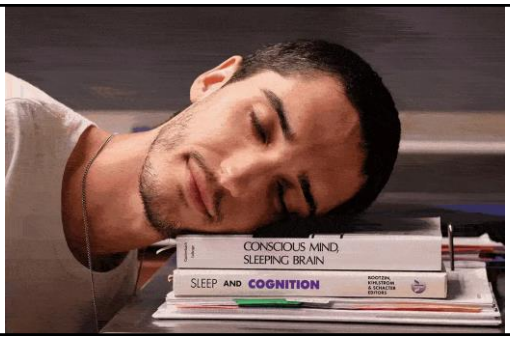
Time to Wake Up from Our Innovative Learning Dreams and Make Smarter Learning a Reality

Curtis J. Bonk, Professor, Indiana University
cjbonk@indiana.edu
http://curtbonk.com/

1



2

Dreams of Smarter Learning…

Center for the Advancement of Teaching
Temple University, Paul Blaschko

3

Wanted:

Billions of Self-Directed Learners

4

April 20, 2023

Learning to code isn't enough

Joy Lisi Rankin, MIT Technology Review

https://www.technologyreview.com/2023/04/20/1071291/learn-to-code-legacy-new-projects-education/

5

April 20, 2023

Learning to code isn't enough

Joy Lisi Rankin, MIT Technology Review

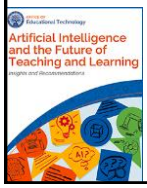
https://www.technologyreview.com/2023/04/20/1071291/learn-to-code-legacy-new-projects-education/

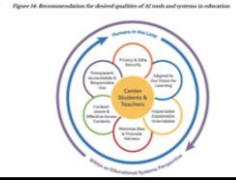
6

June 13, 2023

U.S. Department of Educational Technology
Artificial Intelligence

https://tech.ed.gov/ai/
https://tech.ed.gov/ai-future-of-teaching-and-learning/
https://zoom.us/webinar/register/WN_AYgSkADaQ5SBpcKtJZVrgw#/registration





7

January 31, 2023

What is ChatGPT? Everything to know about OpenAI's free AI essay writer and how it works

Jennifer Jolly, USA Today

https://www.usatoday.com/story/tech/2023/01/27/chatgpt-buzzfeed-ai/11129947002/

8

May 19, 2023

AI in School News

Can GPT-4 and TikTok usher in a new learning frontier?

How schools can respond to ChatGPT with inquiry-based learning

The importance of teaching generative AI

9

May 19, 2023

AI in Higher Ed News

Will advances in AI force a push to oral exams?

10

January 7, 2023

AI in Business and Society News

https://www.theguardian.com/education/2014/mar/19/cost-barrier-students-global-south

11

May 18, 2023

The Future of AI in Personalized Learning in Higher Education

Annie Galvin Teich, Feirce Education

https://www.fierceeducation.com/leadership/future-ai-personalized-learning-higher-education

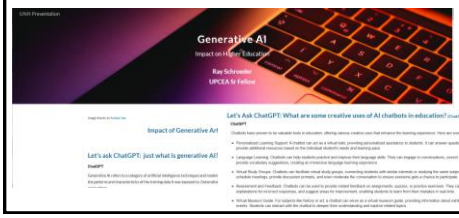
12

May 25, 2023

Generative AI: Impact on Higher Education

Ray Schroeder, UPSEA Senior Fellow

https://sites.google.com/view/unhpresentai

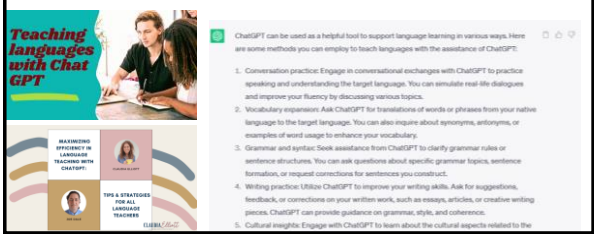


13

May 25, 2023

Teach Languages with ChatGPT

https://chat.openai.com/

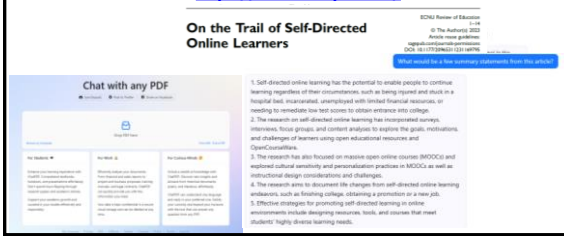


14

May 25, 2023

Chat with any PDF

https://www.chatpdf.com/

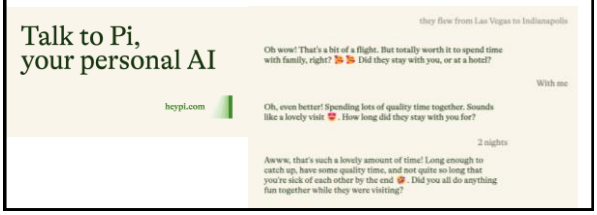


15

May 25, 2023

Chat with heypi; especially good for social/emotional/burnout support

https://heypi.com/talk

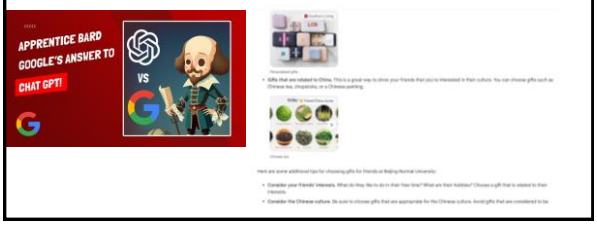


16

May 25, 2023

Chat with Bard

https://bard.google.com/



17

September 14, 2022

Artificial Intelligence Kill College Writing?

