent IT departments, server changes, laziness, and carelessness often result in intellectual property vanishing — perhaps lost forever.

In the Internet Age, every human should have a [domain of one's own](#) (and [here](#)) from which they correspond, share, and store their work. This is a powerful idea that too few people, especially educators consider. There is no reason to use Gmail when you can have your own mail server for pennies. Kids should be taught this as well. No one loves you (or your work) as much as you do.

Where's my stuff?



Additional Features

1. **Content Backup:** Authory backs up all content, protecting against lost work.
2. **Email Digests:** Authory can send email updates about new content, ensuring readers don't miss any updates.
3. **Integration with Social Media:** Content can be easily shared on various social media platforms.
4. **SEO Monitoring:** Authory monitors changes in SEO ranking for articles.
5. **Content Analytics:** Authory provides insights on the performance of published content.

Expanded Benefits

1. **Content Safety:** By backing up all work, Authory ensures that content is safe and always accessible.
2. **Engagement Tracking:** Authors can gain insights on how their content is performing and how readers engage with it.
3. **Brand Building:** Authory helps authors establish and maintain a professional online presence.
4. **Audience Engagement:** Regular email digests keep readers informed about new content.
5. **SEO Optimization:** Tracking of SEO rankings helps

IN THE AGE OF AI, YOU MUST OWN YOUR “DIGITAL TWIN!”

Your creative output, likeness, and voice must be owned by you with distribution and compensation for licensing such intellectual property under your control and with your consent.



My efforts as an archivist for sites like [The Daily Paper](#) and as publisher of [Constructing Modern Knowledge Press](#) and [Cymbal Press](#) are in no small part rooted in a battle against powerful stories, ideas, and wisdom being lost to future generations.

[Authory](#) ensures that my work — writing, audio, and video — are archived, preserved, and accessible to as wide an audience as I decide. Once I discovered [Authory](#), I pointed it towards the work I found and it not only organized an archive, but remains on the lookout for new pieces created by me and found on those sites, automatically adding them to my archives. In addition to the archiving features (which alone justify the service), [Authory](#) can create newsletters comprised of my content or be used as a distribution platform ala Substack. It tracks readership and maintains other traffic statistics too. I find [Authory's](#) customer service to be stellar, with personal responses often written by the company CEO.

Imagine if all of your school/home communication and student projects were accessible by parents anytime anywhere. [Authory](#) can maintain a searchable library of classroom news and resources.

Authory's Applications in K-12 Education

Students can use Authory for:

1. **Portfolio Creation:** Students can collect all their online publications in one place, creating a comprehensive portfolio.
2. **Writing Progression:** By tracking their writing over time, students can self-reflect and set goals for improvement.
3. **Digital Citizenship:** Students can learn about creating and managing their online presence responsibly.
4. **Analytics Interpretation:** Students can learn how to interpret analytics and use data to improve their writing.
5. **Understanding SEO:** Students gain a practical understanding of SEO and its importance in digital content creation.

Teachers can use Authory for:

1. **Resource Sharing:** Teachers can share professional development resources with colleagues.
2. **Online Portfolios:** Teachers can maintain an online portfolio of their work, helpful for performance reviews or job applications.
3. **Student Progress Tracking:** Authory can be used to track and monitor student progress over time.
4. **Professional Development:** Teachers can track their writing and publication record for professional development purposes.
5. **Community Engagement:** Teachers can share class projects or school news with the community, keeping stakeholders informed and engaged.

Scribe

Process documentation that writes itself

[Scribe](#) was a last-minute entry into this collection of recommended AI software tools for the classroom. While it was designed for corporate tasks like HR manuals, onboarding processes, revenue reporting, and countless other tasks I know absolutely nothing about, the software contains ingenious features that teachers may find indispensable. Like the other software discussed in this whitepaper, [Scribe](#) offers free and paid subscription versions of the software. The free web-based version of Scribe may be sufficient to meet the needs of most educators.

WHAT IS “PROCESS DOCUMENTATION”?

Have you ever needed to create a tutorial on how to use a piece of software, either for colleagues or children? Scribe is here to make your life better, easier, and reduce your time commitment. A virtue of this software is that within seconds, I intuitively understood how to use a tiny, but significant set of features to perform magic.

Let’s say you wish to create step-by-step instructions for performing a task online. (If you wish to use non-browser based software, you will need to purchase a subscription to use the standalone application.) Login to your account at scribehow.com. Click *New* and select *Create a Scribe*. A “scribe” is the narrative recording of what you do on the computer. Next, click the large record button on your screen and use the software the way you would if you were presenting a lesson to eager students. This process could involve just a few steps or a bajillion. When you are finished, click the stop button on the screen and Scribe will automatically create a step-by-step sequence of written instructions paired with screen shots.

