

VR Expeditions

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Time Frame 2 to 3 hours

Essential Question(s)

- How can an authentic, technology-enriched learning environment increase student engagement and academic performance?

Summary

This professional development focuses on understanding how virtual reality (VR) can take teaching and learning to a higher level through real-world connections, 21st-century skills, and critical thinking. Participants explore VR, and then they use VR resources to enhance a current lesson or learning activity.

Learning Goals

- Experience VR Expeditions through a career exploration;
- Explore available expeditions and lessons;
- Apply understanding of VR expeditions in the creation of a classroom activity.

Attachments

- Slides_VR Expeditions.pptx
- VR Expeditions Note Sheet.docx
- VR Expeditions Note Sheet.pdf
- VR Expeditions_Window Notes.docx
- VR Expeditions_Window Notes.pdf

Materials

- VR headsets
- VR tablet connected to the headsets
- Handouts
  - Agenda
  - VR Expeditions Note Sheet
  - VR Expeditions Window Notes
- Chromebooks or Laptop
- Think-Pair-Share strategy

60 minutes

Engage

Session Note

Session Note: This professional learning session is designed using Lenovo VR. The sections below use Lenovo VR specific programs, but other devices may have similar features. Modify the exploration and learning activities by using those available to the specific device.

Using the attached **Presentation Slides**, display **slide 2** and introduce the session and welcome participants. This session is about exploring and understanding how virtual reality (VR) can take teaching and learning to a higher level through real-world connections, 21st-century skills, and critical thinking about the possibilities virtual reality brings to the classroom. Display **slide 3** and share the following 360-degree video. You can either project the 360-degree video on the large screen and move the video around while it plays or provide a shortened link allowing participants to watch and manipulate the video on their own devices.

Facilitator's Note

There are many 360-degree videos available on YouTube (360 featured, National Geographic, Air Pano VR, etc.). Select the video most appropriate for your particular audience.

Ask participants how this experience was similar or different from a normal video.

Give participants a VR headset. Display **slides 4-8** to introduce participants to the basic and most relevant device features. (NOTE: *these five slides are specifically designed to introduce the Lenovo VR headsets).*

Display **slide 4** and instruct participants to look at their remote while reviewing the features highlighted on the slides. The front of the remote contains a *back button*, a *home button*, and a *track pad* similar to a computer to help participants navigate the VR spaces. The volume on the headset is controlled by the two buttons on the side of the remote. On the back, there is a trigger for selecting options when the touchpad will not confirm a desired selection.

Display **slide 5** and have participants look at the outside of the headset. Help them identify the different parts of the headset. Turn on the headset by holding down the Power Button. When the device needs to be charged, plug in the charger next to the power button. The light will indicate when a headset is fully charged. An SD Card can be added to any headset to increase the storage available on a headset. The volume can be adjusted directly on the headset, if needed. The Audio Plug is for earphones. Each headset can connect to wireless earphones by connecting via Bluetooth through the device settings.

Display **slide 6** and explain that the headset also contains the *Back*, *Confirm*, and *Home* buttons on the right side of the headset.

Display **slide 7** and explain that each headset comes preloaded with a few free sample VR programs. To receive the full programs, sites must purchase a subscription and download them to each device. **VEATIVE** contains content specific lessons that can be used to teach or extend a variety of lesson topics.

VICTAR (also known as Launch Your Career) is a program that enables students to explore different career pathways that are connected to their interests and strengths.

Wild Immersion, endorsed by Jane Goodall, is a series of 360-degree videos that creates an immersive experience for learners.

Display **slide 8** and explain that when participants put on the headset, they should see the image displayed on the slide. While wearing the headset, if they need help locating the different functions on the remote, hold the remote in front of the headset.

Display **slide 9** and instruct participants to select the Wild Immersion program and one of the three videos provided (Amazon, Africa, or Asia). Have participants explore one of these 360-degree videos.

Caution!

While using the headsets, remind participants to remain seated and swivel around on their chairs or, if standing, to confirm there is nothing to trip over while turning right and left. No one should try to walk in any direction while actively using the headsets. If participants get dizzy or motion sick easily, they may want to consider not using the device or to use only when seated. If they become dizzy, remove the device immediately and notify someone.

Time Consideration

If short on time, consider limiting the 360-degree videos to 5 minutes each. This enables participants to experience both types of 360-degree videos. Set a timer alerting participants when it is time to rejoin the session.

Move to **slide 10** and have participants discuss the 360-degree video from the beginning of the session and the 360-degree video viewed through the VR device. With a partner or small group, have participants consider the following questions. How were the two experiences similar? How were they different?

What are some advantages of using VR in the classroom? Allow participants to share some of the things they discussed.

Possible Responses

Advantages: Active and experiential learning, immersive experiences, multi-sensory learning, broadens perspective, gives exposure to both the past and future.

Display **slide 11.** This slide is hidden by default. Only display if presenting a GU PD.

Display **slide 12** and share the essential question. Explain that this is the overarching question that you will address at the end of the session. As you continue to work with the VR headsets, keep this focus in mind.

Display **slide 13** and summarize the objectives for the session. Explain that participants are going to experience a model activity that can be integrated in any classroom. This activity is focused on Career Exploration.

45 minutes

Explore

Display **slide 14** and pose the question, "Why is education beyond high school important to the future of your students?" Have participants use the Think-Pair-Share strategy to engage with this question.

Possible Responses

It is important to be able to participate in a tech-driven world. Students want increased income, increased career opportunities, increased happiness, increased health, more civic and community engagement, and opportunities to grow their professional and social connections.