Online programs can churn out decent papers on the cheap. What now?

https://www.chronicle.com/article/will-artificial-intelligence-kill-college-writing

18

April 22, 2023

In UNESCO "Quick Start Guide to ChatGPT and AI in Higher Education

https://www.iesalc.unesco.org/wp-content/uploads/2023/04/ChatGPT-and-Artificial-Intelligence-in-higher-education-Quick-Start-guide_EN_FINAL.pdf

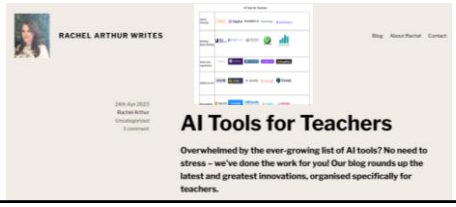
19

April 24, 2023

AI Tools for Teachers

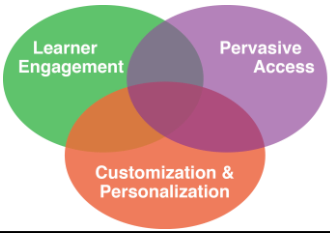
Rachel Arthur

https://rachelarthurwrites.com/2023/04/24/ai-tools-for-teachers/



20

30+ Ways Learning is Changing:
The Mega Trends



21

May 20, 2022

Yes, Students Are Disengaged. What Else Is New?

Robert Zaretsky, The Chronicle of Higher Education

https://www.chronicle.com/article/yes-students-are-disengaged-what-else-is-new

https://www.chronicle.com/article/a-stunning-level-of-student-disconnection

https://www.chronicle.com/article/how-to-solve-the-student-disengagement-crisis

22

May 17, 2022

No Fun for You!

Douglas Dowland, The Chronicle of Higher Education

https://www.chronicle.com/article/yes-students-are-disengaged-what-else-is-new

23

May 11, 2022

How to Solve the Student-Disengagement Crisis

Advice Forum, The Chronicle of Higher Education

https://www.chronicle.com/article/how-to-solve-the-student-disengagement-crisis

24

April 5, 2022

A 'Stunning' Level of Student Disconnection
Beth McMurtrie, The Chronicle of Higher Education
https://www.chronicle.com/article/a-stunning-level-of-student-disconnection

25

November 3, 2022

Still Struggling With Engagement? You're Not Alone
Beth McMurtrie, The Chronicle of Higher Education
https://www.chronicle.com/newsletter/teaching/2022-11-03

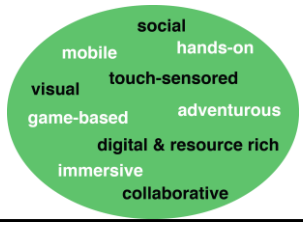
26

December 19, 2022

A Time for Learning Experience Designers, Mark Milliron, National University, Kim Round, WGU, The Evolllution
https://evolllution.com/programming/program_planning/a-time-for-learning-experience-designers-2/

27

How Learning is Changing:
Mega Trend #1. Learner Engagement



28

March 2021

Learning is More Mobile

Best small phone 2021: The top tiny, compact smartphone choices
James Rogerson, TechRadar
https://www.techradar.com/best/best-small-phone

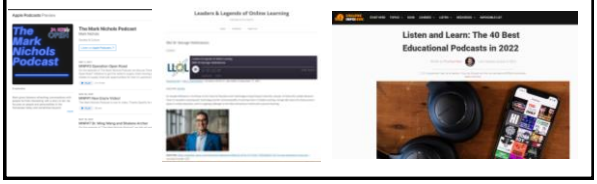
The Octopus watch from Joy, an icon-based watch for kids to have good habits is on display during CES.

29

June 15, 2022

Learning is More Mobile

Leaders & Legends of Online Learning, Dr. Mark Nichols' Podcast
https://onlinelearninglegends.com/podcast/062-dr-george-veletsianos/
In this episode, Open Polytechnic of New Zealand Executive Director Dr. Mark Nichols chats with Dr. George Veletsianos, Royal Roads University in Victoria, British Columbia. George talks about his history and research in online education, and his ongoing challenges to the false dichotomy of online and in-person learning.



30

June 6, 2022
Learning is More Game-based
How teachers use Wordle–and other games–for next-level engagement
Laura Ascione, eSchool News
https://www.eschoolnews.com/2022/06/06/how-teachers-use-wordle-for-next-level-engagement/2/

How teachers use Wordle–and other games–for next-level engagement

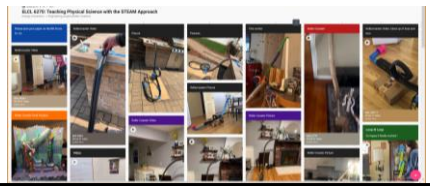
Laura Ascione
June 6, 2022
Wordle has gone viral, and such games are proving useful in the classroom as teachers leverage their popularity for student engagement

31

May 11, 2020
Learning is More Game-based
What is smileUP & How to use it?
SMILE, Paul Kim at Stanford
https://www.youtube.com/watch?v=pblU8sSALWo

32

March 21, 2021
Learning is More Digitally Rich
ELCL 6270: Teaching Physical Science with the STEAM Approach
Heejung An, William Paterson University
Hands-on, Minds-on, Hearts-on, Social-on: A Collaborative Maker Project Integrating Arts in a Synchronous Online Environment for Teachers
https://link.springer.com/article/10.1007/s11528-022-00740-x
Based on the Thinkering, Making, Sharing, and Reflecting (TMSR) model



33

November 23, 2020
Learning is More Immersive
Can AR be the antidote to virtual classroom shortcomings?
Parker McDonnough, eSchool News
https://www.eschoolnews.com/2020/11/23/can-ar-be-the-antidote-to-virtual-classroom-shortcomings/2/
https://www.zdnet.com/article/view-pyramids-of-ancient-egypt-via-this-360-degree-vr-capture/
AR brings learning to life and allows students to experience education during distance learning. **With AR, students can walk through Stonehenge, tour the Egyptian pyramids, go on a virtual field trip of the Louvre Museum, or explore the cavities of the human heart – all from the comfort of their homes.** Students can even take a journey to outer space or visit UNESCO world heritage sites. **…explore Mount Rushmore or the muscular system** in AR.

34

June 1, 2022
Learning is More Immersive
Meet the Metaverse
Michael B. Horn, Education Next
https://www.educationnext.org/meet-the-metaverse-new-frontier-virtual-learning/

35

April 18, 2023
Learning is More Immersive
Holograms in Higher Education are Boosting Student Engagement,
Susan Fortane, Fierce Education
https://www.fierceeducation.com/technology/holograms-higher-education-are-boosting-student-engagement

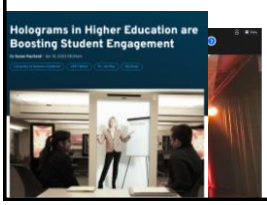


Figure 3. An example of a display studio.

36

February 15, 2023
Learning is More Collaborative
Strong Schools, Afghani Women
Asian University of Women
https://pressbooks.pub/schools/
file:///C:/Users/18123/Downloads/Strong-Schools-1674597042.pdf

37

How Learning is Changing:
Mega Trend #2. Pervasive Access

38

December 24, 2022
Learning is Informal
Will AI change the future of language learning? | ChatGPT
Grace Guo, Mandarin Chinese, Tom Gally Japanese
https://www.youtube.com/watch?v=WNfmU6IbVbE

39

Learning is More Informal
University of the Third Age
London, UK
https://www.u3a.org.uk/

U3A (The University of the Third Age) is a UK-wide movement which brings together people in their 'third age' to develop their interests and continue their learning in a friendly and informal environment. If you're wondering what we mean by the third age - it is a time after you have finished working full-time or raising your family and have time to pursue your interests or just try something new.

40

March 15, 2023
Free and Fee-Based Online Classes Can Expand Your Mind, Job Prospects
Edward C. Baig, AARP
https://www.aarp.org/home-family/personal-technology/info-2023/online-learning-education.html

41

October 14, 2022
Learning is More Online
A Surge in Young Undergrads, Fully Online
Susan D'Agostino, Inside Higher Ed
https://www.insidehighered.com/news/2022/10/14/more-traditional-age-students-enroll-fully-online-universities

42

March 7, 2023

Learning is More Online

A Free Online University Has Grown to 126,000 Students. What Can It Teach Traditional Colleges?

Ed Surge, Jeffrey Young

https://www.edsurge.com/news/2021-02-07-a-free-online-university-has-grown-to-126-000-students-what-can-it-teach-traditional-colleges

43

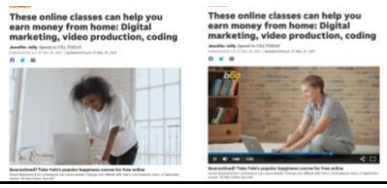
March 20, 2021

Learning is More Online

These online classes can help you earn money from home: Digital marketing, video production, coding

Jennifer Jolly, USA Today

https://www.usatoday.com/story/tech/columnist/2021/03/20/online-classes-courses-digital-marketing-coding-video-project-mgt/4763042001/



44

May 21, 2023 & June 13, 2022 (Khan World School)

Learning is More Online

Behind Khan Academy And Arizona State University's Khan World School Launch, Michael B. Horn, Forbes

https://www.forbes.com/sites/michaelhorn/2022/05/31/behind-khan-academy-and-arizona-state-universitys-khan-world-school-launch/

At present, the Khan World School is drawing interest from students around the world. The school will be free for students in Arizona by taking advantage of ASU's charter school. But for those localities where it isn't a public option, Khan said that they will be able to offer the school for less than $10,000.