That’s right, whether you’re creating a simple tutorial handout or writing a complete manual, Scribe turns your actions into prose with accompanying images. Those screenshots even include visual highlights to indicate what to click or where to enter specific information on the screen. That documentation may be edited, exported in a variety of formats, inserted into web pages or word processor documents, edited by teammates, or shared online via a custom web link. Click on that link and the web application or page is loaded with a floating palette of step-by-step instructions in a sidebar. Students and colleagues can use the instructions you created to perform specific tasks independently thanks to Scribe.

The software also includes a variety of templates designed for countless writing and management tasks. AI can be used to improve your text in those documents and the scribes (tutorial narratives) you create may be embedded within the pages which may be printed, emailed, or shared online as interactive documents.

*Step-by-step
guides and
tutorials*

Scribe

Scribe's Applications in K-12 Education

Students can use Scribe to:

1. **Share their expertise with classmates:** A habit of mind should be sharing what you know with others. Students can use Scribe to share what they know how to *do* with peers.
2. **Produce software instruction as gifts to family members:** Kids can prepare gifts for caregivers or grandparents in the form of instruction for using technology.
3. **Document thinking and debugging processes:** Since Scribe records anything you do on the screen, it may be used to create a visual record of a student's thinking.
4. **Annotate computer code:** Use Scribe while writing a computer program as the basis for annotating that code for sharing your ideas with others.

Teachers can use Scribe to:

1. **Create reference materials for educational software:** Such materials may be printed, emailed, linked to in web pages, or shared online via Scribe.
2. **Design classroom center materials:** Teachers may create activity cards or getting started prompts for student projects or problem solving that does not require explicit teaching.
3. **Author textbooks, complete with software-based activities:** Educators may use Scribe to create textbooks that include online or application-based activities.
4. **Write technical manuals specific to the needs of your community:** No one knows the needs and preexisting knowledge of your students and learning community like you do. Clear and concise documentation for classroom or even 1:1 technology may be quickly and easily authored by educators.
5. **Share expertise with colleagues:** Why keep your tech skills or knowledge to yourself? Share your genius with your colleagues using Scribe.

Integrated Applications of Scribe, Descript, Authory, and Lalal.ai in K-12 Education

Each of these terrific applications may be used in tandem to increase productivity, communicate more clearly, and stimulate creative project-based learning.

1. **Podcast Projects:** Students can use Descript to create a podcast series as a class project. They record their episodes, transcribe and edit using Descript. They then use Lalal.ai to enhance their audio quality or add music tracks. Finally, they can use Authory to publish their podcast episodes online, track their performance, and engage with listeners.
2. **Flipped Classroom and Digital Portfolios:** Teachers can use Descript to create video lessons, Scribe to make tutorials, and Lalal.ai if the audio needs fixing. With Authory, they can publish and share these lessons with students, who can watch them at home. Teachers can also maintain an online portfolio of their lessons and other professional writings, tracking how students and parents engage with their content.
3. **Digital Storytelling:** In a literature or language class, students can write their own stories. Using Descript's Overdub feature that allows you to record the script or even train AI to do so in your own voice automatically, students can convert these stories into audio dramas, adding sound effects with Lalal.ai. Authory can be used to publish the final audio dramas as well as the original written stories, creating a comprehensive digital storytelling project.
4. **Collaborative Music Composition:** In a music class, students can collaborate on a composition project. They can use Lalal.ai to isolate vocals or instruments from various music tracks and mix them into their compositions. Descript can be used to fine-tune the timing of their mixes and add any voiceovers or captions. Finally, Authory can be used to share the final composition with parents and the school community.
5. **Multimedia Journalism:** In a journalism class or club, students can create multimedia content combining text, audio, and video. Interviews can be recorded and transcribed using Descript, with audio cleaned up or enhanced using Lalal.ai. The final articles, along with any related audio or video content, can be published using Authory, allowing the student journalists to build an online portfolio and engage with their readership.

Implications

Descript, Authory, Scribe, and Lalal.ai represent the dynamic frontier of AI-enabled digital tools available to educators and students in the K-12 space. From creating multimedia content, analyzing and improving writing, to enriching music and language education, these tools provide opportunities for enriched learning experiences, creative expression, and skill development. As education continues to evolve, integrating these types of tools into the learning environment will become increasingly important for student engagement and success. There will undoubtedly be competitor products and improvements made over time. Knowing that such technological wizardry exists is sufficient for improving your workflow and life.

Essential Reading

Educators, or anyone else interested in understanding what artificial intelligence may contribute to learning, education, and society, would be well-advised to read the following books.

