

THE SCIENCE & TECH BEHIND

NEXT-GEN EDUCATION

Over **9 IN 10 EDUCATORS** are interested in the benefits of tech

THE CLASSROOMS OF THE FUTURE

What Do Educators Think?

Think that **interactive video*** is going to be important to education in the future **98%**

Anticipate **self-paced curriculums** **98%**

Believe video will play an important role in the **personalization of education** **98%**

Are interested in **VR/AR/360 video** **89%**

*in which content changes depending on viewer behavior

The Benefits Of Tech



GREATER REACH
1 in 3 education professionals see video as a way to reach students who don't have access to classroom learning



AI REVOLUTION
From 1995 to 2014, use of IT more than doubled in OECD countries, and it's still growing - students need digital skills to succeed



LIFELONG LEARNING
More than ever students will need the ability to continue learning new skills throughout their lives



DIVERSE CAREERS
1 in 3 15 year-olds plan to pursue one of the top 10 most popular occupations, regardless of whether they'll continue to be in demand

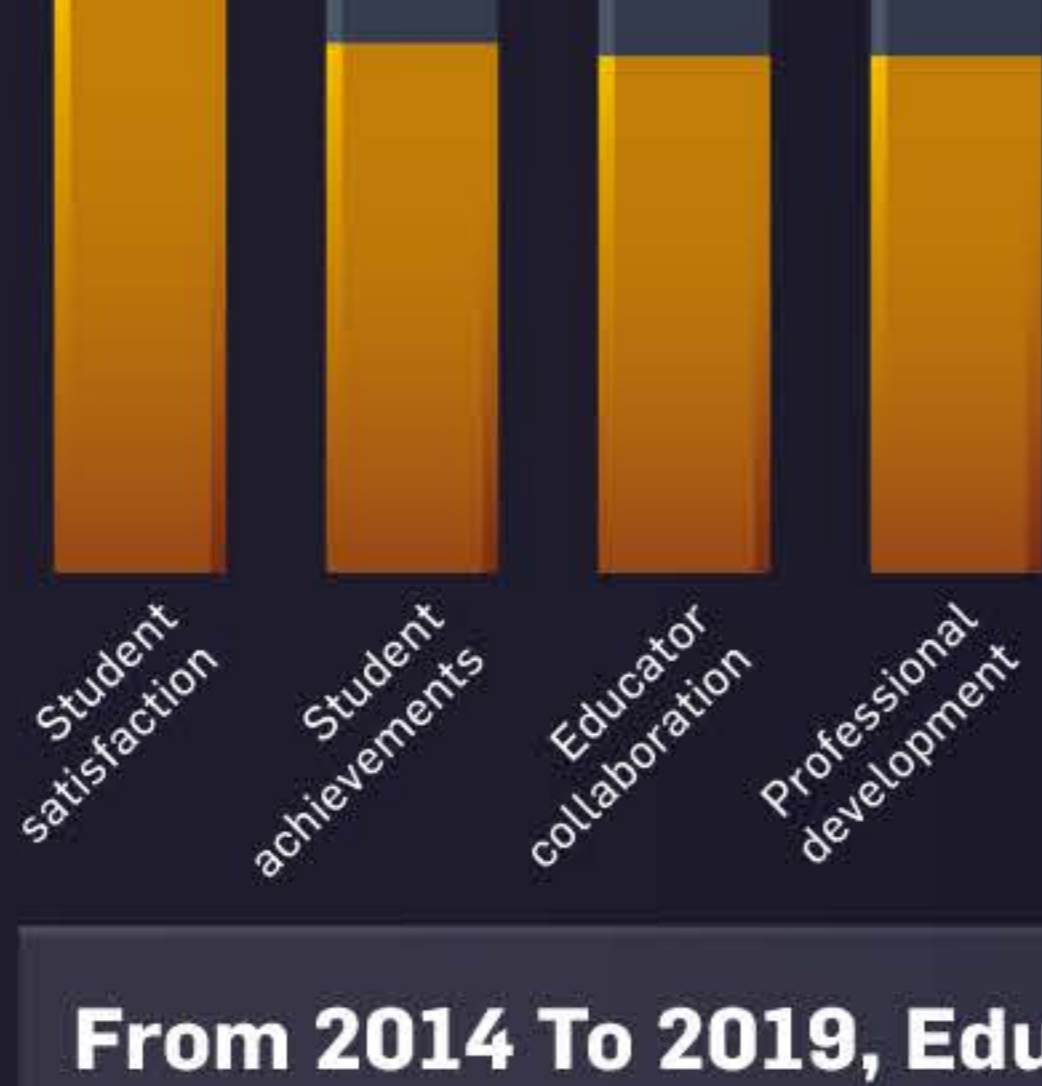
86% of educators think students need **video capture skills** to succeed in their future workplace