The Khan World School is aiming to tackle that stereotype with a daily, synchronous seminar where students debate topics that often aren't discussed in schools—things like "Will the Fed be able to control inflation?

45

October 20, 2022

Stanford Report Says Emergency Remote Instruction Led to 'Shift' in University's Identity

Jeffrey Young, EdSurge

https://www.edsurge.com/news/2022-10-20-stanford-report-argues-emergency-remote-instruction-led-to-shift-in-university-s-identityhttps://uuuu.com/stanforddigitaleducation/docs/stanford_pandemic_ad_review_2020-21

46

June 18, 2021

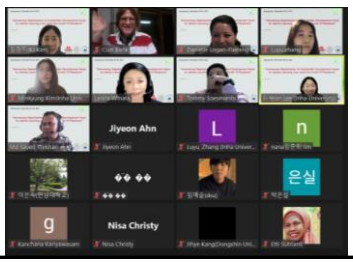
Learning is More Synchronous

I am writing to send a screenshot of the synchronous hybrid English class for rural Chinese students. I also have a short video clip (though not in high quality), if you are interested.

47

November 4, 2022

Learning is More Synchronous



48

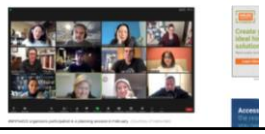
August 24, 2022

Learning is More Global

Online Does Not Mean Isolated

Maha Bali, George Station, & Mia Zamora, Inside Higher Ed

https://www.insidehighered.com/views/2022/08/24/building-community-online-conferences-events-opinion



49

February 28, 2022

Learning is More Global

R678 with Tom Reeves, Tom Reynolds, Veronica Acosta, and Okhwa Lee

https://youtu.be/8Uu9vFDqixw

50

December 17, 2022

Learning is Open

Computer Classes for Rural African Schools

Nelly Cheboi, CNN Hero Award

LinkedIn: https://www.linkedin.com/in/nelly-cheboi
Facebook: https://www.facebook.com/kosicheboi

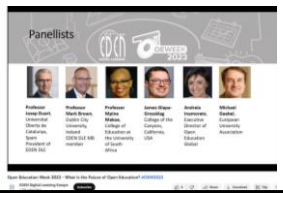
51

March 13, 2023

Open Education Week 2023 - What Is the Future of Open Education? #OEW2023

Speakers: Josep M. Duart, Mark Brown, Mpine Makoe, James Glapa-Grossklag, Andreia Inamorato and Michael Gaebel

https://www.youtube.com/watch?v=0178ZokihL0



52

February 4, 2022

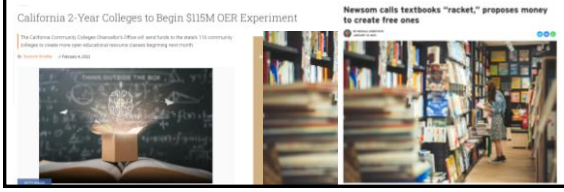
Learning is More Free and Open

California 2-Year Colleges to Begin $115M OER Experiment

Suzanne Smalley, Inside Higher Ed (results in better grades, lower costs)

https://www.insidehighered.com/news/2022/02/04/gavin-newsoms-115-million-bet-oer-community-colleges
https://sparcopen.org/our-work/california-governors-zero-textbook-cost-degree-budget-proposal/
https://calmatters.org/education/2021/01/newsom-fund-free-textbooks/

The grant program concluded in 2019 and it is anticipated that the 23 community colleges produced 34 Zero Textbook Cost degrees or certificates, saving 23,373 students approximately $42,912,828 in textbook costs resulting in an **858% ROI** (return on investment) from the original $5 million invested by the CA Community College Chancellor's Office.



53

Introducing the TEC-VARIETY Model

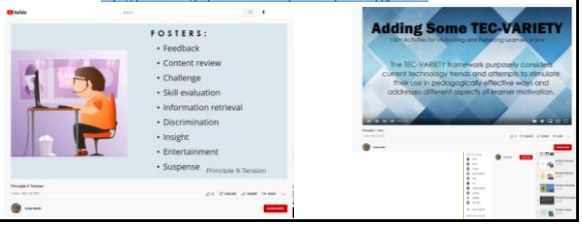
http://tec-variety.com/
http://tec-variety.com/TEC-VARIETY-Chinese.pdf

Tone/Climate
Encouragement, Feedback
Curiosity

Variety
Autonomy
Relevance
Interactive
Engagement
Tension
Yields Products

54

November 18, 2021
Learning is More Free and Open
YouTube Channels and Playlists
Linda Smith
https://youtube.com/playlist?list=PLGodJOq20AHBKkIp7LE7SBJpygxVeHd4K



55

September 2022
Learning is More Free and Open
Commonwealth of Learning
Khoo, E., & Bonk, C. J. (2022). ***Motivating and Supporting Online Learners.*** Burnaby, BC, Canada: Commonwealth of Learning. Free book available: http://hdl.handle.net/11599/4481 and free course available: https://colcommons.org/welcome/coursedetails/8; https://www.colvee.org/

56

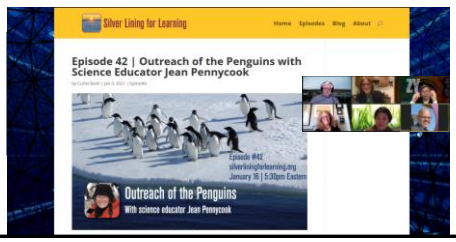
September 23, 2022
Learning is More Free and Open
Motivating and Supporting Online Learners
https://colcommons.org/my-course

57

April 11, 2020
Learning is More Video-based…
(e.g., Flip)
Ed Tech with Adam: https://www.youtube.com/watch?v=hysv0PwqsFs
https://techcrunch.com/2018/06/18/microsoft-acquires-social-learning-platform-flipgrid/

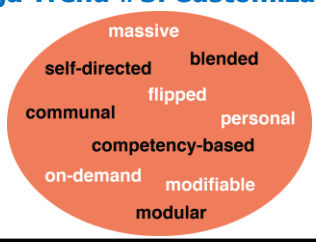
58

Learning is More Video-based…
Silver Lining for Learning
https://silverliningforlearning.org/
https://www.youtube.com/channel/UC9XEsh89qrIlpmVVpQt-_aA/live



59

How Learning is Changing:
Mega Trend #3. Customization



60

January 31, 2023
Learning is More Modifiable
Mosaic Active Learning Classrooms at IU

61

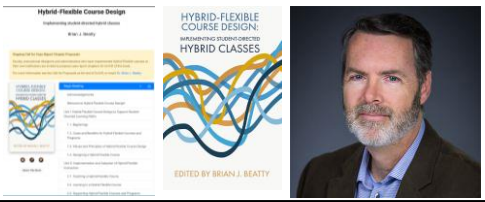
June 6, 2022
Learning is More Blended
Why Notre Dame is boldly pushing ahead on blend of live and remote learning
Chris Burt, University Business
https://universitybusiness.com/why-notre-dame-is-boldly-pushing-ahead-on-blend-of-live-and-remote-learning/

62

June 17, 2021
Learning is More Blended
How can higher ed move blended learning forward?
Jessca Rowland Williams, eCampus News

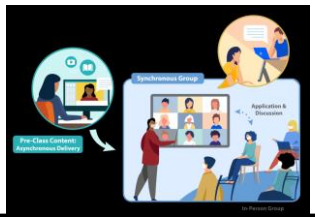
63

June 17, 2021
Learning is More Blended
Free Book: Hybrid-Flexible Course Design
https://edtechbooks.org/hyflex



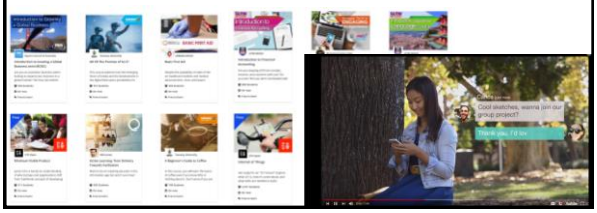
64

Fall 2021
Hybrid Modality: HyFlex Teaching
https://instructionalcontinuity.georgetown.edu/pedagogies-and-strategies/hybrid-hyflex-teaching/
HyFlex (a term coined by Brian Beatty) stands for a combination of "hybrid," meaning alternating between face-to-face meetings and remote interactions, and "flexible," meaning students move between these participation options.



65

Learning is More Self-Directed
The LMS Market is Quickly Losing Ground
Carol Leaman, CLO
https://www.openlearning.com/
https://www.openlearning.com/



66

Learning is More Self-Directed

Language Lessons Online

e.g., BBC Learning English, Duolingo, Babbel, SpanishPod, etc.

(Zixi Li & Curt Bonk, June 2022, Duolingo Research)

http://www.bbc.co.uk/learningenglish

67

Benefits of Self-Directed Learners

https://discoverpraxis.com/reasons-not-to-go-to-college/

68

68

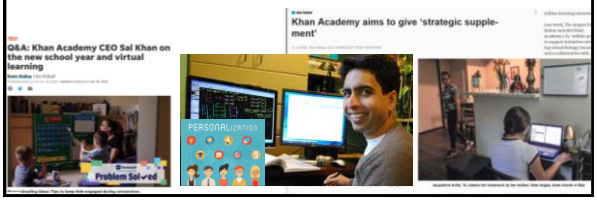
July 31, 2020

Learning is More Personalized

Khan Academy aims to give 'strategic supplement'

Brett Molina, USA Today

https://www.usatoday.com/story/tech/2020/07/30/khan-academy-coo-sal-khan-prepping-fall-virtual-learning/5525480002/



69

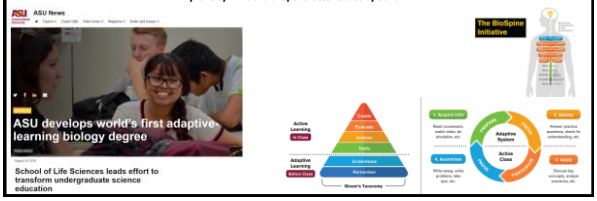
August 20, 2019

ASU develops world's first adaptive-learning biology degree, ASU News

https://www.insidehighered.com/news/2020/08/27/internet-spikes-short-term-online-credentials-will-it-be-sustained

Flipping the classroom increased performance and persistence. "Beckett Sterner and I got an ovation at the end of the junior-level major's course, Evolution -- Biology 345, and also at the end of the class on zombies.... The results of the first effort were impressive.