***Society of Mind* by Marvin Minsky**

[*Society of Mind*](#) by Marvin Minsky offers an intricate exploration of the human mind and its complexities. The book presents the idea that the mind is not a singular entity but a vast network of agents working in harmony, each with simple operations, culminating in what we understand as consciousness or intelligence.

Minsky delves deep into how these elemental processes combine and interact to produce emotions, thought patterns, and the spectrum of human cognition. Through a blend of philosophy, cognitive science, and artificial intelligence theories, the book challenges conventional perceptions and provides a multi-faceted view of the enigmatic processes that constitute the human psyche.

***Mindstorms: Children, Computers, and Powerful Ideas* by Seymour Papert**

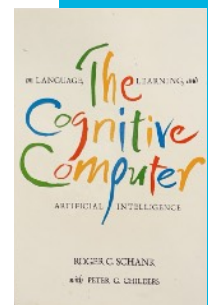
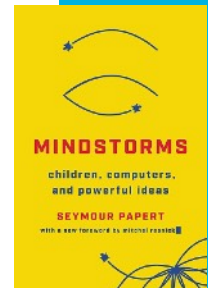
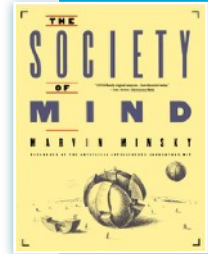
[*Mindstorms: Children, Computers, and Powerful Ideas*](#) by Seymour Papert is a groundbreaking work that delves into the world of education, proposing innovative ways to rethink learning in the digital age. Papert, a pioneer in artificial intelligence and the co-inventor of the Logo programming language, posits that computers can be powerful tools in nurturing a child's natural ability to learn and think creatively. He champions the idea that, when used correctly, technology can transform education from a rigid, traditional system to a more dynamic and interactive one where students actively engage and build knowledge.

Through the lens of constructionism, Papert argues that children can become the architects of their own learning journeys, reshaping the educational landscape for generations to come. Those seeking a humane vision for what artificial intelligence could mean for learners would be well-advised to read Chapter 7, “Logo’s Roots: Piaget and AI.”

***The Cognitive Computer: On Language, Learning, and Artificial Intelligence* by Roger Schank**

[*The Cognitive Computer: On Language, Learning, and Artificial Intelligence*](#) by Roger Schank presents an ambitious vision of computers that can understand and exhibit human-like thinking. Schank, an influential figure in cognitive science and artificial intelligence, asserts that for machines to truly emulate human cognitive functions, they must be designed to perform tasks not just through pre-programmed instructions, but by experiencing and understanding the world as humans do.

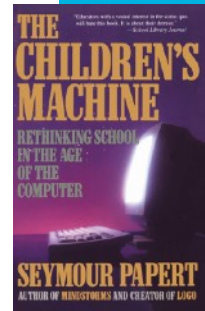
Drawing upon his expertise in story-based reasoning, the book delves deep into how a machine can learn from stories, making connections, and generating insights. Schank argues that the future of computing lies in creating machines that think by doing, learning from their environment, and continuously evolving — much like the human mind.



***The Children's Machine: Rethinking School in the Age of the Computer* by Seymour Papert**

[*The Children's Machine: Rethinking School in the Age of the Computer*](#) by Seymour Papert is a continuation of his transformative thoughts on education in the digital age. Building on ideas from his previous work *Mindstorms*, Papert emphasizes the potential of computers as powerful tools to revolutionize the learning process for children. He argues that, instead of viewing computers merely as devices to replicate traditional teaching methods, educators should harness their capabilities to foster a more dynamic, explorative, and student-centered approach to learning.

Through a blend of poignant anecdotes, case studies, and theoretical discourse, Papert advocates for an educational landscape where children are active constructors of knowledge, empowered by the digital tools at their disposal.



***Being Digital* by Nicholas Negroponte**

"[*Being Digital*](#)" by Nicholas Negroponte is a prophetic examination of the transformational power of the digital age. Published in 1995, the book provides a forward-looking analysis of the shift from a world dominated by atoms to one defined by bits. Negroponte, drawing from his experiences at the MIT Media Lab, delves into the profound changes that digital technology brings to communication, entertainment, and work.

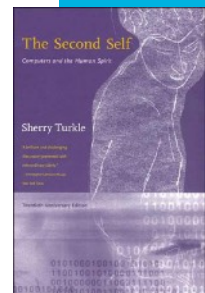
He envisions a future where the boundary between the physical and digital realms blur, resulting in novel human-computer interactions and a revolution in how we consume media and information. "Being Digital" is a seminal work that captures the essence of the burgeoning digital era, laying the groundwork for many of the technological advancements we witness today. It remains a must-read text.



***The Second Self: Computers and the Human Spirit* by Sherry Turkle**

[*The Second Self: Computers and the Human Spirit*](#) by Sherry Turkle delves into the complex relationship between humans and computers, examining how digital technology affects our perceptions of self and society. Drawing from extensive interviews and research, Turkle explores the psychological and sociological impacts of computer interactions, revealing how they shape our identities, relationships, and understanding of the world.

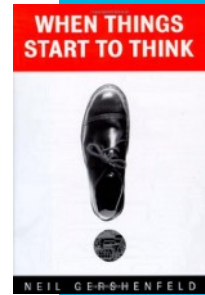
Published in the early days of personal computing, the book was one of the first to address the profound philosophical and emotional ramifications of our growing digital lives. Turkle's insights highlight the dual nature of computers as both tools and mirrors, offering a nuanced view of technology's role in human evolution and self-reflection.



***When Things Start to Think* by Neil Gershenfeld**

[*When Things Start to Think*](#) by Neil Gershenfeld is a captivating exploration of the merging boundaries between the digital and physical realms. Gershenfeld, from his vantage point at MIT's Media Lab, provides a compelling narrative on the future of computing, where the distinction between consumer electronics, personal computers, and our everyday items blur into a seamless fabric of interconnected intelligence. The book delves into a future where shoes can communicate with pavements, books have the capability to feel and respond, and even our clothes have computational power.

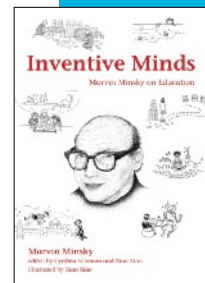
Gershenfeld's vision challenges the reader to reimagine a world not just of smart devices but of an integrated digital ecosystem, elucidating the transformative potential of truly embedding intelligence in our everyday objects.



***Inventive Minds: Marvin Minsky on Education* edited by Cynthia Solomon and Xiao Xiao**

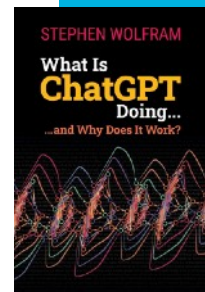
[*Inventive Minds: Marvin Minsky on Education*](#) is a curated collection of essays by Marvin Minsky, one of the foundational figures in artificial intelligence and cognitive science. Edited by Cynthia Solomon and Xiao Xiao, this anthology delves into Minsky's profound thoughts on education and learning. This collection showcases Minsky's vast range of expertise and his multidimensional approach to understanding intelligence, both human and artificial. Through these essays, Minsky challenges traditional pedagogical methods and presents visionary insights into how education can be transformed to cultivate creativity, critical thinking, and true understanding.

Touching upon topics from problem-solving to the potential of technology in the classroom, the book serves as a testament to Minsky's belief in the limitless potential of the human mind and the essential role of education in unlocking it. (I contributed an essay to the book.)



***What Is ChatGPT Doing ... and Why Does It Work?* by Stephen Wolfram**

[*What Is ChatGPT Doing ... and Why Does It Work?*](#) by Stephen Wolfram is a short, but compelling book by one of the world's leading mathematicians and experts on artificial intelligence describing how generative AI works. This new book makes an essential contribution to anyone's understanding of software like ChatGPT.



Additional Resources

- Evenson, L. (1997). [SUNDAY INTERVIEW -- Seymour Papert / Computers In the Lives of Our Children / An MIT mathematician and philosopher is exploring how technology can educate the next generation -- and their parents.](#) *San Francisco Chronicle*.
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- Papert, S. (2000). Papert talks about middle school mathematics education. vimeo.com/101596910
- Papert, S. (2006). [Seymour Papert Keynote Lecture at ICMI 17 Conference in Hanoi, Viet Nam.](#)
- Resnick, M. (1993). *Logo Overnight*. el.media.mit.edu/logo-foundation/resources/papers/pdf/logo_overnight.pdf
- Wolfram, S. (2016a). [How to Teach Computational Thinking.](#) *Stephen Wolfram Blog.* writings.stephenwolfram.com/2016/09/how-to-teach-computational-thinking/
- Wolfram, S. (2017). [What Is a Computational Essay?](#) *Stephen Wolfram Blog.* writings.stephenwolfram.com/2017/11/what-is-a-computational-essay/
- Wolfram, S. (2023a). [ChatGPT Gets Its “Wolfram Superpowers”!](#) *Stephen Wolfram Blog.* writings.stephenwolfram.com/2023/03/chatgpt-gets-its-wolfram-superpowers/
- Wolfram, S. (2023b). [Instant Plugins for ChatGPT: Introducing the Wolfram ChatGPT Plugin Kit.](#) *Stephen Wolfram Blog.* writings.stephenwolfram.com/2023/04/instant-plugins-for-chatgpt-introducing-the-wolfram-chatgpt-plugin-kit/

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