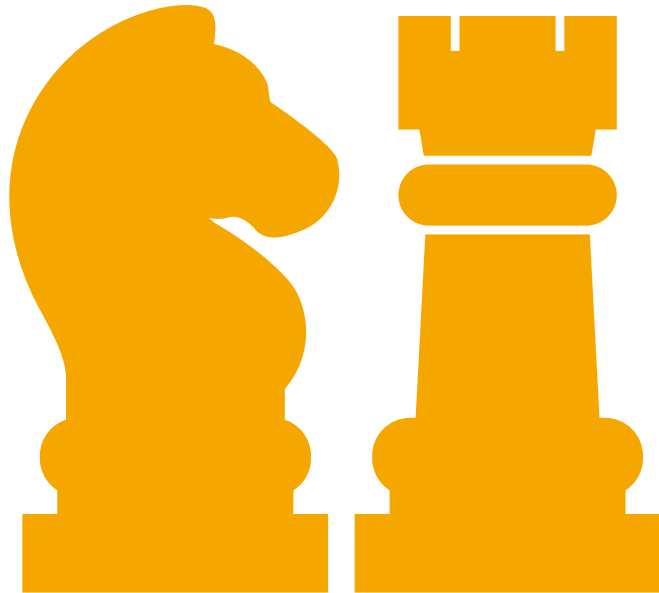
The background of the slide features a collection of colorful wooden letters and numbers scattered on a blue surface. The letters and numbers are in various colors including red, green, yellow, and blue. Some are in focus, while others are blurred in the background, creating a sense of depth. The overall aesthetic is clean and educational.

Digital Game-based Learning

Europass Berlin



What is Game based Learning?

- GBL is a strategy that uses the idea of playing a game to **reach specific learning objectives** (knowledge, skills, or attitudes).
- The using this teaching strategy has been proven to be effective, because games can facilitate and **encourage student motivation**

Game-based Learning



- A GBL environment achieves this through educational games that have elements such as engagement, immediate rewards and healthy competition. All so that while students play, they **stay motivated** to learn.
- Where and how doesn't matter, either — students can learn:
 - With online games
 - In person with physical objects
 - Independently or as part of a team

Different Types of Game based learning

- Card games
- Board Games
- Word games
- Puzzle games
- Simulation games
- Real life games
- Video games





Word games

- A game that's typically designed to explore the properties of language or the ability to use a language itself. (Scrabble)



Simulation games

A game designed to closely simulate real-world activities. (The Sims)

Puzzle games

- A game that emphasizes puzzle solving through one's use of things such as logic, word completion, sequence solving, as well as spatial and pattern recognition. (Sudoku)

