Monograph | Volume 6

Resources to Support Instruction, Design & Innovative Pedagogy

INTERACT123

2023 & 2024

TABLE OF CONTENTS

1 TEACHING & MEMORY

The integration of evidence-based teaching practices that focus on engagement to enhance memory is foundational to student success in higher education. By aligning teaching strategies with principles from cognitive psychology, neuroscience, and the learning sciences, faculty can engage students in dynamic learning experiences that foster learning and neuroplasticity. Strategies such as spaced practice, retrieval, and elaboration can enhance memory, mastery, and transfer of learning. Furthermore, aligning teaching with how students learn can significantly improve academic outcomes by fostering a deeper understanding of course content and supporting academic achievement and student success.
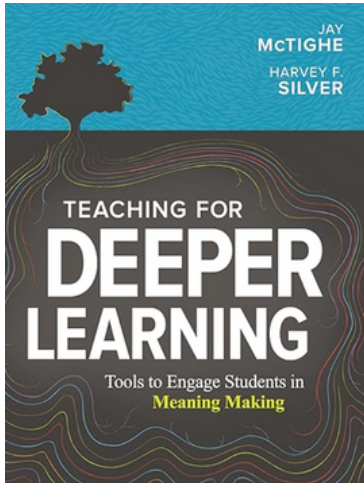

Books

Remembering and Forgetting
Michelle D. Miller, Ph.D.

Remembering and Forgetting in the Age of Technology offers concise, nontechnical explanations of major principles of memory and attention - concepts that all teachers should know and that can inform how technology is used in their classes." book cover
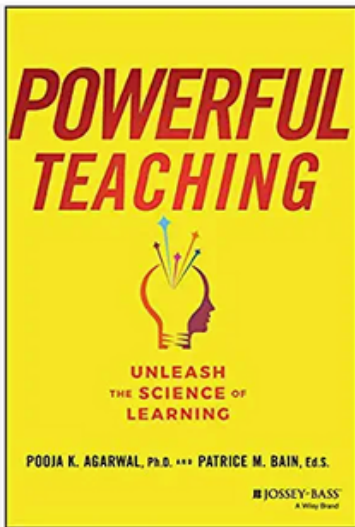
View Now

Books

Teaching for Deeper Learning: Tools to Engage Students in Meaning Making

Jay McTighe & Harvey F. Silver

"Far too often, our students attain only a superficial level of knowledge that fails to prepare them for deeper challenges in school and beyond. In Teaching for Deeper Learning, renowned educators and best-selling authors Jay McTighe and Harvey F. Silver propose a solution: teaching students to make meaning for themselves." - *book cover*

View Now

Powerful Teaching

Pooja K. Agarwal, Ph.D. & Patrice M. Bain, Ed.S.

"This practical resource is filled with evidence-based strategies that are easily implemented in less than a minute—without additional prepping, grading, or funding!" - *book cover*

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"If the goal of deep learning is to be attained, we must find ways to tackle the twin problems of "too much content" and "too much telling."

- McTighe & Silver, 2020, para. 4

Monographs & Reports

INTERACT123 Monograph Series

Volume 1:
Neuroplasticity, Optimal Learning & Regulations
Volume 2:
Evidenced-Based Practices: Optimizing Course Design & Instruction
Volume 3:
Student Success: Balancing Design, Practice & Cognitive Load

NTERACT123 Monograph Series

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Volume 4:
Neuroplasticity, Optimal Learning & Regulations
Volume 5:
Evidenced-Based Practices: Optimizing Course Design & Instruction
Volume 6:
Student Success: Balancing Design, Practice & Cognitive Load
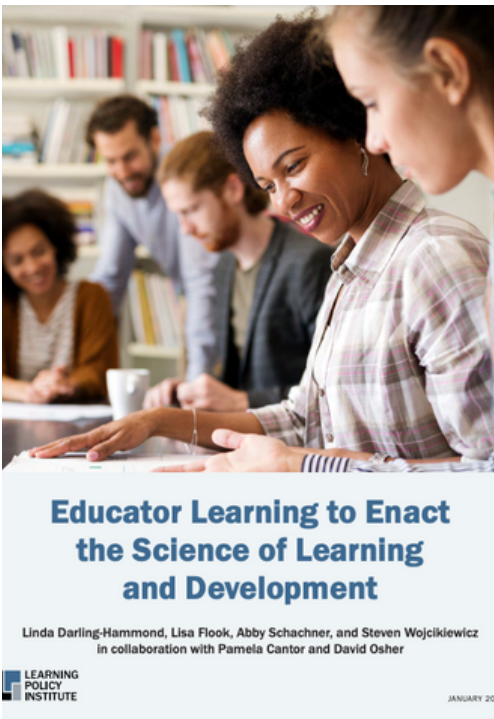
Learning Policy Institute
Educator Learning to Enact the Science of Learning and Development

Linda Darling-Hammond
Lisa Flook
Abby Schachner
Steve Wojcikiewicz
Pamela Cantor
David Osher

View Now

Workshops & Seminars

Online Learning Consortium
[OLC Institute Schedule: Workshops](#)

Neuro, Cognitive & Learning Sciences Series:

- Part 1: Bringing Theory to Practice
- Part 2: Applying Theory to Practice
- Regular and Substantive Interaction, Policy & Practice
- Instructional Design

Online Nursing Mastery Series

Learning & the Brain
[Online Seminars](#)

Connecting educators with the latest scientific research and evidence-based practices to improve instruction

"From neuroscience, we know that memories are encoded by physical changes in the brain. In other words, your brain changes physically whenever you learn anything, and your brain continues to be moulded by experience and learning throughout your life."
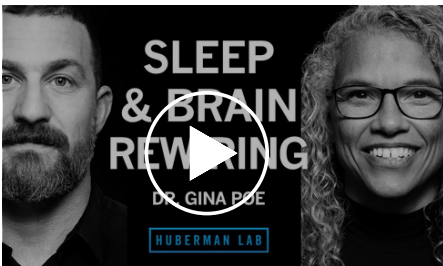
- Cunnington, 2019

Podcasts

Teaching in Higher Education
Faculty Development for Professors

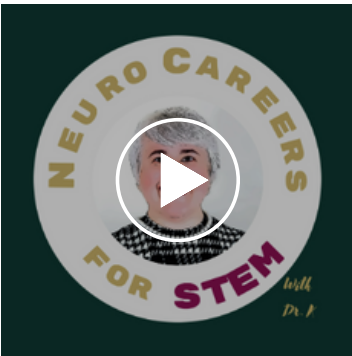Art and science of being more effective at facilitating learning

Listen Now

Learning Scientists
Huberman Labs

Evidence-based practices and learning for teachers, students, and parents

Watch Now

Neurocareers
Dr. Milena Korostenskaja, PhD

Doing The Impossible!