"In its first semester, we saw student pass rates, in a nonmajors' Biology 100 course called The Living World, improve by 24% and dropout rates reduce by 90%..."



70

June 16, 2021

Learning is More Personalized

AI voice actors sound more human than ever—and they're ready to hire

Karen Hao, MIT Technology Review

https://www.technologyreview.com/2021/07/09/1028145/ai-voice-actors-sound-human-realistic-flawless-coqui-papercup-descript-resemble-replica-podcasts-video-games/

Voice (4:43): https://www.youtube.com/watch?v=YaJBaSPO1Hk

Video downloaded: http://curtbonk.com/aivoice2.html

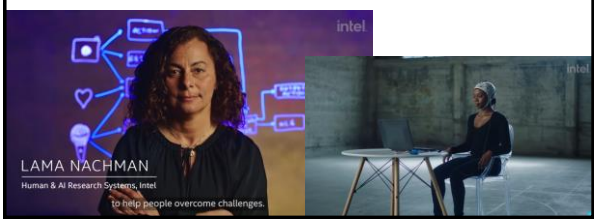
Audio (4 examples): http://curtbonk.com/aivoice.html

71

June 21, 2020

Learning is More Personalized

Video #1 (1:55) (June 21, 2021): Meet the Brains Behind Intel Lab: Lama Nachma, https://www.youtube.com/watch?v=vDnigAbrbxM

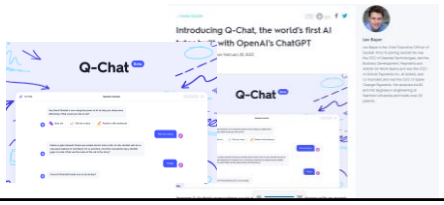


72

Learning is More On Demand
Interactive Agents and Tutors
Pushing the Boundaries of Learning With AI
Lindsay McKenzie, Inside Higher Ed
https://www.insidehighered.com/digital-learning/article/2018/09/28/academics-push-expand-use-ai-higher-ed-teaching-and-learning
https://www.ibm.com/blogs/research/2018/08/mandarin-language-ai/
https://www.youtube.com/watch?time_continue=68&v=7EuSTuJlR2A
1:17: http://curtbonk.com/mandarin.html

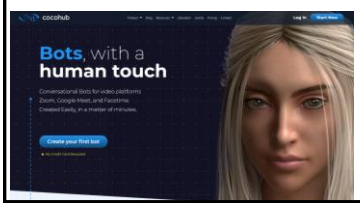
73

February 28, 2023
Learning is More On Demand
Introducing Q-Chat, the world's first AI tutor built with OpenAI's ChatGPT, Lex Bayer, Quizlet
https://quizlet.com/blog/meet-q-chat



74

December 12, 2021
Learning is More On Demand
Cocohub: Bots, with a human touch
https://about.cocohub.ai/
Chatting with Chatbots and Text Buddies
Lindsey McKenzie, Inside Higher Ed
https://www.insidehighered.com/news/2019/09/06/expansion-chatbots-higher-ed
https://www.cnet.com/news/tech/2019/11/08/alexa-google-assistant-ai-robots-become-substitute-friends/405278850O2/



75

July 21, 2022
Learning is More On Demand
Chatbot boosts student performance at Georgia State
Laura Ascione, eCampus News
https://www.ecampusnews.com/2022/07/21/chatbot-boosts-student-performance-at-georgia-state/

Chatbot boosts student performance at Georgia State
Laura Ascione
July 21, 2022
Research involving a Georgia State University course using a chatbot to keep students connected showed improved grades and retention rates

76

July 21, 2022
Learning is More Personalized
Chatbot boosts student performance at Georgia State
Laura Ascione, eCampus News
https://www.ecampusnews.com/2022/07/21/chatbot-boosts-student-performance-at-georgia-state/

- **According to Page's study results, students who received the PolsPounce messages earned grades of B or above at a rate 16 percent higher than those not on the chatbot.**
- **The average final grade in the class for first-generation students in the control group was 64, while similar students receiving the messages earned a final grade an average of 11 points higher.**

77

Poll: Will instructors be replaced by ChatGPT and Generative AI?

a. Definitely not!
b. I will wait and see…
c. Perhaps some instructors might.
d. Most entry level instructors will likely be replaced.
e. All instructors should fear losing their jobs.