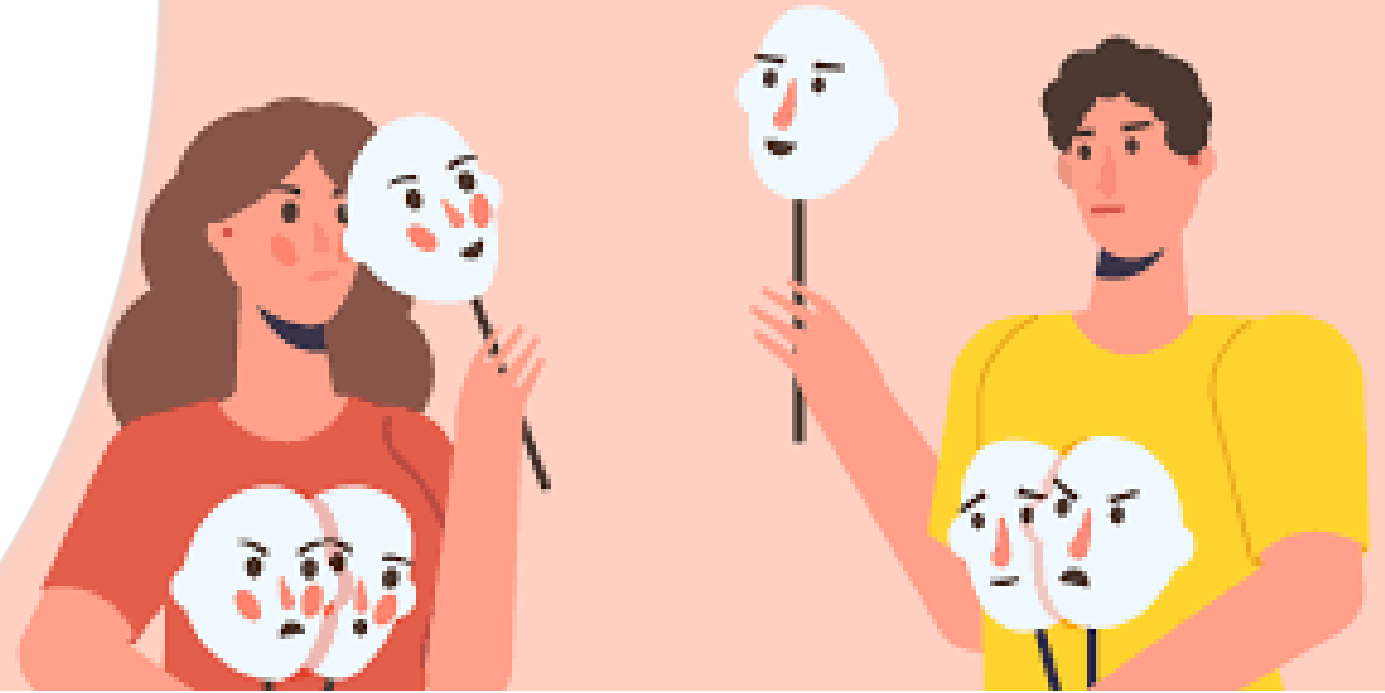
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5

Real Life games

- Role play, Theater

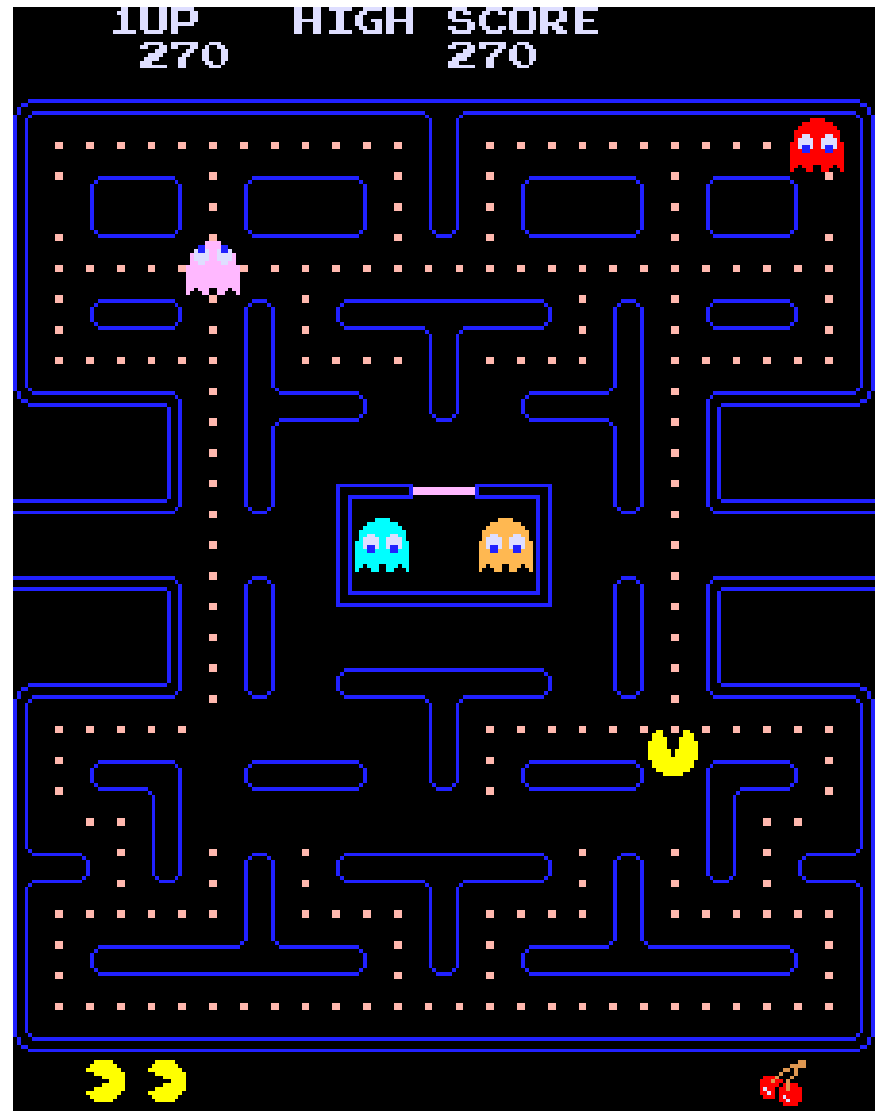
This type of game is probably the most engaging and motivating for students.

