



HEADSETS ON, MINDS OPEN: VR & AR IN K-12 EDUCATION

EXPLORING THE IMPACT OF VR AND AR IN SCHOOLS



Laboratory for
Innovative Technology
in Education

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YOUR PRESENTER

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AGENDA FOR TODAY

- Introduction to VR and AR
- Benefits of VR and AR in K-12 Education
- Implementing VR and AR in the Classroom
- Available Tools
- Class VR Tools
- Best Practices for Using VR and AR in Lessons
- Challenges
- Demonstration



INTRODUCTION TO VR AND AR



DEFINING VIRTUAL REALITY (VR)

Immersive Experience

VR immerses users in a fully interactive computer-generated environment, providing a sense of presence and engagement.

3D Interaction

Users can interact with 3D worlds in real-time, enhancing their experience and understanding of complex concepts.

Transformative Learning

VR can create new learning experiences by allowing students to explore beyond the physical classroom and engage with various subjects.



DEFINING AUGMENTED REALITY (AR)

Understanding Augmented Reality

Augmented Reality (AR) enhances the real world by overlaying digital content, enriching the user's interaction with their surroundings.

Educational Benefits of AR

AR provides interactive elements that help students visualize complex information, making learning more engaging and effective.



DIFFERENCES AND SIMILARITIES BETWEEN VR AND AR

Definition of VR

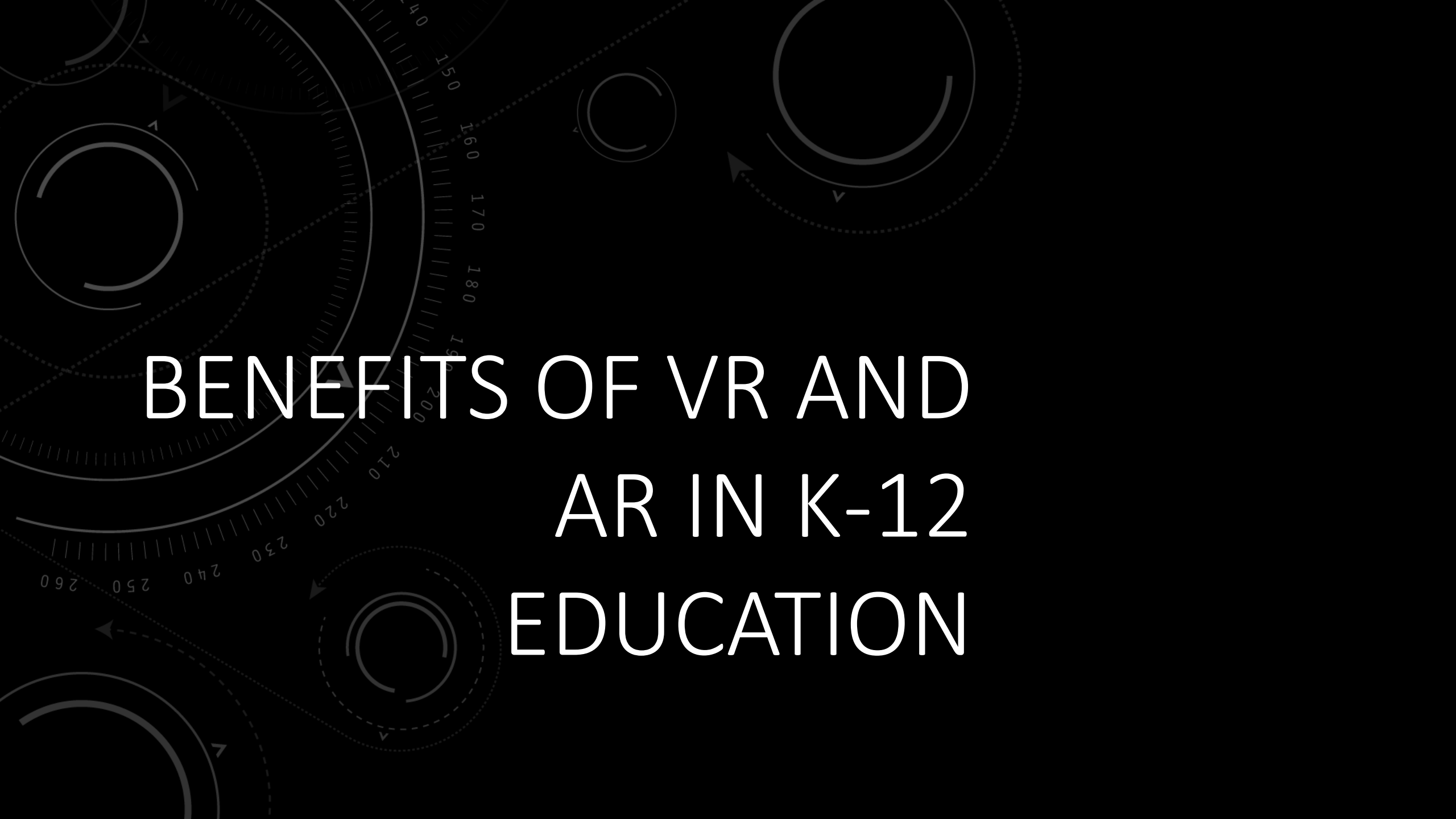
Virtual Reality (VR) creates a simulated environment that immerses users completely, shutting out the real world.