Listen Now

"Memory plays a crucial role in teaching and learning."

Harvard University, 2024
How Memory Works

2

COGNITIVE LOAD

Research reveals that human memory has limited capacity. Therefore, understanding cognitive load theory is foundational to maximize learning. Designing courses and instruction that address intrinsic load, extraneous load, and germane load can support deeper learning and memory. Excessive cognitive load can overwhelm students, decreasing understanding, engagement, and long-term retention of information. Balancing the complexity of new information with prior knowledge, and scaffolding content can support student achievement and academic success. Optimizing extraneous cognitive load while managing intrinsic cognitive load and promoting germane cognitive load is critical to student learning. By understanding cognitive processes and cognitive load, educators can optimize student learning across course modalities.

INTRINSIC LOAD

EXTRANEOUS LOAD

GERMANE LOAD
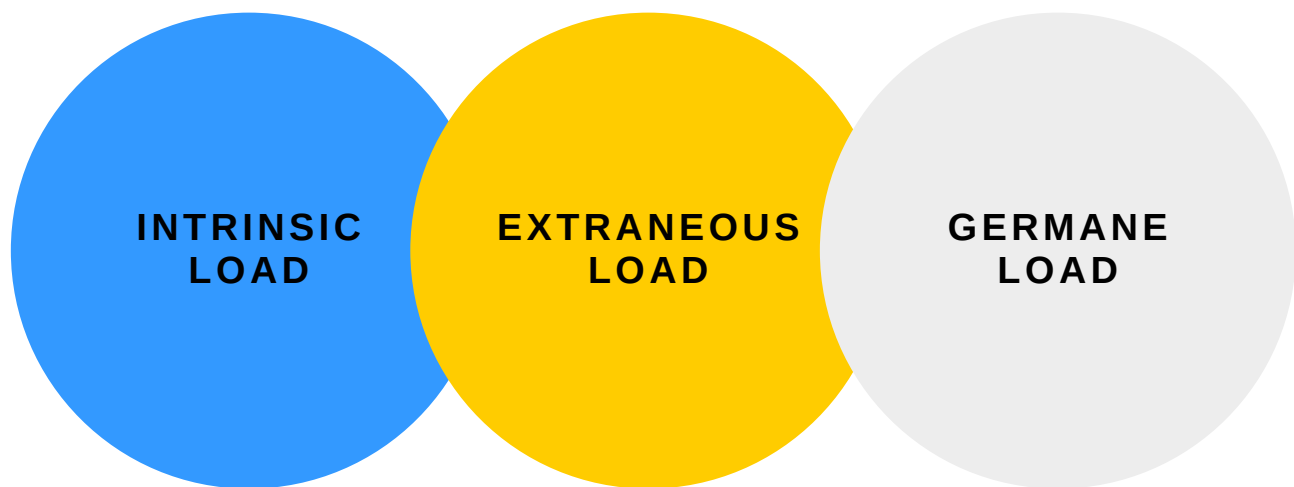
Books
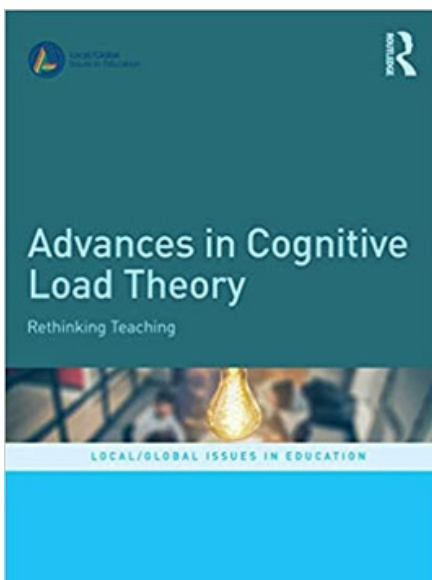
Advances in Cognitive Load Theory: Rethinking Teaching

Sharon Tindall-Ford, Ph.D. (Editor), Shirley Agostinho, Ph.D. (Editor), & John Sweller, Ph.D. (Editor)

"Cognitive load theory uses our knowledge of how people learn, think and solve problems to design instruction. With contributions from the leading figures from around the world, this book provides a one-stop-shop for the latest in cognitive load theory research and guidelines for how the findings can be applied in practice." - *book cover*
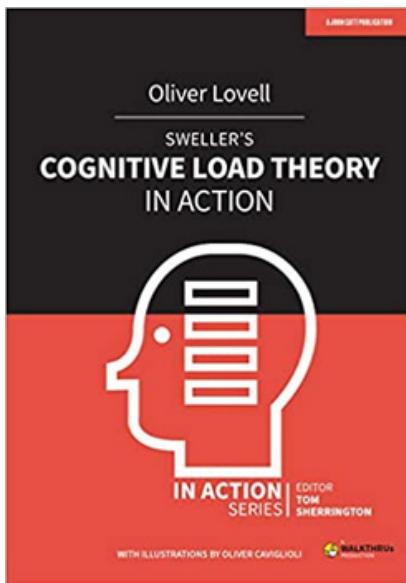
View Now

Books

How Learning Happens
Paul Kirschner & Carl Hendrick

"I know of no other book that provides such a rigorous, accessible and practical summary of the last 50 years of research and educational psychology, and anyone who wants to understand how research can improve teaching needs to read this book. Highly recommended."
- *book review*