Technology provides a way to show students a wider range of opportunities

USING VIDEO TO MAXIMIZE CLASSROOM TIME

Educational Institutions Say Video Increases

91% **82%** **80%** **80%**



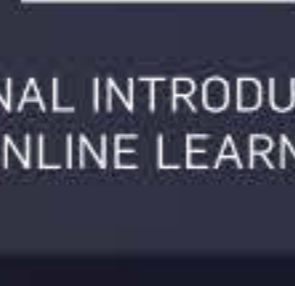
From 2014 To 2019, Educators Increased Use Of Video For



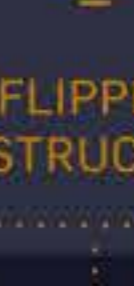
CAPTURING CAMPUS EVENTS



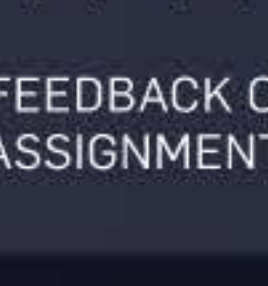
STUDENT ASSIGNMENTS



PERSONAL INTRODUCTIONS IN ONLINE LEARNING



FLIPPED INSTRUCTION



FEEDBACK ON ASSIGNMENTS

What Is It?

TRADITIONAL TEACHING

VS

FLIPPED FOCUS

IN CLASS

Teachers review homework and present new content



OUT OF CLASS

Students learn new content through video & tech

OUT OF CLASS

Students do homework to practice new learning



IN CLASS

Students discuss and explore applications

INSTRUCTION

Student-centered **35%**
Teacher-centered **65%**



INSTRUCTION

Student-centered **80%**
Teacher-centered **20%**

Benefits Of Flipping

- Increases **student engagement**, which in turn improves learning outcomes
- Learning is more collaborative**, helping students build soft skills
- Teachers lead students to investigate ideas and **guide self-discovery**

Potential Drawbacks

- Classrooms are may become **more active, noisy, and distracting**
- Students may have **trouble focusing** in a flipped learning environment
- Flipped instruction **must be executed well** to reap the benefits

18%

Left Behind

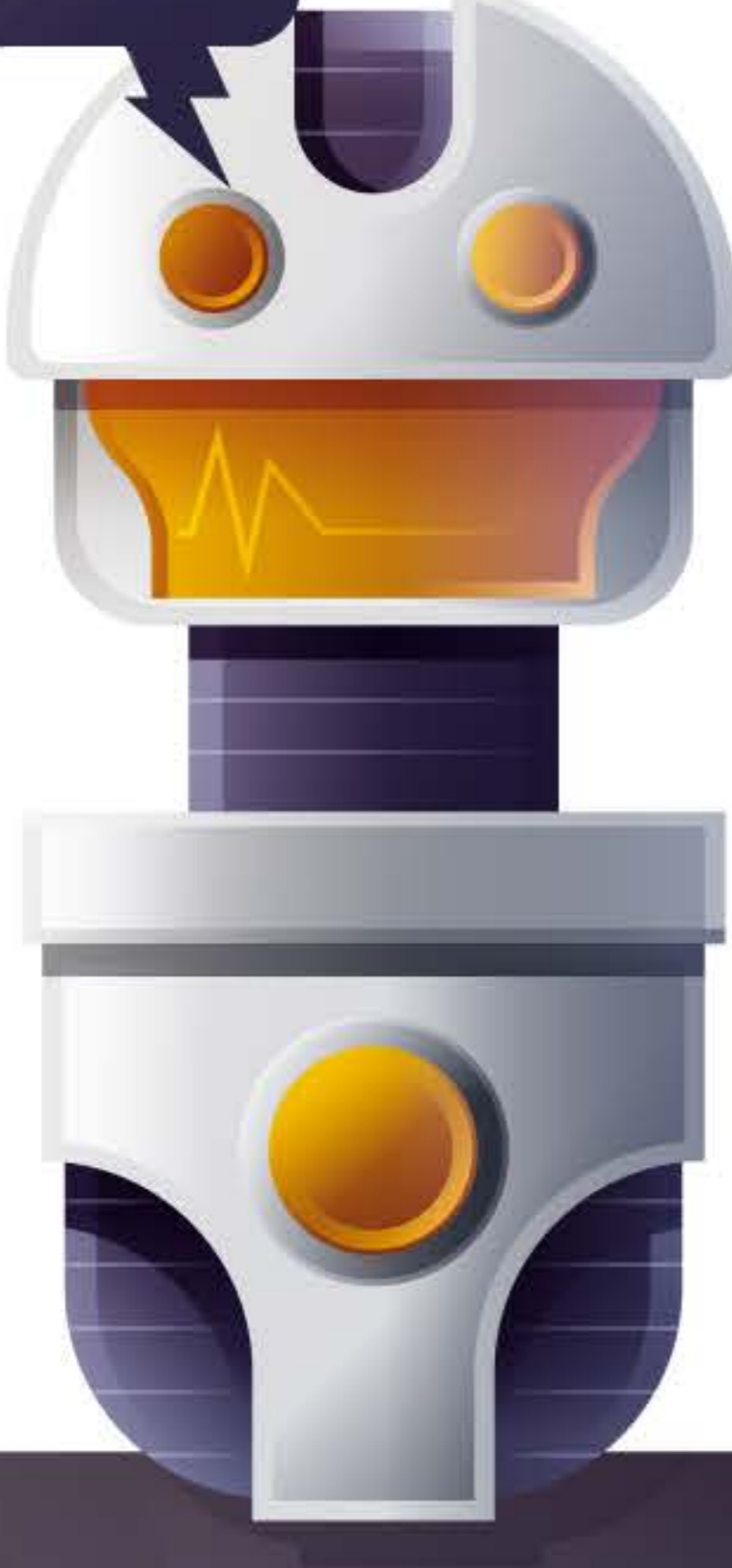
IN THE U.S., NEARLY 18% OF SCHOOL-AGE CHILDREN DON'T HAVE INTERNET ACCESS AT HOME — MEANING THEY CAN'T DO HOMEWORK, ESPECIALLY IF IT RELIES ON TECH