Definition of AR

Augmented Reality (AR) overlays digital content onto the real world, enhancing the user's perception without replacing it.

Applications in Education

Both VR and AR hold significant potential in education, offering interactive and immersive learning experiences.

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BENEFITS OF VR AND AR IN K-12 EDUCATION



ENHANCED STUDENT ENGAGEMENT AND MOTIVATION

Captivating Experiences

VR and AR provide immersive experiences that capture students' attention and ignite their creativity.

Active Participation

When students actively participate in lessons through VR and AR, their motivation to learn increases significantly.

Deep Exploration

VR and AR encourage students to explore complex topics more thoroughly, enhancing their understanding and retention.



INTERACTIVE AND IMMERSIVE LEARNING EXPERIENCES

Virtual Simulations

Interactive simulations enable students to conduct experiments in a safe and controlled virtual environment, enhancing their learning experience.

Exploring Historical Sites

Students can virtually explore historical sites, gaining insights and understanding of different cultures and histories through immersive experiences.

Collaborative Projects

Engaging in collaborative projects in a virtual setting fosters teamwork and communication skills among students, making learning more interactive.



DEVELOPMENT OF 21ST-CENTURY SKILLS

Critical Thinking Skills

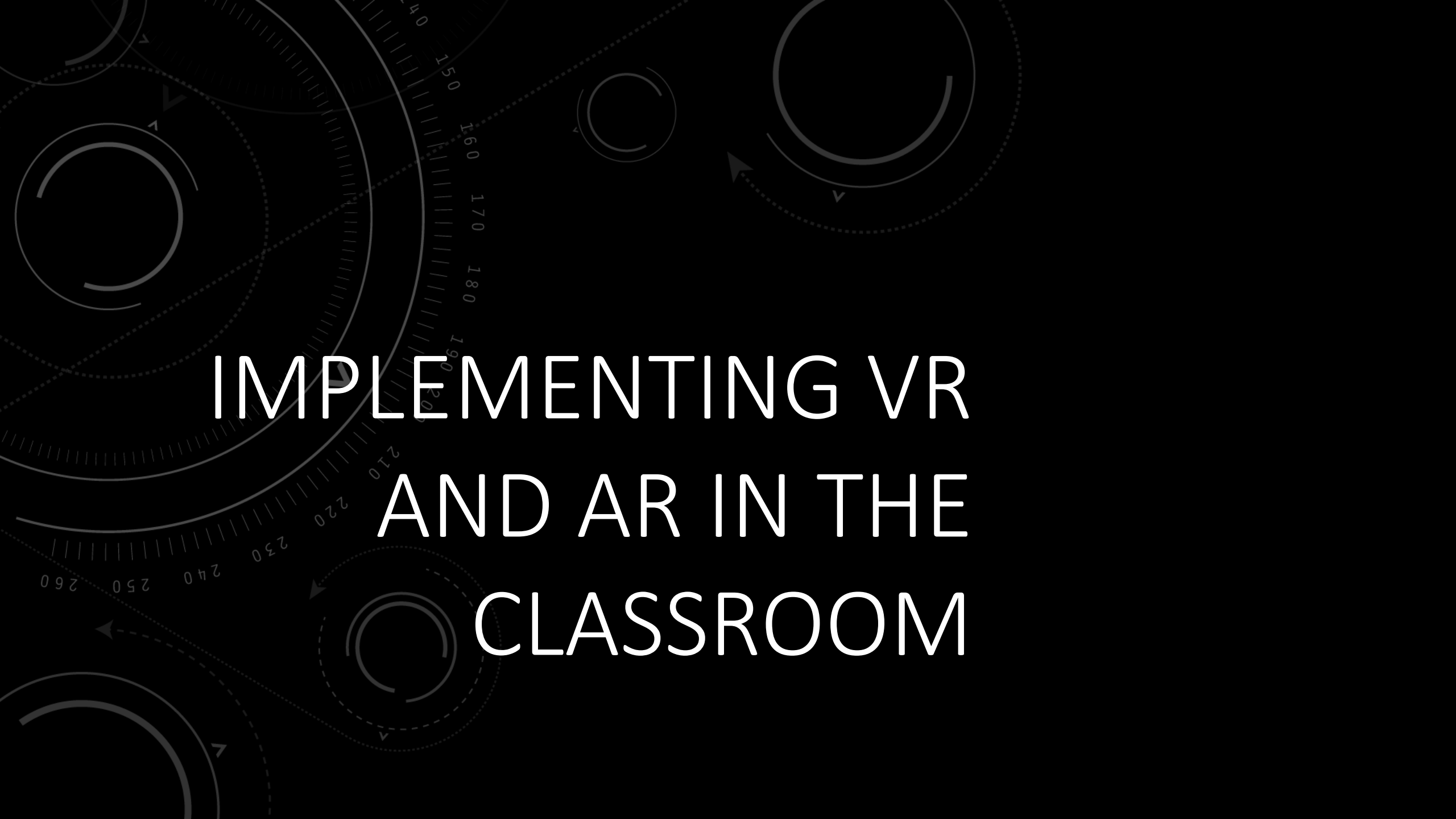
VR and AR provide immersive experiences that challenge students to analyze and solve problems effectively.