Students move and use their body and mind to play. They act "as if they were" a character of the game.



Video games

- an electronic game wherein players can manipulate what appears on the screen with, for example, a joystick, controller or keyboard. (Pac-Man)



Digital games

The background of the slide features a dark blue graduation cap (mortarboard) with a gold tassel, positioned in the upper right. A large, semi-transparent red game controller is overlaid on the left and bottom. The controller has a white cross-shaped button in the center and several grey circular buttons. A white horizontal line runs across the middle of the slide, with a short orange segment on the left side.

- The environment here is online. Digital games can be compared to board games. In fact, a lot of digital programs for GBL use online boards that a teacher can edit or where he/she can add educational content according to the topic that will be played.

Digital Game-based learning



DGBL takes things one step further and harnesses technology to help make game-based learning even more engaging and effective



"Offers a delicate balance between in-class lessons and educational gameplay. Teachers introduce students to new concepts and show them how they work. Then students practice these concepts through digital games."

Game based learning vs. Gamification

GBL

- Offers a delicate balance between in-class lessons and educational gameplay. Teachers introduce students to new concepts and show them how they work. Then students practice these concepts through digital games.



Gamification

- involves taking elements from games -- such as leaderboards, levels, or points -- and adding them to lessons. The purpose of this is to make lessons that might not be enjoyable more engaging for students.



Game-based Learning and Gamification

- In **game-based learning**, teachers incorporate educational activities into their lessons which can help students — independently or through teamwork — to refresh old concepts or solidify new ones.
- By leveraging today's students' intimate knowledge of game play, teachers can create exciting learning environments that increase student engagement.
- **Gamification** pulls from elements of game design, such as:
 - Gaining points
 - Getting on leaderboards
 - Earning badges
 - Collecting other rewards
- The biggest difference from GBL is its application in non-game settings

GAMIFICATION

Gamification is adding game elements to a non-game scenario. You reward certain behaviors with benefits or by “unlocking” new features or services.

Adding game-like elements (badges, experience points, etc.) to a lesson



Motivation: Likely **extrinsically rewarding**. I.E. the reward is tied to grades.

Assessment is **not within** the “game.”

Game-like aspects are adjusted to fit the lesson content.

GAME-BASED LEARNING

Game-based learning (GBL) flips gamification on its head. Rather than implement game-like tropes into lessons, GBL uses actual games to teach.

Using games (such as Minecraft) to teach specific learning objectives



Motivation: Games are designed to be **intrinsically rewarding**. May also be extrinsically rewarding.

Assessment is **in-game**.

Lesson content is adjusted to fit the game.



GAMIFICATION



ofkattantok.com - 1070158928

A close-up photograph of a single, light grey puzzle piece set against a vibrant yellow background. The piece is slightly offset from the others, creating a sense of incompleteness. The lighting is dramatic, casting deep shadows that emphasize the three-dimensional shape of the piece. In the top left corner, there is a small, solid yellow horizontal bar. The text 'Why we need more games?' is written in a clean, white, sans-serif font, positioned over the left side of the puzzle piece. A thin white horizontal line is drawn below the text, extending across the width of the piece.


