Appendix C

Sample Lesson Plan

Objective

Drive use of extended reality environments and experiences in the library. Hold educational workshops around different VR and AR titles.

Introduction of Activity

Adapted from The New Instruction Librarian by Candice Benjes-Small and Rebecca K. Miller

Greet participants and give them a general overview of the workshop sharing with them what they will learn, explain the equipment, safety and set up. Explain to them what you do. To most people everyone who works in the library is a “librarian.” People are often surprised to learn librarians have advanced degrees and that we don’t spend our work time reading novels. By briefly profiling your background, what the Nevada XRLibraries (emerging technology early adapter) program is about you are framing yourself as a subject matter expert, implying that participants should listen to you.

As noted you should talk about the learning outcomes of the session. What are you hoping students will learn during the workshop? What is the purpose. You might want to ask the participants what materials they generally use when conducting research. What databases do they know about? It is important to help people remember why they are in the library and set up the expectation that they will be participating not just engaging passively.

Appeal to emotions by making personal connections. Ask people who speak to share their names and try to remember what they say. If someone mentions that they struggle with learning abstract concepts, call back to this when you show something in the Lifelike library that illustrates the ease of learning in 3D.

Make sure you always engage people in a positive way, never belittling them. If someone says they don’t want to use the extended reality platforms and experiences because Google is easier, frame that as a challenge to show them the wonders of library resources: “Sure, Google is great. But not everything is in it, like this super amazing 3D model. Let’s take a look at it and see if I can convince you it’s cool!” If a person expresses resentment for being back for yet another training session, try to turn the person into a “voice of experience” for the entire group: “Hey, you mentioned you use Google a lot. Before we keep going what is it you like about it?” Note to SELF: when you do this the other people in the workshop will likely perk up and listen.

Title and Activity + Description

Each lesson will have a description of the title along with a unique lesson plan for the workshop prepared in the handout. Give participants and overview of the title and the activities that occupy the assigned stations.

Background

Having a printout with history and pictures about the educational workshop topic will provide a critical resource.

For example, Human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human anatomy and physiology are treated in many different articles. For detailed discussions of specific tissues, organs, and systems, see human blood; cardiovascular system; digestive system, human; endocrine system, human; renal system; skin; human muscle system; nervous system; reproductive system, human; respiration, human; sensory reception, human; skeletal system, human. For a description of how the body develops, from conception through old age, see aging; growth; prenatal development; human development. Encyclopedia Britannica. (2018). Human body.

Readiness Activities
Each workshop will have available to them material for multiple activity stations, review this content with your participants before the beginning of the educational workshop.

**XR HUMAN BODY LESSON PLAN**

**MATERIALS LIST**
Depending on the educational workshop, supplies may be needed to aid in a lesson plan, an example would be the use of an iPad/Chromebook reviewing Lifeliqe 3D life science objects while working with the Lifeliqe Museum title *Human Body*, a learning experience focused on anatomy and physiology

1) Paper and pencil to sketch
2) iPads/Chromebooks
3) Books related to human anatomy

**TIMEFRAME/AGE DEMOGRAPHICS/GROUP SIZE**
You must consider the amount of time, the age and the number of participants for your educational workshop. With one VR unit available, classes should stay below 10. This will allow for each participant to have enough time to experience a VR exercise within a one-hour program.

**AGENDA**
Having a structured time frame for your educational workshop will help things run smoothly, and allow for equal participation around the stations set up, for example

- 10 mins educational workshop introduction
- 30 mins activity session
- 10 mins to sketch
- 10 mins reflect and complete survey

**REFLECTING AND PROJECTING**
After participating in the virtual session participants should be asked to reflect on what they participated in, do they feel they have a better understanding of the subject matter now that they’ve seen it in VR? