



WK7Assgn_VanWyk_L

MIDT-6110

Emerging Web Technologies

WEEK 7:

Virtual Reality Learning Experience



Outline of VR Project

South African Safari			
Topic of Experience:	Platform Chosen:	Link to VR Experience:	
South Africa’s Big 5 from the Savanna	Nearpod	Link: https://app.nearpod.com/?pin=QPLI4 Code: QPLI4	
Objective, Directions and Multimedia			
Learning Objectives:	Instructions for Learners:	Multimedia	
- I can identify the Big 5 animals native to South Africa (lion, leopard, elephant, rhino, and buffalo). - I can describe the unique characteristics and adaptations of each animal. - I can locate the South African Savanna on a map and understand its ecosystem.	Welcome to your virtual safari! Use your mouse or finger to explore each hotspot in the South African savanna scene. Click on each animal to learn fascinating facts, view images and videos, and complete interactive questions.	- Audio narration for accessibility. - HD images and labeled animal diagrams. - Short video clips from actual South African game reserves. - Background ambient savanna sound for immersion.	
Interactive Elements			
Quiz	Fun Facts	Games	Reflection Question
Self-check multiple-choice questions after each animal hotspot (CCQs).	“Did You Know?” fun fact popups to spark curiosity.	Drag-and-drop matching game (optional, depending on tool capacity).	“Which animal would you like to see in real life and why?”

Details of each VR Component			
Animal	Quiz	Fun Fact	Game Idea
Lion	1. What is a group of lions called? A) Herd B) Pride ☒ C) Troop D) Pack	Lions are the only cats that live in social groups (prides).	'Match the Lion Body Parts' Drag labels like mane, tail tuft, paws, whiskers onto a lion image.
	2. Who usually does most of the hunting in a lion's pride? A) Males B) Cubs C) Females ☒ D) All together	A lion's roar can be heard from up to 8 kilometers away!	
Leopard	1. What helps a leopard stay hidden while hunting? A) Its loud roar B) Its spotted coat ☒ C) Its size D) Its tail	Leopards are excellent climbers and often drag their prey into trees to keep it safe.	'Find the Hidden Leopard' Drag camouflaged animals to match them with their correct environment.
	2. Where do leopards often hide their food? A) In burrows B) Under leaves C) In trees ☒ D) In caves	Each leopard has a unique pattern of rosettes (spots), like a fingerprint!	
Elephant	1. What part of the elephant helps it smell, grab food, and drink? A) Ears B) Feet C) Trunk ☒ D) Tusks	Elephants use their ears to cool themselves down like built-in fans.	Elephant Puzzle Assemble an elephant image from trunk, tusks, ears, feet, and tail pieces
	2. Elephants are known to: A) Sleep all day B) Cry real tears C) Have great memory ☒ D) Change color	An elephant's trunk has more than 40,000 muscles!	
Rhinoceros	1. What is the horn of a rhino made of? A) Bone B) Ivory C) Hair (Keratin) ☒ D) Teeth	Rhinos have poor eyesight, but they can smell danger from far away.	'The perfect home' Drag food, water, and shelter items into a "perfect habitat" zone for the rhino.
	2. Which sense is strongest in a rhino? A) Sight B) Hearing C) Smell ☒ D) Taste	A group of rhinos is called a "crash" – crash of rhinos!	
Cape Buffalo	1. What helps protect a buffalo from predators? A) Sharp claws B) Strong herd behavior ☒ C) Fast speed D) Loud roars	Buffalo are known as "The Black Death" for their strength and aggression when provoked.	'Identify the animal footprints' Match the animal to the footprints
	2. What are the curved horns of a buffalo used for? A) Listening B) Balancing C) Defense ☒ D) Flying	They have incredible memory and can recognize threats from years ago.	

Rationale Statement

This virtual learning experience was designed using Nearpod to offer a low-cost, immersive learning journey through the South African Savanna. The decision to focus on the Big 5 stems from their cultural and ecological significance, as well as their appeal to young learners. According to Elmira et al. (2022), immersive environments, such as augmented and virtual reality, significantly improve learner performance by promoting deeper engagement. This aligns with our goals of fostering curiosity and retention in elementary learners.

Nearpod was selected due to its accessibility, multimedia support, and ease of use. Sharrab et al. (2023) emphasize that VR should support meaningful interactivity, and this platform enables, VR Tours, embedded videos, and self-check quizzes that enhance learner agency. The experience adheres to best practices in instructional design by incorporating clear objectives, multimodal content, and active learning strategies.

Auditory narration, visual stimuli, and exploratory elements further support engagement. According to Yougang (2022), learner engagement is a critical predictor of learning outcomes in VR environments. By encouraging learners to explore, interact, and reflect, this experience aims to build knowledge through experiential learning.

Ultimately, this experience helps students connect with global ecosystems and supports 21st-century skills, such as observation, critical thinking, and digital literacy, in a playful and educational context.

References:

- Elmira, O., Rauan, B., Dinara, B., & Etemi, B. P. (2022). The effect of augmented reality technology on the performance of university students. *International Journal of Emerging Technologies in Learning*, 17(19), 33–45. <https://doi.org/10.3991/ijet.v17i19.32179>
- Sharrab, Y., Almutiri, N. T., Tarawneh, M., Alzoud, F., Al-Ghuwairi, A.-R. F., & Al-Fraihat, D. (2023). Toward a smart and immersive classroom based on AI, VR, and 6G. *International Journal of Emerging Technologies in Learning*, 18(2), 4–16. <https://doi.org/10.3991/ijet.v18i02.35997>
- Yougang, X. (2022). Influence of Learning Engagement on Learning Effect in Virtual Reality (VR). *International Journal of Emerging Technologies in Learning*, 17(5), 226–237.