View Now

Sweller's Cognitive Load Theory in Action
 Oliver Lovell

"What is it that enables students to learn from some classroom activities, yet leaves them totally confused by others? Although we can't see directly into students' minds, we do have Cognitive Load Theory, and this is the next best thing." - *book overview*
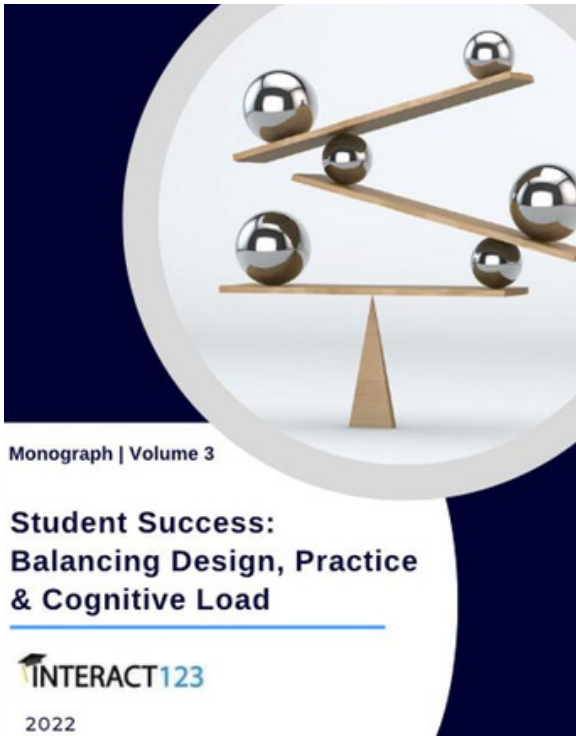
View Now

"While cognitive load theory is not unique in using human cognition to generate instructional procedures, it is regrettably rare for instructional design to be based on human cognitive architecture."

-Sweller (2011)
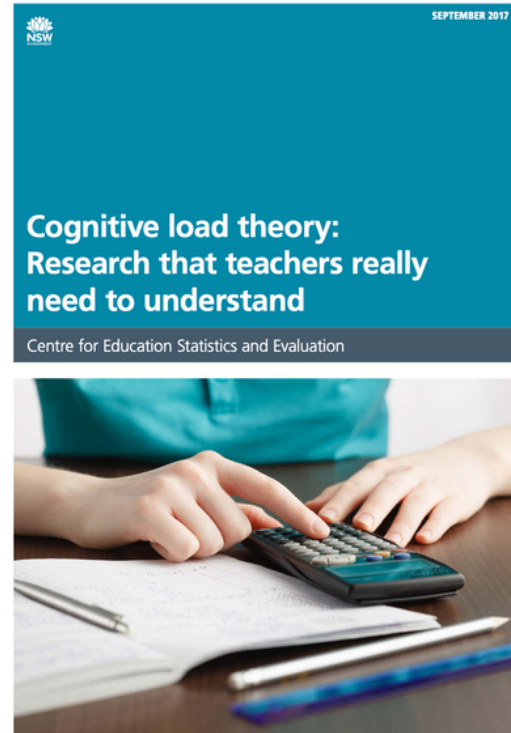Chapter 2: Cognitive Load Theory
Psychology of Learning & Motivation

Monographs & Reports

Monograph | Volume 3

**Student Success:
Balancing Design, Practice
& Cognitive Load**

INTERACT123

2022

SEPTEMBER 2017

NSW

**Cognitive load theory:
Research that teachers really
need to understand**

Centre for Education Statistics and Evaluation

**INTERACT123
Monograph Series**

Volume 3: Student Success: Balancing
Design, Practice & Cognitive Load

(View Now)

***Centre for Education Statistics and
Evaluation, Australia***

*Cognitive Load Theory: Research that
Teachers Really Need to Understand*

(View Now)

" "To acquire new knowledge, learners have
to allocate WM capacity to—that is, invest
mental effort in—learning tasks."

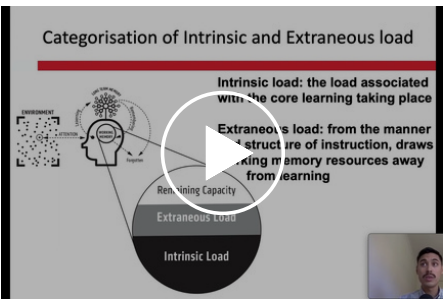- Pass & Van Merriënboer, 2020, para. 7 "

Videos

"Cognitive Load Theory: A Teacher's Guide - Structural Learning"

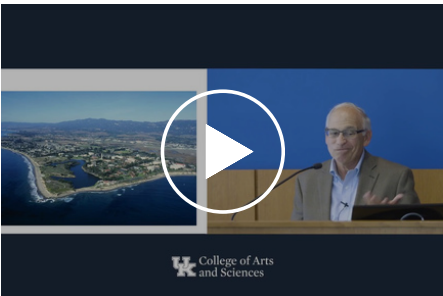John Sweller, Professor Emeritus
University of New South Wales

Watch Now

"An Introduction to Cognitive Load Theory"

Ollie Lovell, Author, Teacher, Podcaster

Watch Now

"Designing Multimedia Instruction to Maximize Learning"

Richard E. Mayer
Distinguished Professor of Psychology
University of California, Santa Barbara

Watch Now

"We Must Follow the Educational Science"

John Sweller
Professor Emeritus
University of New South Wales

Watch Now

Articles

Optimizing lectures from a cognitive load perspective
Jordan, J., Wagner, J., Manthey D. E., Wolff, M., Santen, S., & Cico, S. J. (2019). *AEM Education & Training, 4(*3), 306–312.

Extensive publications related to cognitive load theory and multiimedia
Richard Mayer. (2023). GoogleScholar.

Cognitive-load theory: Methods to manage working memory load in the learning of complex tasks
Paas, F., & van Merriënboer, J. J. G. (2020). *Current Directions in Psychological Science, 29(*4), 394-398.

Shifting online: 12 tips for online teaching derived from contemporary educational psychology research
Sepp, S., Wong, M., & Hoogerheide, V., & Castro-Alonso, J. C. (2022). *Journal of Computer Assisted Learning, 38,* 1304–1320.

Understanding cognitive load in digital and online learning: A new perspective on extraneous cognitive load
Skulmowski, A., & Xu, K. M. (2022). *Educational Psychology Review, 4*, 171–196.

Cognitive architecture and instructional design: 20 years later
Sweller, J., van Merriënboer, J.J.G. & Paas, F. (2019). *Educational Psychology, 31,* 261–292.

"Cognitive overload occurs when the combination of
intrinsic, extraneous, and germane loads
becomes overwhelming for the learner."

- Medical College of Wisconsin, 2023, p. 2

3 INCLUSIVE DESIGN & TEACHING

"Whether you're a program manager, engineer, data scientist, designer, or anyone else who helps create products and services, Inclusive Design is a practice you can follow."

