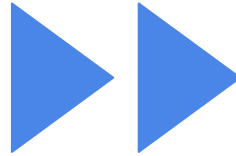


How Does Media Influence Cognitive Development In Education?

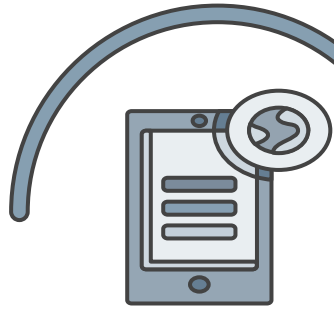
Shaharia Khan

Children Today

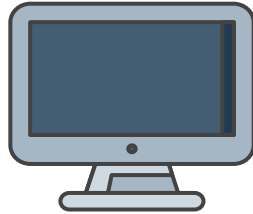


Children have more access to media
than previous generations

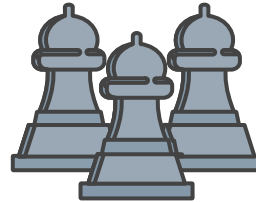
Children <12 Years Old Are Viewing...



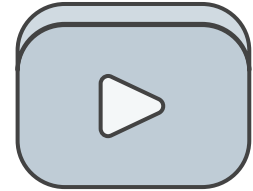
53% go online for
8 hours a week



96% watch TV for
15 hours a week



40% play games
on a screen for 6
hours a week



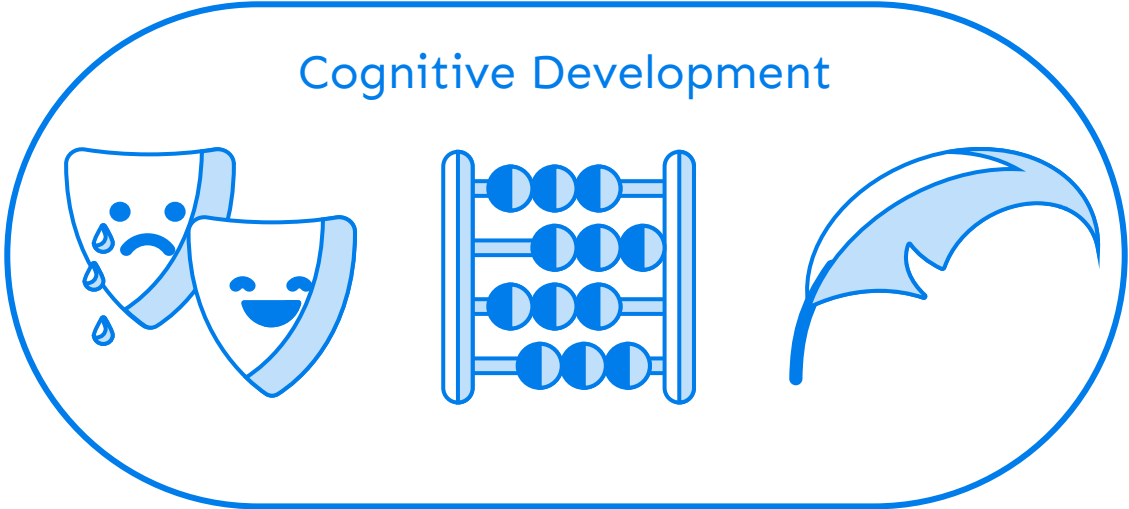
48% watch
YouTube

Stages of Cognitive Development

Stage	Age	What happens?
1 Sensorimotor	0-2 years old	Experiencing the world through senses and actions
2 Preoperational	2-7 years old	Representing things with words and images
3 Concrete Operational	7-11 years old	Thinking logically about concrete events and analogies
4 Formal Operational	11+ years old	Thinking about hypothetical scenarios and processing abstract thoughts



Cognitive Development



How Will Media Affect Children



Cognitive Effects of Video Media

Results of screen time
before starting school



- Engaged in the videos,
- Didn't recognize symbols or characters in the real world.
- No evidence of development, regardless of content

Children 12 Months Old

- Educational programs have demonstrated positive impacts on early literacy, social behavior, and academic knowledge

Children 3 years old

Children 24 Months old

- Generally did not learn anything from videos, unless reinforced.
- May hurt development (less

Children 4+ years old

Let's find out!

Cognitive Effects of Interactive Media

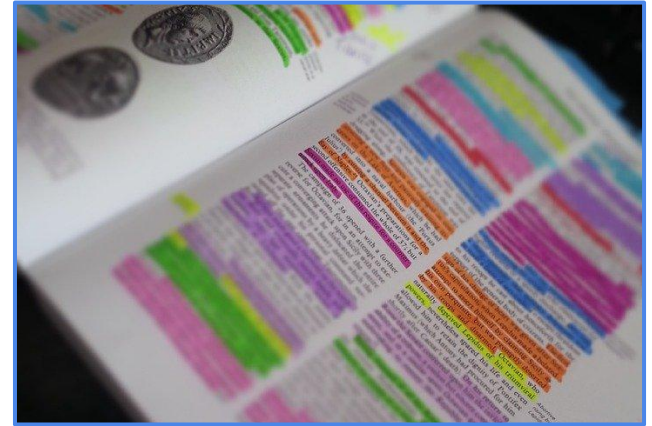
As media becomes more tailored,
it can accommodate to the
student's strengths and
weaknesses



Digital



Authentic



Vs

How do they compare?