Why we need
more games?

Game-based learning:

Helps problem-solving – Game-based learning can help students solve problems by fostering skills like understanding causation, logic and decision making they can use in life outside of school.

Encourages critical thinking - GBL can improve students' critical thinking skills, "including the development of independent beliefs when engaging in collaborative discourse and providing opportunities for guided reflection."

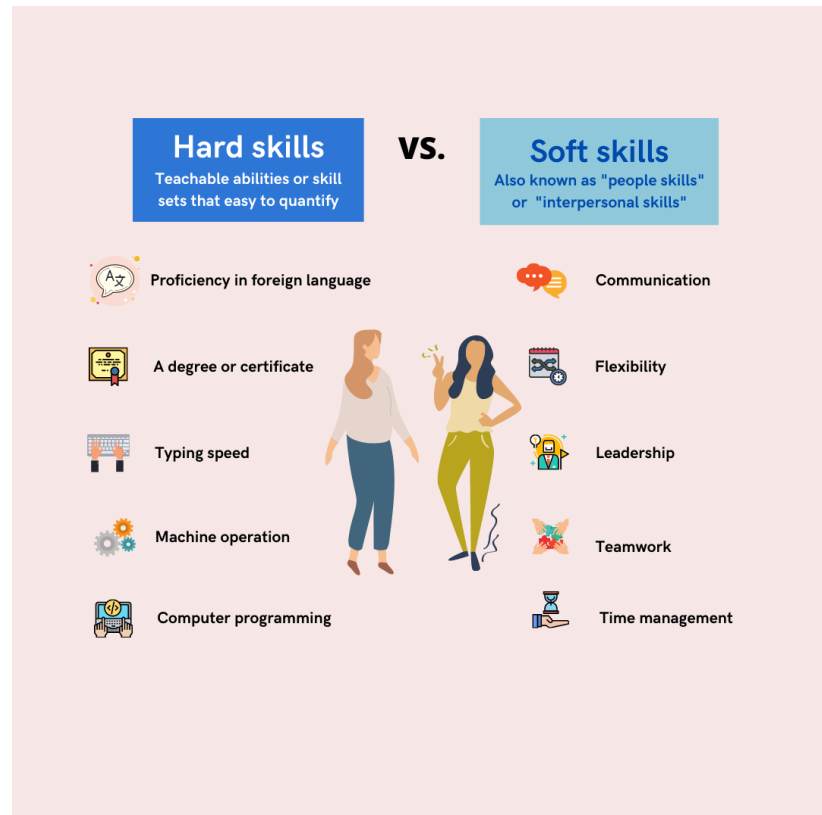
Increases student engagement and motivation – A 2019 research paper found when teachers incorporated digital game-based learning elements such as feedback, choice and collaboration into their instructional design, students become more engaged and motivated to learn.



Game-based learning:

- **Introduces situational learning** — Learning doesn't only occur in our heads; it in fact, it's a fundamentally social process. Situated learning helps students understand new concepts in the context of their social relationships.
- **Addresses special education needs** — GBL positively impacts special education classrooms, too. Researchers found that for students with individualized education plans, “game-based learning is a must to help guide instruction, create a positive environment, and generate academic success...”

Hard Skills and Soft Skills



21st Century Skills

How today's students can stay competitive in a changing job market

Learning Skills



critical thinking



creativity



collaboration



communication

Literacy Skills



information



media



technology

Life Skills



flexibility



leadership



initiative



productivity



social skills



Benefits of GBL





Benefits of GBL

- Critical thinking
- Group work
- Creativity

Drawbacks

Too much
screen time

Games aren't
always created
equally

Games can be a
source of
distraction

It requires a
technology
learning curve

Doesn't replace
traditional
learning
strategies

Not always
aligned to
teaching or
learning goals



Game Based Learning

- Play a game in class can be an engaging and innovative way to learn.
- Games are tools that can be used to learn with fun and can become part of active and productive schooltime.
- Games do not have to be played only as a reward or a pastime activity
- It is important to explain to students that they are playing, but working (and learning) at the same time.