78

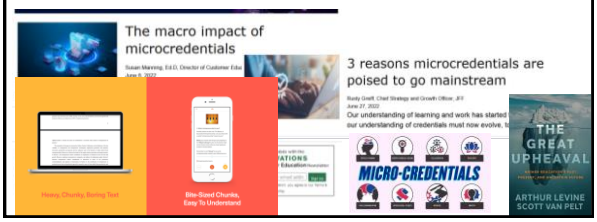
June 6 and 27, 2022

Microcredentials and Certificates

Susan Manning, Ed.D, Director of Customer Education, Credly, eSchool News

https://www.eschoolnews.com/2022/06/06/the-macro-impact-of-microcredentials/

https://learn.gnowbe.com/about



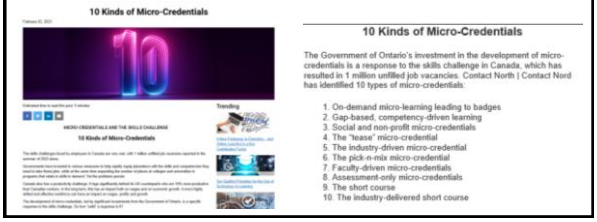
79

March 22, 2023

10 Kinds of Micro-Credentials

Contact North, Ontario, Canada

https://teachonline.ca/tools-trends/10-kinds-micro-credentials#



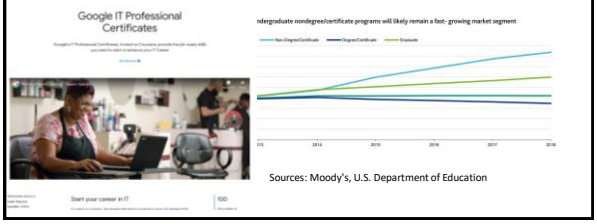
80

August 27, 2020

Alternative Credentials on the Rise

Paul Fain, Inside Higher Ed

https://www.insidehighered.com/news/2020/08/27/interest-spikes-short-term-online-credentials-will-it-be-sustained



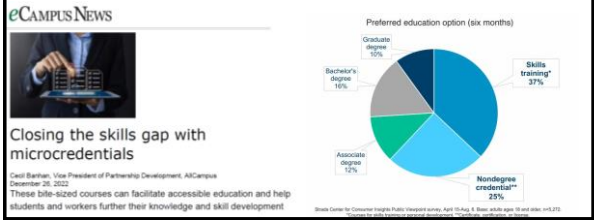
81

December 26, 2022

Closing the skills gap with microcredentials

Cecil Banhan, eCampus News

https://www.ecampusnews.com/2022/12/26/closing-the-skills-gap-with-microcredentials



82

February 6, 2021

Microlearning: A Pathway to Effective Training Retention and Behavioral Change

Jiani Wu, Venngage

https://venngage.com/blog/microlearning/

Microlearning (microtraining) Wesley Chai, TechTarget

https://www.techtarget.com/whatis/definition/microlearning

83

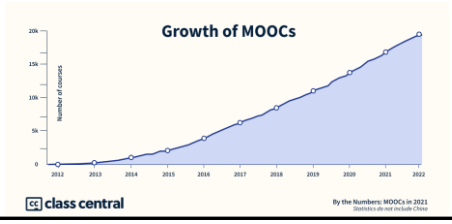
December 14, 2021

Learning is More Massive

A Decade of MOOCs: A Review of MOOC Stats and Trends in 2021

Dhawal Shah, Class Central

https://www.classcentral.com/report/moocs-stats-and-trends-2021/



84

December 14, 2021
Learning is More Massive
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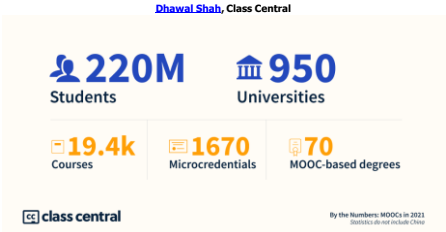
Dhawal Shah, Class Central



85

February 1, 2021
Learning is More Massive
Yale is offering its highly popular 'happiness' course to high school students for free
By Marika Gerken, CNN
https://www.cnn.com/2021/02/01/us/yale-good-life-class-trnd-wellness/index.html
(3.4 million enrolled, 28,500 reviews)

86

Baman Kumar Ghimire and Bishwa Raj Gautam, 2020
Greetings from Nepal, Baman Kumar Ghimire
Teacher, Motherland Secondary School, Pokhara
I held a workshop in a school about 70 students of age 13-15. I was excited to learn that in less than 8 months 78 students of age 10-15 from that school completed at least a MOOC.

87

Marianne Krasny at Cornell et al., 2020
Courses for a Cause:
MOOC Contributions to a "Better Place for All"

88

Balaji Venkataraman and Tadinada V. Prabhakar, 2020
Responsive Innovations in MOOCs for Development: A Case Study of AgMOOCs in India and Africa
http://www.agmoocs.in/

89

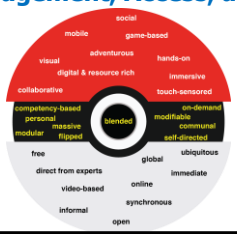
March 22, 2021
Famous Stanford coding course seeks to repeat success of novel model of online learning
(10,000 students, 120 countries, 900 volunteer teachers)
https://news.stanford.edu/2021/03/22/famous-stanford-coding-course-free-online/

90

January 20, 2022
Arizona State University Announces Effort To Educate 100 Million Students Worldwide
Michael T. Nietzel, Forbes
Video (2:07): https://vimeo.com/667987472?embedded=true&source=vimeo_logo&owner=13433234
https://thunderbird.asu.edu/lifelong-learning/100-million-learners

91

30+ Ways Learning is Changing:
Recapping the Three Mega Trends: Engagement, Access, and Customization



92

Chat Window Sharing:
Three Words from this Session…?
e.g., "I am happy!" and…
"minions are happy!"