Display **slide 15** and have participants use the two questions on the slide to brainstorm ideas.

Display **slide 16**. Participants use the headsets and remotes to begin the career exploration through the program VICTAR/Launch Your Career. During the allotted time, participants will complete the following:

1. Select the Launch Your Career application.
2. Complete the online personality quiz so the system can identify key characteristics, likes, and dislikes of each individual. Participants can learn more about their personalities and view celebrities with the same characteristics and preferences.
3. The system uses responses to highlight specific careers that align with that individual. The system does not eliminate career choices based on responses.
4. Explore a variety of careers and watch interviews by professionals in those fields.

Online Option

If there are not enough devices or someone cannot use the VR headsets, instruct participants to go to My Next Move to sort careers by interests based on the profile quiz.

Display **slide 17**. After finishing the exploration, have participants work with their partners or table groups to discuss their experience from the career tour. Ask a few participants or groups to share out to the whole group.

45 minutes

Explain

Display **slide 18**. Drawing on their experience with the VR headsets, have participants discuss the two questions on the slide with their partners or table groups and then share a few responses with the whole group.

Possible Responses

The benefits of student interest and choice are present in this activity and students are not limited to the careers or professionals only in our local area. A challenge is that students are not able to ask questions to a professional at that moment and may not have the opportunity to ask someone at a later time.

Extend the conversation to classroom content and career cafés. Highlight the Zoom into Your Career videos on K20's YouTube channel. Zoom into Your Career videos are previously recorded career talks with former OU students. These videos provide an opportunity to hear directly from a professional in a variety of careers and their postsecondary journey. These videos can be used in conjunction with teacher lessons to connect coursework to future opportunities.

Display **slide 19**. Distribute the **Window Notes** handout. Introduce the SAMR model as a resource to consider how all integrated technology can be used at different levels to provide students with an enhanced learning experience. While watching the video, participants fill out the first two boxes (facts and questions) of their Window Notes handout.

Already Familiar with SAMR?

Remind participants how SAMR is a model used to scaffold integrated technology at different levels. Allow participants to share their understanding and uses of the SAMR model. Participants can watch the video to obtain a common understanding or refresh their understanding of SAMR.

Have participants explain how VR headsets fit within the SAMR model. If additional explanation is needed, explain that virtual reality tools and resources shift integration to the Modification and Redefinition level because they take students to places they aren't otherwise able to go. Refer to the career tour experience and the 360-degree videos and explain how these are examples of modification and redefinition.

Transition by telling the teachers they're going to look at how they can incorporate VR programs and experiences into a content lesson.

45 minutes

Extend

Display **slide 20** and encourage participants to take what they have learned about virtual reality and apply this knowledge to their own lessons and activities. They will use the **Additional VR Resources** to identify websites and tools to enhance their own lessons. Have participants record at least three specific resources on the **VR Expeditions Note Sheet.** On this sheet, they are listing the title of the resource, a summary of it, an explanation of it meets/addresses the standards they teach, and how they could incorporate it in a lesson or activity to enhance the student's experience.

After participants work on the Note Sheet for 15 minutes, have them share out what they found.

Teacher's Note

There are two resources on this document that were created using Google Expeditions (noted with *). While Google Expeditions has been converted to the Google Arts and Culture site, there may be some links that no longer work on these two resources. However, they are a great starting place for ideas about integrating or designing VR lessons.

Display **slide 21** *(optional if time allows)*. Have participants begin to construct or adapt lessons to integrate the virtual reality resources they found.

If the VR devices come with teacher/classroom software, have participants begin uploading the content to their VR classroom. Lenovo devices use LandSchool Air and Think Reality Portal. Both of these can be accessed through a school subscription account.

Allow at least 15 minutes for this portion of the activity.

30 minutes

Evaluate

Display **slide 22**: After at least 15 minutes of work time, review the session's essential question. Ask participants to share what they plan to use and how it will increase student engagement and academic performance.

The end the session, have participants return to their Window Notes handout and fill out the feelings and ideas sections.

If the school is a K20 partner, show **slide 23** and have participants complete a Trek evaluation. If you are not a K20 partner school, then hide the slide.

Research Rationale

As with all technological innovations, the teacher and the pedagogical strategies are more important than the technology. In the context of English Language Arts, virtual reality and augmented reality technologies can be used to support students both through visual and experiential scaffolding, as well as by helping to build background knowledge about content (Pilgrim and Pilgrim, 2016).

These technologies have been shown to improve student reading comprehension skills perhaps because students find the technologies to be fun and motivational (Bursaliand Yilmaz, 2019). To be effective, the technology must be combined with pedagogically sound, well-designed learning tasks (Hockly, 2019). Finally, the technology is most effectively integrated into the curriculum when teachers are involved in a collaborative design process for new lessons, or when they customize existing lessons based on stated learning goals (Patterson and Han, 2019).

Resources

- Green, Mandy and Matthew McDonald. Immersing students in emerging technologies. Professional Learning. https://learn.k20center.ou.edu/professional-learning/1321?rev=30128
- K20 Center. (n.d). Elbow partners. Strategy. https://learn.k20center.ou.edu/strategy/116
- K20 Center. (n.d). Think-pair-share. Strategy. https://learn.k20center.ou.edu/strategy/139
- K20 Center. (n.d.). Zoom into your career. YouTube - Videos. https://www.youtube.com/playlist?list=PL-aUhEQeaZXIhi-ivvrQTrrEAlWvFWisR
- Richard Colosi Media. (October 18, 2018). SAMR model explained by students (higher resolution). YouTube. https://youtu.be/7nSTnwbNM58