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School of  
Education

**Lecture 11**

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# C-EDUC2: Technology for Teaching and Learning 1

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# Lecture 11



## Virtual Reality (VR) and Augmented Reality (AR) in Education

**Image 1: HOW MOBILE GAMES AFFECT STUDENTS (Source: Dimagiba, 2022: Online)**



## **Alternative Classroom Activities**



# **Technologizing the traditional classroom**

**Transforming the  
conventional  
learning environment**

## Looking back at LECTURE 10



**Gamification is crucial in education since it amplifies engagement, motivation, and learning results using interactive experiences. It cultivates the development of critical thinking, problem-solving, and collaborative abilities, equipping pupils for triumph in a rapidly changing and technology-centered society.**

**Image 2: Adopting 'Minecraft: Education Edition' for game-based learning in Pinagbuhatan High School (Source: PhilStar.com, 2022: Online)**

# Thinking Aloud



**Game-based  
learning upgrades  
the “school  
playground”.**

**Image 2: Adopting 'Minecraft: Education Edition' for game-based learning in Pinagbuhatan High School (Source: PhilStar.com, 2022: Online)**



## **Lecture Objectives**

- 1. Differentiate Virtual Reality (VR) and Augmented Reality (AR) in the context of technology for teaching and learning; and,**
- 2. Determine the learning essentials when using VR and AR in teaching.**