93

Two Dozen Questions for Smart Learning Environment Educators and Researchers…

94

Dreams of Smarter Learning…
***1. How does the smart learning environment encourage active and independent learning?**
*** = ChatGPT question**

95

Dreams of Smarter Learning…
***2. What professional development opportunities are available for teachers to effectively utilize the smart learning environment?**
*** = ChatGPT question**

96

Dreams of Smarter Learning…

***3. What types of data are collected and analyzed within the smart learning environment to inform instructional decisions?**

*** = ChatGPT question**

97

Dreams of Smarter Learning…

4. How effective will conversational agents become? What will learners commonly rely on them for?

98

Dreams of Smarter Learning…

5. Will robots be akin to adding a peer for activities in the classroom?

99

Dreams of Smarter Learning…

6. Will e-portfolios efficiently account for informal learning from open educational content and massive open online classes?

100

Dreams of Smarter Learning…

7. How will questions of learner engagement shift as learning becomes more immersive, massive, open, blended, visually-based, and online?

101

Dreams of Smarter Learning…

8. What means of automatic translation will exist in a decade? How much will you rely on it each day to function with international collaborators and documents in other languages?

102

Dreams of Smarter Learning…

9. How can educational agents and chatbots, OER, robots, immersive worlds, etc., effectively be embedded in society to continue to foster learning as people increasingly live to age 80 or 90 or 100 or beyond?

103

Dreams of Smarter Learning…

10. What will the definition of "smart" be in 5 or 10 years? How about 20 years? 50 years? 100 years? Beyond?

104

Dreams of Smarter Learning…

11. How much data is too much data? Will instructors have information filtering and restriction devices embedded in their learner information dashboards? And, if so, will they be allowed to use them?

105

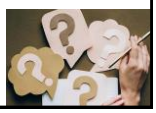
Dreams of Smarter Learning…

12. Various mobile and intelligent technologies might enable smart learning environments with features such as tracking the learning process and prediction the learner's next moves; however, will that tracking and those predictions hinder creativity and innovation among humans on the higher end of the creativity continuum?

106

Dreams of Smarter Learning…

13. Smart learning environments (SLEs) might monitor, track, and guide the learners in highly effective ways using knowledge maps and guides; but what happens when one or more learners feel the intrusive nature of that and purposively make decisions that run counter to personalized learner models?



107

Dreams of Smarter Learning…

14. Worse, what happens when learners fail to feel the intrusiveness or fail to feel disrupted by the learning pathways presented or the decisions or next moves that were made, at least in part, by the SLE?

108

Dreams of Smarter Learning…

15. Can you effectively interpret key student learning characteristics such as emotions, overall volition, state of wellbeing and happiness, and other processes through big data?

109

Dreams of Smarter Learning…

16. How has the notion of the smart learning environment evolved over the past decade? How will it continue to evolve over the next decade? How will we know when we get there?

110

Dreams of Smarter Learning…

17. How will we know or recognize when we have arrived at a smarter stage in the evolution of learning environments? What will each signal tell us and what will be the signals at each stage?

111

Dreams of Smarter Learning…

18. Is machine centered pedagogy now being cloaked under the disguise of personalizing learning?

112

Dreams of Smarter Learning…

19. How will digital archeologists and anthropologists and educational historians in 100, 200, 500, or 1,000 years come to view the coming era of SLE?

113

Dreams of Smarter Learning…

20. Will teacher training programs need to be revamped to teach teachers how to adjust their strategies and approaches based on vast as well as minute individual differences?

114

Dreams of Smarter Learning…

21. How smart must a learner be to take advantage of SLEs? Is there a threshold level of metacognitive skill required? Who will research and fashion SLEs for learners at different developmental levels or stages?

115

Dreams of Smarter Learning…

22. Are Smart Learning Environments still smart after everyone leaves the room at the end of the day?

116

Dreams of Smarter Learning…

***23. How does the smart learning environment promote critical thinking, problem-solving, and creativity?**

*** = ChatGPT question**

117

Dreams of Smarter Learning…

24. What will this conference look like and emphasize in 5, 10, 20, or 50 years? i.e., Where will this field of SLEs make the greatest contributions to society?

118

Are we getting smarter…?

119

120

We are entering a jumping off point…

(South University of Science and Technology of China, Wednesday June 10, 2015)

121

Things are heating up!

122

The Learning Revolution is coming within reach!

123

Remember…
"I cannot do this alone."

"I cannot do this alone."
"I cannot do this alone."
"I cannot do this alone."

124

Any Questions or Comments?

Slides at: TrainingShare.com (go to "Archived Talks)
Papers: PublicationShare.com
Free book: http://tec-variety.com/
Email: cjbonk@indiana.edu

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