How to start?

- Game-based learning can be implemented at a range of levels, from simple game-like icebreakers that shake up the classroom environment to full-fledged classes being taught through a video game
- The specific type of game used will depend on several factors, including:
 - educational purposes
 - amount of time allotted and its place in the course
 - size and type of class
 - resources (budget, staffing, technology)





5 steps to implement game-based learning

1. **Determine the purpose of the game**

Determine if you want to use the game for:

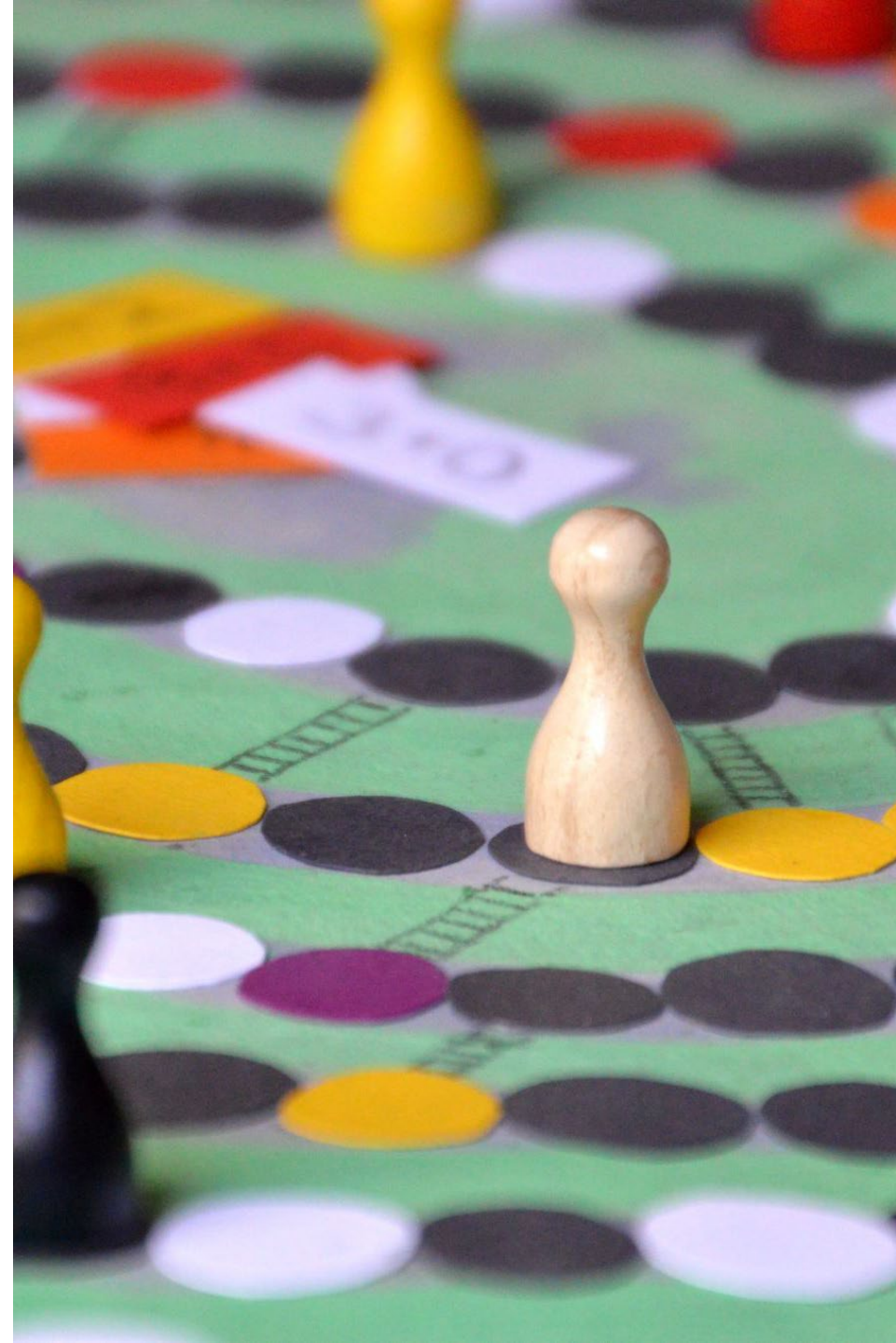
- **Intervention:** deliver content to help students to better understand some content
- **Enrichment:** present content with different media, to challenge students processing content in different formats
- **Reinforcement:** have the entire class playing a game to reinforce curriculum content