Microsoft, 2024

Inclusive design and teaching seek to create equitable learning experiences for students by acknowledging and proactively addressing the diverse needs of all students across all course modalities. Inclusive design utilizes Universal Design for Learning principles to mitigate barriers to learning by ensuring educational materials and activities support multiple means of engagement, representation, and action and expression. Inclusive learning design and teaching practices improve the learning experiences for all students, fostering a truly collaborative, diverse, and empowering educational environment that respects and values all individuals fostering an inclusive classroom culture where students learn and flourish.

Books

Inclusive Learning Design in Higher Education: A Practical Guide to Creating Equitable Learning Experiences
Virna Rossi (2023)

"How can you design more inclusive learning experiences in environments? How can you overcome some of the challenges of designing and implementing more inclusive learning. You will find the answers to these questions, and much more in this dynamic new text." - inside cover

View Now

Books
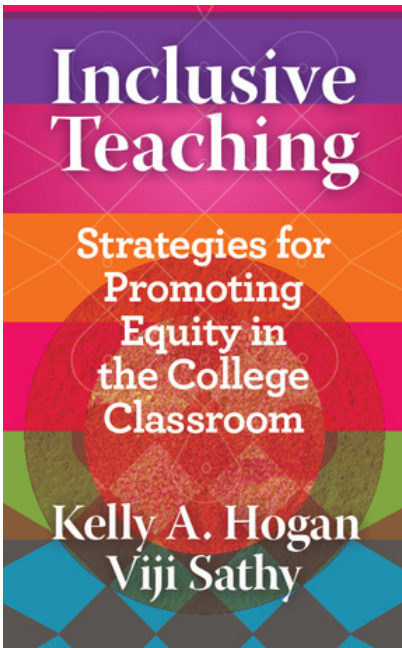
Inclusive Teaching: Strategies for Promoting Equity in the College Classroom
Kelly A. Hogan & Viji Sathy (2022)

"In a book written by and for college teachers, Kelly Hogan and Viji Sathy provide tips and advice on how to make all students feel welcome and included. They begin with a framework describing why explicit attention to structure enhances inclusiveness in both course design and interactions with and between students. *Inclusive Teaching* then provides practical ways to include more voices in a series of contexts: when giving instructions for group work and class activities, holding office hours, communicating with students, and more." - *book summary*

View Now

Inclusive Design "considers the full range of human diversity with respect to ability, language, culture, gender, age and other forms of human difference."

- OCAD University
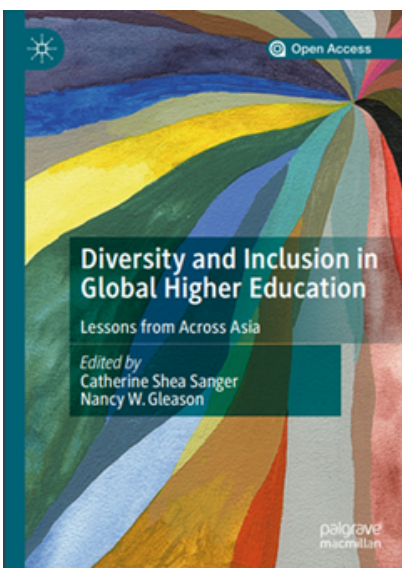
Diversity and Inclusion in Global Higher Education
Diversity and Inclusion in Global Higher Education

Explores the growing importance of international liberal arts education programs. Highlights the relevance of understanding student diversity to achieve deep learning in a changing educational context. Provides a unique toolkit for educators and professional development experts."
- *book summary*

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Monographs & Reports

Association of College & University Professors (ACUE)

10 Inclusive Teaching Practices

(View Now)

INTERACT123 Monograph Series

Volume 2: Evidence-Based Practices: Optimizing Course Design & Instruction

(View Now)

> "By implementing inclusive teaching practices, faculty can create learning environments in which all students feel like they belong and can learn at high levels."
>
> - ACUE, 2022

Videos

The New 3Rs for Education
José Antonio Bowen

"José Antonio Bowen has spent more than 35 years leading change and innovation at Stanford, Georgetown and the University of Southampton. Educator, scholar and author of *Teaching Change* and *Teaching Naked,* Bowen consults with both higher ed institutions and Fortune 500 companies on innovation, leadership, pedagogy and diversity and inclusion."

Watch Now

Zaretta Hammond: Culturally Responsive Teaching 101
Edthena

"Zaretta Hammond, author of Culturally Responsive Teaching and the Brain, discusses culturally responsive teaching- what it is and what it is not."

Watch Now

Creating Your Syllabus
Georgetown University

"Georgetown Professor Marcia Chatelain on putting together an effective syllabus and Georgetown Professor Betsy Sigman on syllabus necessities."

Watch Now

Toolkits

Inclusive Teaching Toolkit

"Creating more inclusive and welcoming learning environments for all students requires more than just goodwill; it takes effort on the part of every higher education professional." - *ACUE*

Inclusive Pedagogy Toolkit

"Designing the learning environment to be meaningful, relevant, and accessible for every student in your course/program is inclusive pedagogy. And it's supported by a growing body of research."
- *Georgetown University*

Resources & Articles

Microsoft Inclusive Design (2023). Microsoft.

Catering to Inclusion and Diversity with Universal Design for Learning in Asynchronous Online Education: A Self-Determination Theory Perspective (Ismailov & Chiu, 2023)

Inclusive Instructional Design: Applying UDL to Online Learning (Rao, 2021)

Chapter: Inclusive Pedagogy and Universal Design Approaches for Diverse Learning Environments (Sanger, 2020)

Culturally Responsive Teaching and UDL (Bass & Lawerence-Ridell, 2020)

Curricula that Account for All Students: A Look at Culturally Responsive Teaching In Higher Education (Kwak, 2020)

Inclusion, Universal Design and Universal Design for Learning in Higher Education: South Africa and the United States (Dalton et al., 2019)

What is Culturally Responsive Teaching? (Understood, n.d.)

Culturally Responsive Teaching: 4 Misconceptions (Gonzalez, 2017)

4 UNIVERSAL DESIGN FOR LEARNING

AFFECTIVE NETWORKS:
THE WHY OF LEARNING

Engagement

For purposeful, motivated learners, stimulate interest and motivation for learning.

Explore Engagement

RECOGNITION NETWORKS:
THE WHAT OF LEARNING

Representation

For resourceful, knowledgeable learners, present information and content in different ways.