Public libraries, schools, and corporate donors are working to provide wireless hotspots to students in need

Installing WiFi on school buses lets rural students take advantage of longer commutes

CHATBOTS FOR EDUCATION

WHAT IS THE SQUARE ROOT OF 9?



How Chatbots Improve Learning

SPACED INTERVAL LEARNING

By **reviewing material repeatedly** over time, student are better able to remember what they've learned

Software algorithms can predict when you'll start to forget what you've learned and time reminders to optimize memorization

IMMEDIATE FEEDBACK

Learners who receive **feedback immediately show greater improvement** than those who get delayed feedback

Teachers can't always grade an essay, but an AI can — **AI can even score papers within 92% accuracy**, compared to human graders

SELF-PACED LEARNING

Chatbots can track student performance and adjust the curriculum to better meet their individual needs

Chatbots serve as a **guide to help pace learning**, not a replacement for a teacher or professor

$$c^2 = a^2 + b^2$$

$$i = \sqrt{-1}$$

NEXT LESSON...

$$\pi = 3.14$$

$$\Delta s \geq 0$$

SNATCHBOT

Free chatbot that can be embedded in learning platforms like Blackboard

SUMMIT LEARNING PROJECT

Chatbots **adapt learning to each student**, enabling self-paced learning

JILL WATSON

Chatbot built on **IBM's Watson** and trained using data from the course's forum

Can be programmed with **answers to FAQs** relating to course syllabus

Provides **answers with links and images** to help guide students through the course

Gives students **immediate answers** and relieves teachers' email load

Acts as a virtual tutor that notes **students' trouble spots and adjusts to their needs**

Teachers can focus on **creating lessons**, while chatbots take over pacing and assessment as students move from one lesson to the next

Created by Asok Goel at Georgia Tech, and added to an online course as a teaching assistant — **Students had no idea Jill was really an AI**

Jill answers routine, technical questions — Like **"Where do I find ___?"**

Communicating With Parents



Tools like **Facebook Messenger & Remind** help teacher and staff communicate with parents and older students outside of the classroom



BUT, they can also **provide answers when aren't available to chat**

Preprogrammed answers to routine inquiries

Auto replies to messages outside of office hours

THE FUTURE OF EDUCATION, PERSONALIZED THROUGH TECH

SOURCES

- remind.com
- snatchbot.me/education
- files.eric.ed.gov/fulltext/EJ1151444.pdf
- oecd.org/education/Envisioning-the-future-of-education-and-jobs.pdf
- interactiveschools.com/blog/chatbots-can-they-work-for-your-school
- blog.digistorm.com.au/how-messenger-bots-are-being-used-in-education
- blog.interactiveschools.com/blog/chatbots-can-they-work-for-your-school
- etlearningindustry.com/chatbots-in-education-applications-chatbot-technologies
- edutopia.org/blog/tips-providing-students-meaningful-feedback-marianne-stenger
- disability.illinois.edu/sites/default/files/Spaced%20Interval%20Learning%20Technique.pdf
- pewresearch.org/fact-tank/2015/04/20/the-numbers-behind-the-broadband-homework-gap
- corp.kaltura.com/wp-content/uploads/2019/07/The_State_of_Video_in_Education_2019-1.pdf
- qz.com/688048/a-professor-built-an-ai-bot-to-make-teaching-easier-will-it-replace-him-someday
- venturebeat.com/2018/05/28/chinese-schools-are-testing-ai-that-grades-papers-almost-as-well-as-teachers
- iacis.org/iis/2018/4_iis_2018_44-52.pdf?fbclid=IwAR2XfBGFzjOZyDzf7HEpyhLSKqiw3EsCHnmhR0CsBFsJ_fKevML35-tBXgk
- usnews.com/high-schools/blogs/high-school-notes/articles/2017-10-02/how-to-help-high-schoolers-without-home-internet-access

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