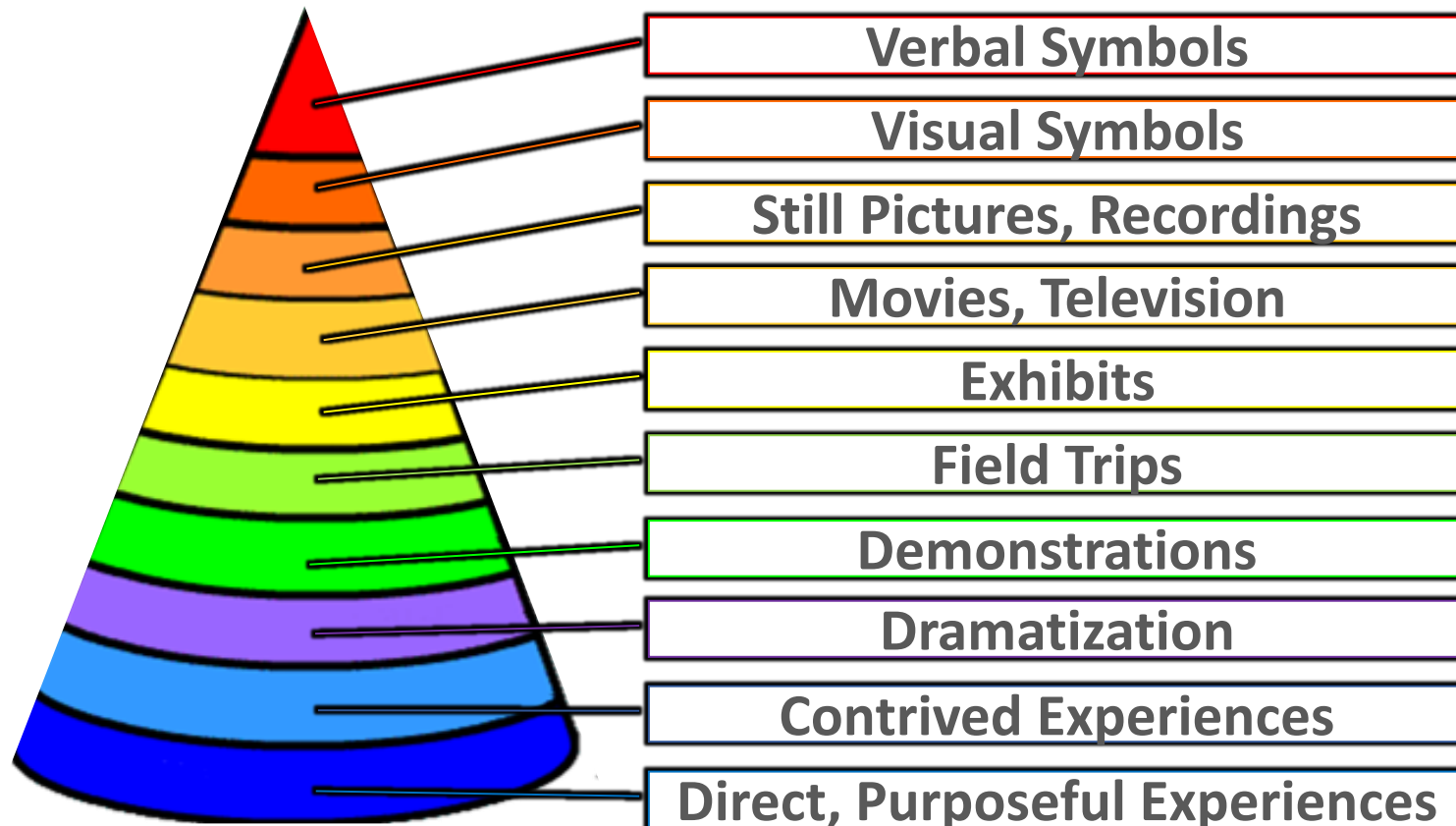


## **Topic 1**

# **Differentiating Virtual Reality (VR) and Augmented Reality (AR)**

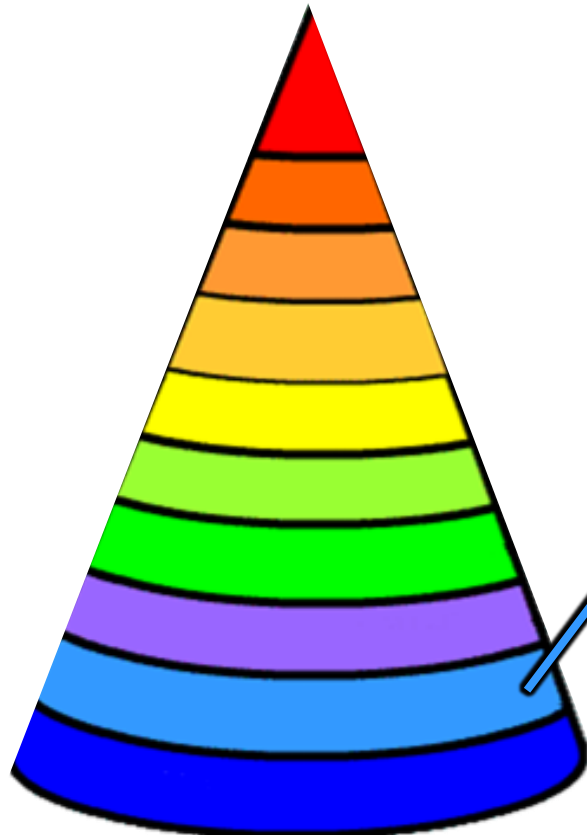
## Looking back further

# Dale's Cone of Experience



## Looking back further

### Dale's Cone of Experience



**Contrived Experiences**

Representational tasks and prototypes to offer an experience that closely resembles reality



**Topic 1: Differentiating VR and AR**

# Contrived Learning Experiences through VR and AR

## Topic 1: Differentiating VR and AR

# Virtual Reality (VR)



- True-to-life settings
- “In-It” experiences
- Usually 4D



**Image 3:** *How virtual reality is changing education*  
(Source: NBNco/blog, 2016: Online)

## Topic 1: Differentiating VR and AR

# Virtual Reality (VR)



**Learning a new language  
as you immerse in real-life  
conversations**

## Topic 1: Differentiating VR and AR

# Virtual Reality (VR)



## 4D Anatomy

Learning the macro and  
micro parts of the human  
body

## Topic 1: Differentiating VR and AR

# Virtual Reality (VR)



Hunting numbers using  
weapons charged with  
the four fundamental  
operations

## Topic 1: Differentiating VR and AR

# Augmented Reality (AR)



**Enriching the physical  
environment with digital  
elements**



*Image 4: Using Augmented Reality in Education: Key Concepts  
and Benefits (Source: Program-Ace, 2023: Online)*

## Topic 1: Differentiating VR and AR

# Augmented Reality (AR)



**Photomath**

**Scanning a math problem  
to explore how it is solved**

## Topic 1: Differentiating VR and AR

# Augmented Reality (AR)



**Quiver**

**Let your hand drawing  
come into life.**

## Topic 1: Differentiating VR and AR

# Augmented Reality (AR)



## **3DBear**

**Learn the meaning of  
words through 3D  
animated characters.**



## **Topic 2**

# **Learning Essentials of VR and AR**



## Topic 2: Learning Essentials of VR and AR

**Immersive Learning  
Experiences**

**Accessibility, Adaptability,  
and Inclusivity**

**Enhanced Engagement  
and Motivation**

**Safe Learning Environments**

**Improved Retention and  
Understanding**

**Cost-Effectiveness**

## Topic 2: Learning Essentials of VR and AR

### Immersive Learning Experiences

The unlimited variety of experiences provides a better view of the learning environment.



**GIF1:** *Virtual Reality in Design & Spatial Planning GIF* (Source: Pinterest, n.d.: Online)

## Topic 2: Learning Essentials of VR and AR

### Enhanced Engagement and Motivation

Animated learning concepts and characters sustain the interest and involvement of students.



**GIF1:** *Virtual Reality in Design & Spatial Planning GIF* (Source: Pinterest, n.d.: Online)

## Topic 2: Learning Essentials of VR and AR

### Improved Retention and Understanding

The hands-on interactive and  
digital experiences create a  
lasting impression in the mind.



**GIF1:** *Virtual Reality in Design & Spatial  
Planning GIF* (Source: Pinterest, n.d.:  
Online)

## Topic 2: Learning Essentials of VR and AR

**Accessibility, Adaptability,  
and Inclusivity**

**The digital environment is  
manipulatively equitable among  
all types of learners.**



**GIF1:** *Virtual Reality in Design & Spatial Planning GIF* (Source: Pinterest, n.d.: Online)

## Topic 2: Learning Essentials of VR and AR

### Safe Learning Environments

The animated learning environments are physical hazard-free.



**GIF1:** *Virtual Reality in Design & Spatial Planning GIF* (Source: Pinterest, n.d.: Online)

## Topic 2: Learning Essentials of VR and AR

### Cost-Effectiveness

Reducing the cost for printing  
and creating learning materials  
and traveling to places.



**GIF1:** *Virtual Reality in Design & Spatial Planning GIF* (Source: Pinterest, n.d.: Online)



## **Lecture 11: CONCLUSION**

**VR and AR have many educational benefits, such as making learning more fun, accessible, and facilitative of understanding. As these technologies evolve, they give teachers and students new ways to learn and improve outcomes.**



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