Explore Representation

STRATEGIC NETWORKS:
THE HOW OF LEARNING

Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

Explore Action & Expression

UDL Guidelines

Universal Design for Learning (UDL) is a framework designed to "improve and optimize teaching and learning for all people based on scientific insights into how humans learn" (CAST). UDL guidelines provide educators with strategies to enhance teaching and learning experiences across all course modalities to support engagement and student success. UDL recognizes variability is inherent in every learner and learning environment. Acknowledging the variability is important for educators in meeting the needs of all learners. By incorporating multiple means of engagement, representation, and action and expression, course designers and faculty can develop teaching materials, assessments, and activities that meet the diverse and individual needs of students across learning environments. UDL supports academic success by reducing barriers to learning and creating inclusive educational environments and experiences where all students have opportunities to thrive.
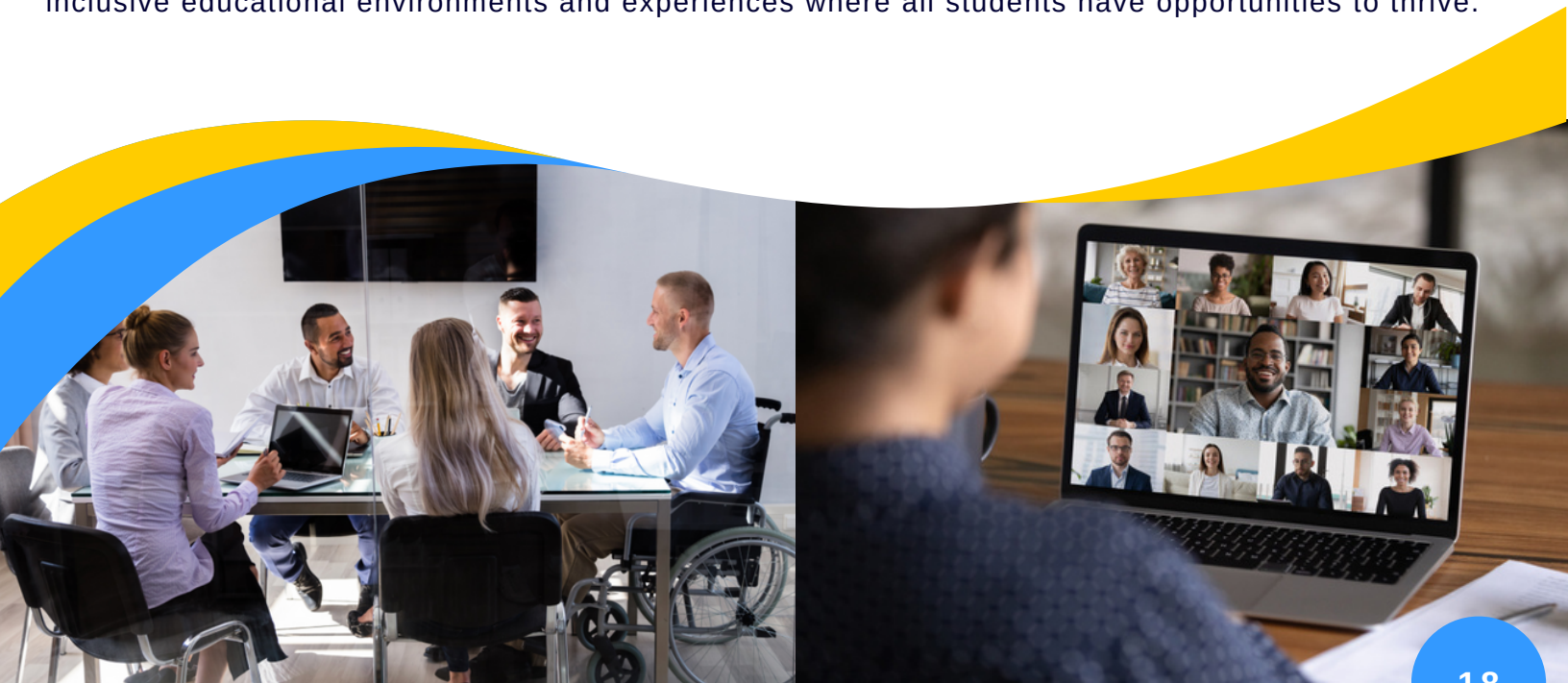
Books
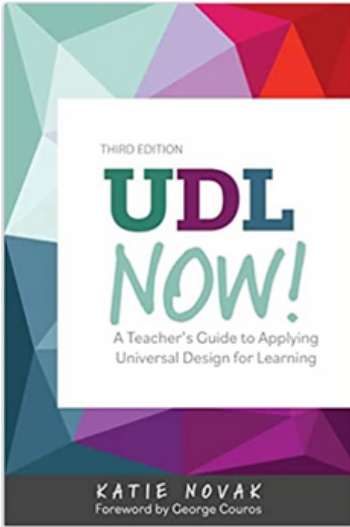
UDL Now!: A Teacher's Guide to Applying Universal Design for Learning

Katie Novak

"Katie Novak hits it out of the park with UDL Now! Wherever you are in your education journey, there are so many ideas, examples, and practical applications that can be implemented for all educators."
- *book review*

View Now
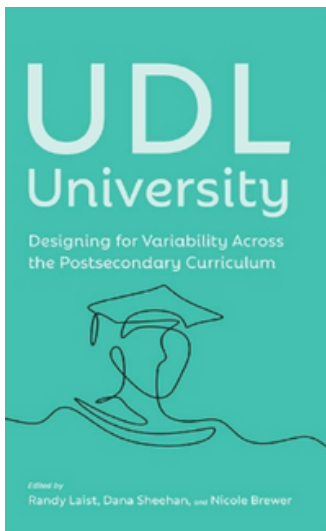
UDL University: Designing for Variability Across the Postsecondary Curriculum

Edited by Randy Laist, Dana Sheehan & Nicole Brewer

"In this lively collection, 16 educators from Goodwin University, a career-focused institution serving a highly diverse student community, share their experiences of applying Universal Design for Learning (UDL) to their instructional practice. From the sciences to the humanities to vocational technologies, these professors share practical tips and insights, and offer glimpses into their own journeys as learners, too."
- *about the book*

View Now
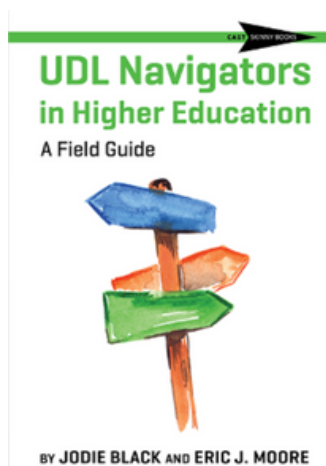
UDL Navigators in Higher Education: A Field Guide