Fostering Creativity

Experiential learning through VR and AR encourages students to express their creativity and explore new ideas.

Collaboration Opportunities

VR and AR can facilitate collaborative learning by allowing students to work together in virtual spaces.

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IMPLEMENTING VR AND AR IN THE CLASSROOM



CHOOSING THE RIGHT VR AND AR TOOLS

Importance of Tool Selection

Selecting the right VR and AR tools is essential for effective integration in educational settings.

Ease of Use

Consider user-friendliness to ensure educators and students can effectively engage with the technology.

Curriculum Compatibility

Choose tools that align well with existing curricula to enhance learning outcomes seamlessly.

Student Needs

Evaluate the specific needs of students to select the most beneficial VR and AR resources.



SETTING UP A VR/AR CLASSROOM ENVIRONMENT

Physical Space Considerations

An effective VR/AR classroom requires a well-organized physical space that accommodates interactive learning and movement.

Accessible Technology

Ensuring that the technology is user-friendly and accessible for all students is crucial for maximizing learning outcomes.

Reliable Internet Connection

A stable and reliable internet connection is essential for a seamless VR/AR classroom experience and effective learning.



ADDRESSING SAFETY AND ACCESSIBILITY CONCERNS

Importance of Safety

Safety is crucial when integrating VR and AR into educational settings to protect students from potential risks.

Accessibility Considerations

Educators must consider the diverse needs of students to ensure that VR and AR technologies are accessible to all.

Guidelines for Use

Providing clear guidelines for VR and AR use helps students navigate these technologies safely and effectively.

VR HEADSETS IN EDUCATION

Notable VR Devices

Popular VR headsets like the Meta Quest, Class VR, and Apple Vision Pro are frequently used in educational settings.

Interactive Lessons and Simulations

Companies create interactive lessons and simulations for VR to support a wide range of subjects in education.

Class VR

Ovation VR

InSpirit VR

Robot Lab VR



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CLASS VR TOOLS

OVERVIEW OF CLASS VR PLATFORM

Innovative VR and AR Resources

Class VR provides a variety of innovative virtual reality and augmented reality resources designed specifically for educational purposes.

User-Friendly Interface

The platform features a user-friendly interface that makes it easy for educators to navigate and utilize the resources effectively.

Interactive Content Library

Class VR includes a library of interactive content that supports various learning objectives, engaging students in immersive experiences.



<https://www.classvr.com/us/>



KEY FEATURES AND FUNCTIONALITIES

Customizable Lessons

The Class VR platform allows educators to create and customize lessons tailored to the unique needs of their students.

Interactive Simulations

Interactive simulations provided by the platform enable students to explore concepts and scenarios in a hands-on manner, enhancing understanding.

Collaborative Tools

Collaborative tools foster teamwork and communication among students, allowing them to work together and share insights effectively.

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BEST PRACTICES FOR USING VR AND AR IN LESSONS



INTEGRATING VR AND AR WITH CURRICULUM STANDARDS

Aligning with Curriculum Standards

Aligning VR and AR activities with curriculum standards is crucial for achieving educational objectives and enhancing learning experiences.

Thoughtful Planning

Thoughtful planning is necessary to effectively incorporate VR and AR technologies into existing lesson plans for optimal educational outcomes.

Enhancing Learning Experience

Integrating VR and AR into lessons not only engages students but also enriches their learning experience by providing immersive environments.



DESIGNING ENGAGING AND EFFECTIVE VR/AR LESSONS

Creativity in Lesson Design

Engaging lessons with VR and AR require a creative approach that utilizes the unique capabilities of these technologies.

Focus on Interactivity

Interactivity is essential for maintaining student interest and enhancing the learning experience through VR and AR.

Clear Learning Objectives

Establishing clear learning objectives helps guide the implementation of VR and AR to ensure effective learning outcomes.



CHALLENGES AND FUTURE DIRECTIONS



OVERCOMING BARRIERS TO IMPLEMENTATION

Cost Challenges

High costs associated with VR and AR technology can deter schools from implementation, making budget planning essential.

Training Requirements

A lack of training for educators on how to effectively use VR and AR technologies can limit their successful adoption in classrooms.

Technological Barriers

Technological barriers, such as insufficient infrastructure or outdated equipment, can impede the integration of VR and AR in schools.



EVOLVING TECHNOLOGY AND FUTURE POTENTIAL

Innovative Education Methods

VR and AR technologies are transforming educational methods, providing immersive experiences that enhance student learning.

Advancements in Technology

Staying updated with advancements in VR and AR is essential for educators to make the most of these technologies.

Opportunities for Student Engagement

Leveraging new VR and AR opportunities can significantly increase student engagement and motivation in learning.