5 steps to implement game-based learning

2. Play the game yourself and make sure it is aligned with learning goals

Make note of:

- **Teacher control:** control content and adjust settings for individual students.
- **Intuitiveness:** it should be easy to use. Students should not be stressed over how the game works.
- **Engagement:** If it's engaging, students should inherently want to play and, as a result, learn.
- **Content types:** the game should offer different types of content (different learning styles)
- **Content levels:** the game should use differentiated instruction principles to adapt content to each player



5 steps to implement game-based learning

3. Ensure It Meets Expectations from Parents

Parents may not think of games with educational value. Sending a letter home, explaining the game's benefits and possibly providing your email address, may alleviate these concerns.

5 steps to implement game-based learning

4. **Dedicate Time to Consistent In-Class Play**

Sporadic game-based learning may not allow students to reach learning goals as effectively as consistent, scheduled play time. Make time for game-based learning activities by:

- Including game time as a designated activity in your lesson plan, not an afterthought
- Using a game as an entry ticket, drawing student attention to the lesson's topic
- Using a game as an exit ticket, allowing students to reflect



5 steps to implement game-based learning

5. **Assess Progress Throughout Play, Informing Instruction**

Collecting data from the games you implement can uncover student trouble spots and aptitudes. Use:

- In-Game Reports
- Self-Reports
- Class Discussions



The background features a dark blue space with a red grid pattern on the floor that recedes into the distance. On the right side, there are complex, multi-layered wireframe structures in shades of blue, cyan, and yellow, resembling a digital city or data center. The overall aesthetic is high-tech and futuristic.

Extended Reality (XR)



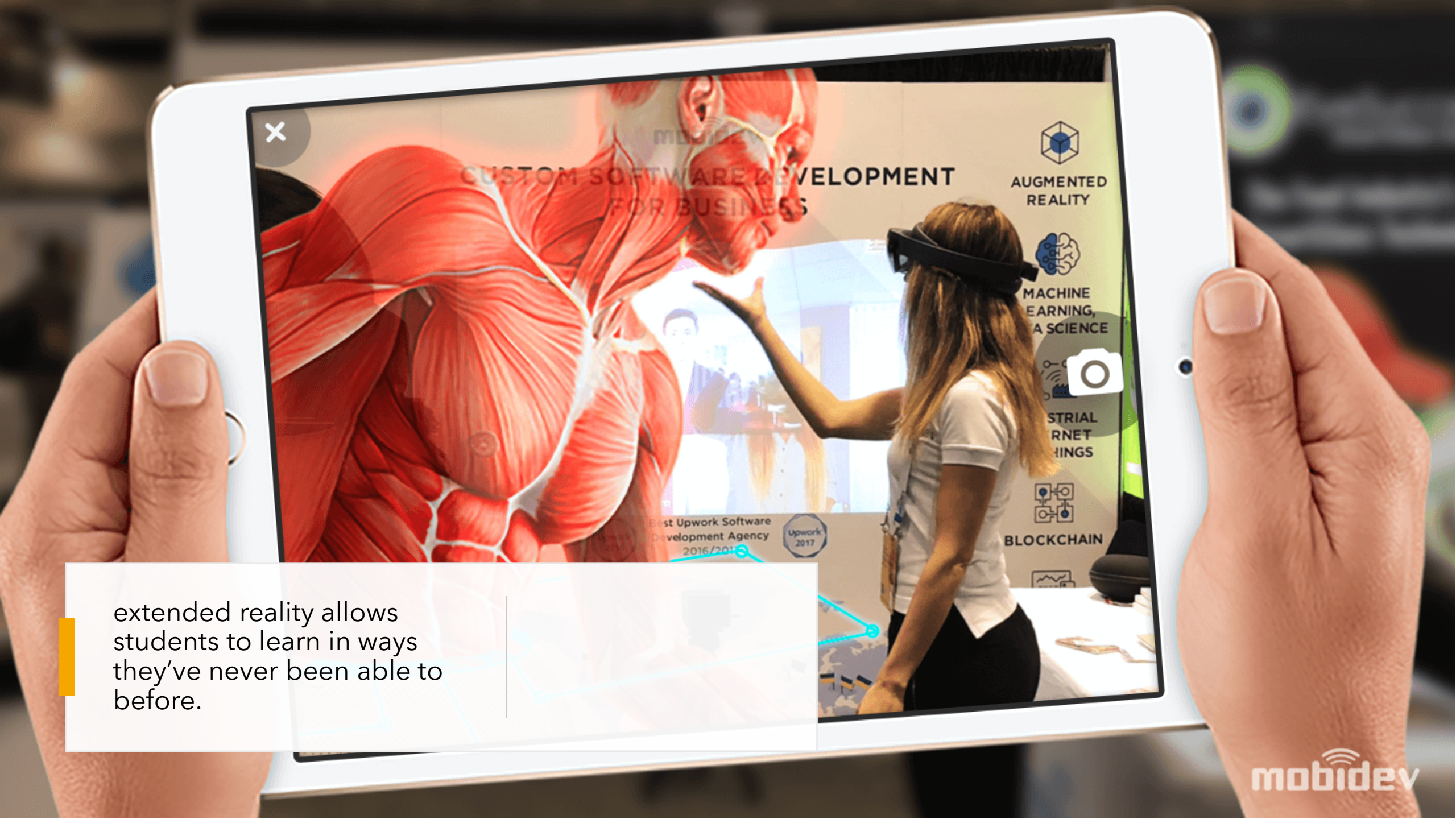
Extended Reality (XR)

- Extended reality is an umbrella term to describe alternate reality experiences like virtual and augmented reality. It uses technology to merge the physical world with the virtual world to create an experience that is - *literally* - unreal.
- It includes representative forms such as augmented reality (AR), mixed reality (MR) and virtual reality (VR.)

Extended Reality (XR)

- **Virtual Reality** Virtual Reality (VR) is the use of computer technology to create a simulated environment. Instead of viewing a screen in front of them, users are immersed and able to interact with 3D worlds. By simulating as many senses as possible, such as vision, hearing, touch, even smell, the computer is transformed into a gatekeeper to this artificial world.

Augmented Reality (AR) uses technology (like a camera and screen on a smartphone) to add a computer-simulated layer of information on top of the real world. AR can be considered an enhancement of the world around you - rather than creating a new virtual world like VR, it simply adds (or subtracts) information that is already there.



extended reality allows students to learn in ways they've never been able to before.



Augmented Reality





- Bring art and culture from across the world to you with this BBC Augmented Reality app.
- Explore beneath the surface of Renaissance masterpieces and discover the secrets of ancient Egypt
- Augmented reality needs a modern smartphone to work.

AR in Class

- Augmented reality might not be ideal for teachers of all subjects. However, it can provide an important, hands-on experience that helps to increase the level of engagement students feel with their materials.





Benefits

Augmented reality can promote interactive experiences with coursework, encourage collaboration between students, improve motivation, and increase learning gains

There are plenty of ready-made resources that teachers can draw upon to more easily integrate the technology.



What's more?



Augmented reality often presents a new way of learning for students that's easy for them to become enthusiastic about.



It's **interactive**! That helps motivate students in their learning process: students can directly manipulate enhanced elements of their environment, which can contribute to deeper learning among students.



It's more likely that students will remember their materials for the long term because they will be able to directly interact with their materials in fun and innovative ways.