Jodie Black & Eric J. Moore

"Since no two postsecondary institutions are alike, Black and Moore group their advice in themes that can be transferred and tailored to address the particular needs, culture, and values of your setting."
- *about the book*

View Now

Monographs & Reports

Guidance for Implementing Universal Design for Learning in Irish Further Education and Training

UDL for FET Practitioners

View Now
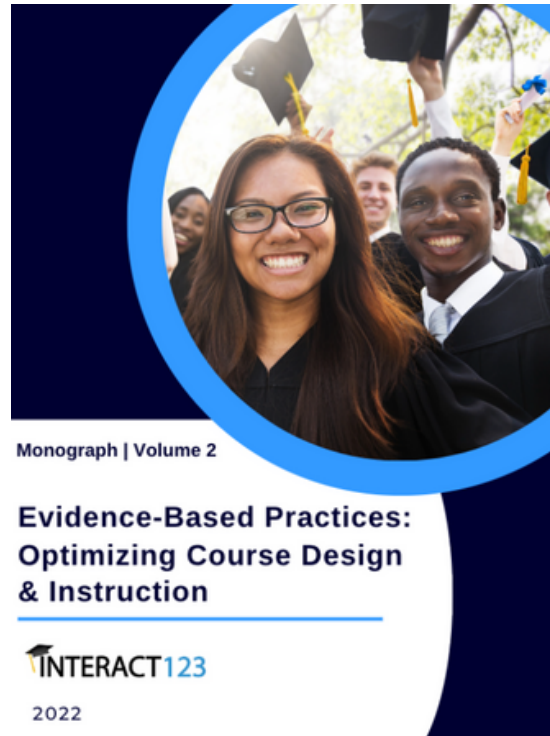
INTERACT123 Monograph Series

Volume 2: Evidence-Based Practices: Optimizing Course Design & Instruction

View Now

"Each brain is made up of billions of interconnected neurons that wire together to form unique pathways. We are born with a foundation of brain structures. Over time, these structures change based on our experiences and interactions with our environment."

- CAST, 2018

Videos

UDL to Change the World
CAST

"UDL Practitioners discuss how they use the Universal Design for Learning framework to empower all learners, as well as themselves."

Watch Now
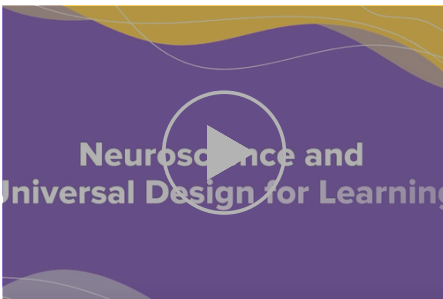
Neuroscience and UDL
Disability Awareness eLearning

"Explore the relationship between UDL and neuroscience."

Watch Now

What is Universal Design for Learning (UDL)?
John Spencer

"Universal Design for Learning (UDL) is an inclusive pedagogical framework. In this video, John Spencer shares the basics of UDL and a few practical ideas for implementing it."

Watch Now
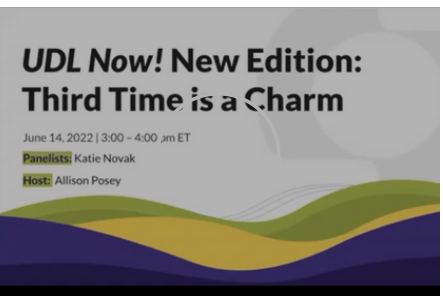
"UDL Now!" New Edition: Third Time is a Charm
CAST

Presenter: Katie Novak & Host: Allison Posey
"In this webinar, Katie highlights how her book supports educators to get started with UDL, develop a strong foundation to reach all learners, and build meaningful connections around this work."

Watch Now

5 AUGMENTED REALITY & VIRTUAL REALITY IN HIGHER EDUCATION

Augmented Reality (AR) and Virtual Reality (VR) are transforming higher education by providing unique opportunities for students to engage in real-world practice. AR brings content and curriculum to life by engaging students with interactive textbooks and course materials by overlaying digital content onto physical objects. VR engages students by immersing them in multi-sensory environments. AR and VR technologies enhance student engagement, active learning, and mastery. The integration of AR and VR into course design, teaching, and assessment expands educational experiences that are immersive, interactive, and align with a dynamic and evolving digital workforce.

> "VR and AR technologies in higher education can revolutionize how students learn and engage with course material."
>
> -Evanick (2023)

Books

Virtual and Augmented Reality: An Educational Handbook
Zeynep Tacgin, PhD. (2020)
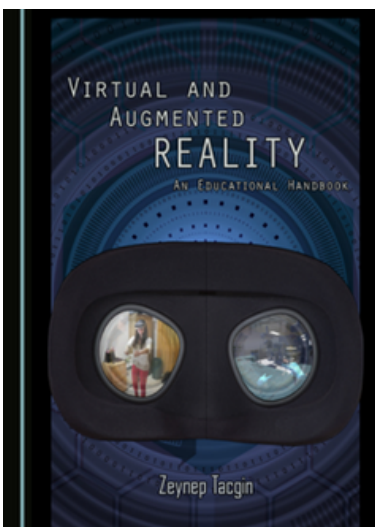
"Mixed Reality has been part of our lives ever since we first started to dream of creative ways to comprehend information and concepts through actual and imaginative experiences. This book explores the latest research informing education design in virtual and augmented reality. By utilising numerous studies and examples, it describes the differences between perceived knowledge, usage area, technologies, and tools. It will help the reader gain a better understanding of the nature of virtual or augmented realities and their applications in theory and practice." - *book review*

View Now

Books

Virtually Transforming Higher Education: The Case for Building a Digital Ecosystem

Drexel University Online (n.d.), Susan C. Aldridge, Ph.D. Kimberly David-Chung Kathleen Harvatt