Digital Vs. Authentic

In one experiment comparing the effectiveness of digital textbooks...

- High school english language learners were split into two groups: digital and physical textbook users
- Digital textbooks included annotating, recording, assistance, and sharing



Results?

Digital learners...

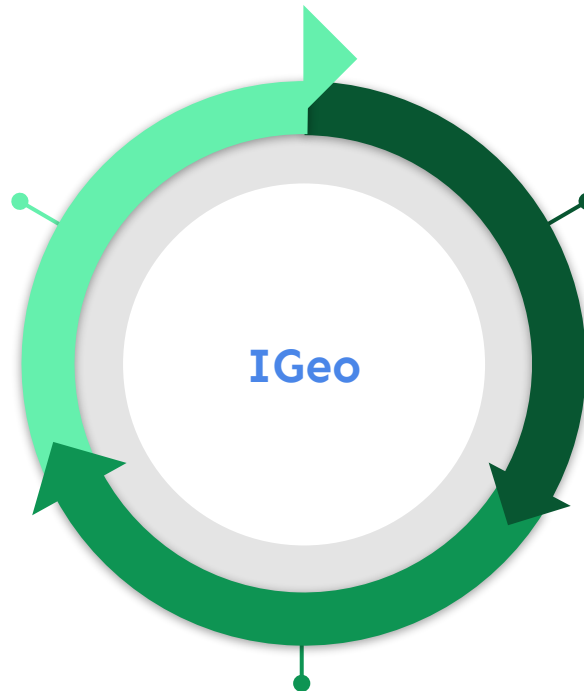
- consistently outperformed physical learners
- were more motivated to learn about their environment
- experienced a lighter cognitive load



Implementing Gaming Media

Students can view each other's high score and learn more about the questions they missed

Students spend a few hours playing the game to learn about geographic locations



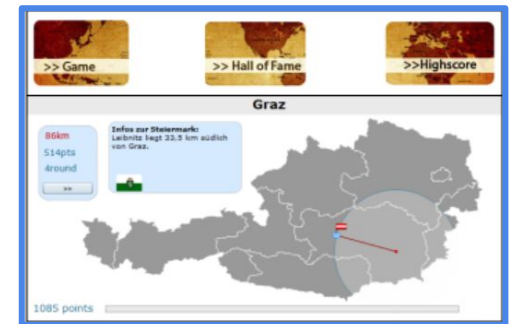
IGeo

During assessments, correct answers lead to more difficult questions with time limits

↑ Motivation

△
↑ Usability

↑ Personalization



The Potential of Media in Education

Bilingual students

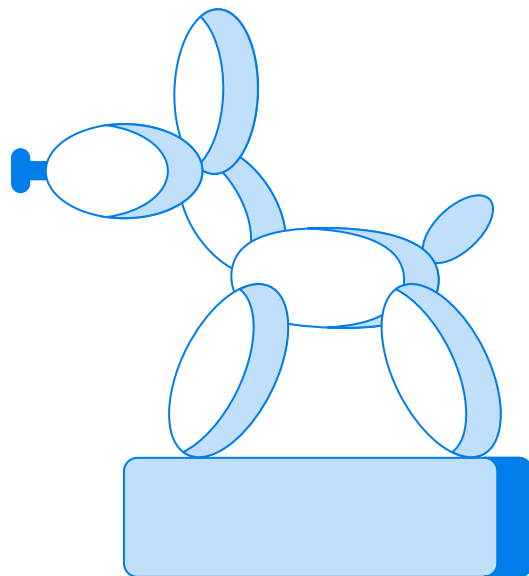
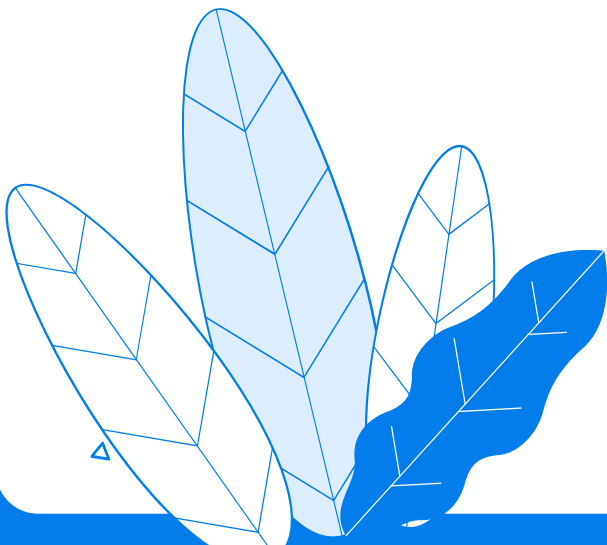
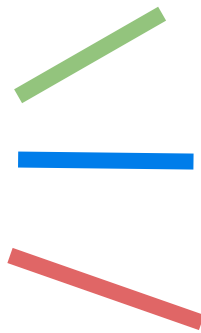
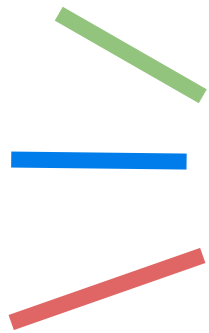
Personalized Experience

Learning Disabilities

The Future



Thank You!



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