"Drexel University Online (DUO) is a division of Drexel University, responsible for student recruitment and retention, in more than 150 high-quality online graduate and undergraduate degree and certificate programs. As such, DUO provides the university and its colleges with expert market research and online student recruitment, strategic communications, instructional design, channel partnership development, and program support, clearly focused on creating an exceptional virtual learning experience for over 7,000 fully online Drexel students, from all 50 states and more than 20 countries" - *about Drexel Online*
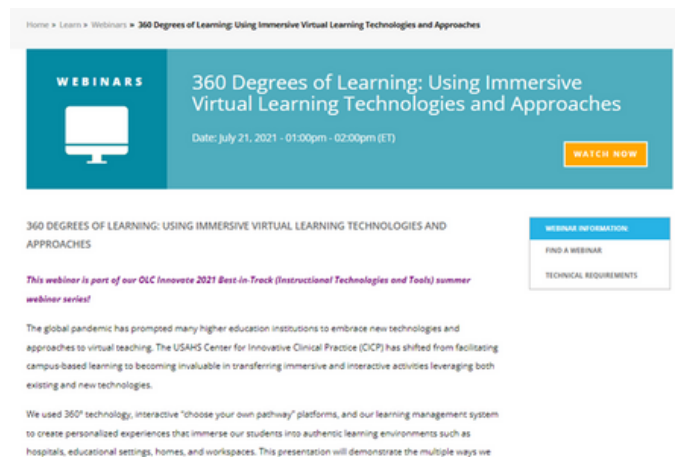
View Now

Report & Webinars

Every Learner Everywhere project WCET (the WICHE Cooperative for Educational Technologies)

Digital Learning Innovation Trends (2020)

View Now

OLC Innovate 2021

Webinar: 360 Degrees of Learning: Using Immersive Virtual Learning Technologies and Approaches

View Now

23

Videos

Development of AR and VR Tools for Student Engagement in Higher Education | Ulan Dakeev
TEDx Talks

"How are colleges and universities using Virtual Reality (VR) and Augmented Reality (AR) technologies to enhance student learning? In this talk, Dr. Ulan Dakeev shares research on the effectiveness of AR and VR in higher education to motivate and engage students."

Watch Now

How Immersive Technologies (AR/VR) Will Shape our Future | Dinesh Punni
TEDx Talks

"Immersive (AR/VR) technologies are past the hype now. They are already being used across multiple industries outside of what many think is just gaming and entertainment. And now, they are slowly entering the consumer market – so what does this mean for us and our society?"

Watch Now

Diving into the Future: Unveiling the Magic of VR #VR
Documentary Lab

"In this captivating video, we're taking you on an extraordinary journey that transcends the boundaries of reality. Get ready to dive headfirst into the future as we unveil the mesmerizing magic of Virtual Reality (VR). Unleash your imagination: Discover how VR empowers you to break free from the constraints of the physical world."

Watch Now

Podcasts

"VR in Education" Podcast Series
PodBean

"VR in Education will provide tips and explore topics related to using immersive Virtual Reality in the classroom."

Listen Now

Everything VR & AR
The VRAR Association

"Everything VR & AR is a weekly podcast covering technologists, enthusiasts, and companies with real world deployments of virtual reality and augmented reality experiences. Learn from interviews with the leaders in gaming, entertainment, productivity, enterprise, social, education, medicine, software, hardware, psychology and more. This podcast covers everything that is VR and AR including the hottest topics and news in virtual reality and augmented reality. Nathan Pettyjohn, Founder of the VR/AR Association is your host."

Listen Now

Articles

An Examination of the Effects of Virtual Reality Training on Spatial Visualization and Transfer of Learning (Betts et al., 2023)

Top 80 Educational VR Games (FutuClass, 2023)

Augmented Reality in Education: Improve Engagement & Perception (Fingent, 2023)

College in the Metaverse Is Here. Is Higher Ed Ready? (D'Agostino, 2023)

Ensuring Equitable Access to AR/VR in Higher Education (Lee et al., 2022)

Augmented Reality and Virtual Reality in Education: Public Perspectives, Sentiments, Attitudes, and Discourses (Evangelidis et al., 2022)

A Review on Augmented Reality Authoring Toolkits for Education (Dengel et al., 2022)

Virtual Reality Revisited: Why We Need it Now More Than Ever Before (Savvides, 2021)

Augmented Reality in Education. A Scientific Mapping in Web of Science (Belmonte et al., 2020)

Augmented Reality Adventures in Teaching Horticulture (WCET, 2019)
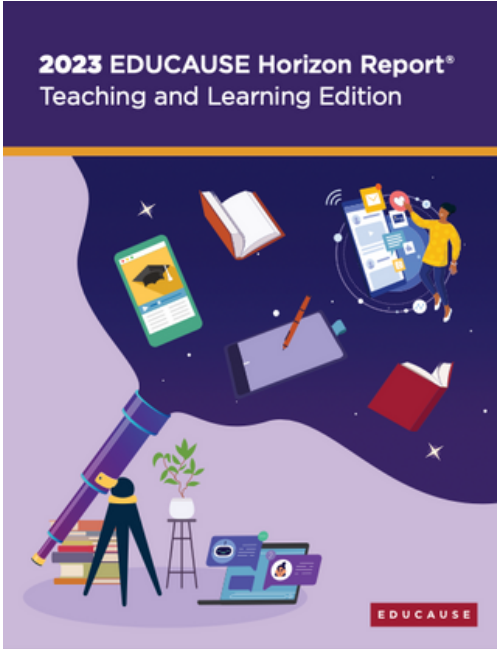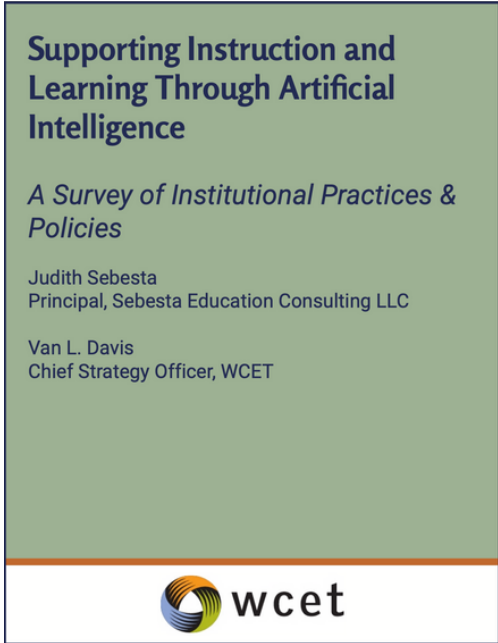
6 ARTIFICIAL INTELLIGENCE & HIGHER EDUCATION

Artificial Intelligence (AI) is transforming course design, teaching, and learning in higher education. Educators can use AI to personalize learning experiences for students through adaptive learning. AI-generated predictive analytics enable educators to examine learner performance and behavior to identify where students are excelling and areas in which they may need more support, materials need to be modified, or additional instruction is needed. AI can support content generation such as quizzes, flashcards, and chatbots to engage students with course content. While AI is already being used to automate assessment, such as low stakes assessments, AI can be further used to support student performance and mastery through AI generated feedback. The integration of AI into course design and instruction supports digital literacy skills necessary for students to thrive in a competitive global workforce in which AI is becoming increasingly ubiquitous.

"

"Artificial intelligence (AI) is providing instructors and course designers with an incredible array of new tools and techniques to improve the course design and development process."

- Gibson, 2023, para. 1

"

WCET Report (July 2023)
Supporting Instruction & Learning Through Artificial Intelligence: A Survey of Institutional Practices & Policies

"Artificial Intelligence in general poses numerous challenges for educators and students alike, such as academic integrity, lack of knowledge and training, misinformation, and implementation costs. However, AI also presents opportunities to support equity and access, increased efficiency, new understandings of (and urgency around) digital literacy and crucial workforce skills, and improved instruction and learning, among others."

View Now

EDUCAUSE (May 2023)
2023 EDUCAUSE Horizon Report | Teaching and Learning Edition

"Artificial intelligence (AI) has taken the world by storm, with new AI-powered tools such as ChatGPT opening up new opportunities in higher education for content creation, communication, and learning, while also raising new concerns about the misuses and overreach of technology. Our shared humanity has also become a key focal point within higher education, as faculty and leaders continue to wrestle with understanding and meeting the diverse needs of students and to find ways of cultivating institutional communities that support student well-being and belonging."

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U.S. Department of Education
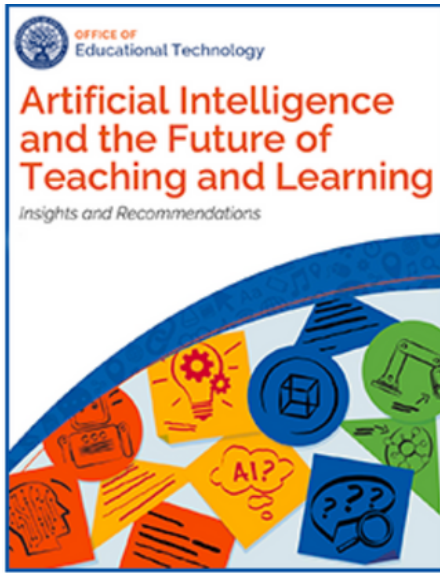
U.S. Department of Education Report (May 2023)

Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations

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U.S. Department of Education Webinar (June 2023)

The U.S. Department of Education and Experts Discuss "AI and the Future of Teaching and Learning"

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Videos

How AI Could Save (Not Destroy) Education
Sal Kahn

"Sal Khan, the founder and CEO of Khan Academy, thinks artificial intelligence could spark the greatest positive transformation education has ever seen. He shares the opportunities he sees for students and educators to collaborate with AI tools -- including the potential of a personal AI tutor for every student and an AI teaching assistant for every teacher -- and demos some exciting new features for their educational chatbot, Khanmigo"

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Videos

The Inside Story of ChatGPT's Astonishing Potential
Greg Brockman

"In a talk from the cutting edge of technology, OpenAI cofounder Greg Brockman explores the underlying design principles of ChatGPT and demos some mind-blowing, unreleased plug-ins for the chatbot that sent shockwaves across the world. After the talk, head of TED Chris Anderson joins Brockman to dig into the timeline of ChatGPT's development and get Brockman's take on the risks, raised by many in the tech industry and beyond, of releasing such a powerful tool into the world."

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Can Artificial Intelligence Pass the Turing Test?
ABC NEWS

"Is AI capable of convincing humans that computers can behave like we do?" This newscast provides a brief historical overview of the Turing test and defining intelligence. The Turing Test is arguably one of the most well-known methods of evaluating how well artificial intelligence (AI) can think like a human."

Watch Now

Futures of AI in Education & Diversity, Equity, and Inclusion
Punya Mishra

"Artificial intelligence (AI) is an encompassing family of technologies that extend into all sectors of human life. Although artificial intelligence in education (AIED) research is often framed as supporting student learning and enhancing the educational experience, it is also clear there is significant potential for harm. This proposed Learning Futures Collaborative group is being formed to develop a research plan and methodology to investigate the broad landscape of new and emerging technologies and the challenge for AIED communities to ensure these advancements are human-centered and humanist in their design, implementation, and interpretation. This group will also seek to investigate how AIED communities are able to integrate and inform critical issues of diversity, equity, and inclusion (DEI)."

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AI Tools

OpenAI

- **ChatGPT**: An AI-driven language processing tool for human-like conversations and generating text responses for questions, ideas, titles, outlines, essays, code, and more.

- **GPT-4**: OpenAI's most advanced system with faster responses, capable of generating textual responses, letters, code, and more, using prompts composed of texts and images.

- **DALL·E 2**: An image generation AI model that creates images from text descriptions.

Top 30 ChatGPT Alternatives that will Blow Your Mind in 2024 (Garg, 2023)

The Top AI Art Generators in 2024 (Guinness, 2023)

11 AI Video Generators to Use in 2023 (Santiago, 2023)

6 Free AI Music Generators to Create Unique Songs to Use In Your Projects (Burton, 2023)

13 Best AI Content Writing Tools in 2024 (York, 2024)

> "AI will transform teaching and learning. let's get it right."
>
> - Chen, 2023
> Stanford University

Articles & Resources

How College Educators are Using AI in the Classroom (Hechinger Report, 2023)

How Will Artificial Intelligence Change Higher Education (The Chronicle of Higher Education, 2023)

43 Examples of Artificial Intelligence in Education (University of San Diego, 2023)

AI Tools in Teaching and Learning (Stanford University, 2023)

Engaging with AI in your Education and Assessment (UCLA, 2023)

Artificial Intelligence & Higher Education: Chatbots, ChatGPT and Generative AI Resources (DePauw University, 2023)

Why Some College Professors are Adopting ChatGPT AI as Quickly as Students (CNBC, 2023)

ChatGPT Unleashed: An Advanced Exploration of AI-driven Course Design (Nufer, 2023)

The State of Artificial Intelligence in Nursing Education: Past, Present, and Future Directions (Gagne, 2023)

AI-based Academic Advising Framework: A Knowledge Management Perspective (Bilquise & Shaalan, 2022)

Teaching and Learning with AI-Generated Courseware: Lessons from the Classroom (Schroeder et al., 2022)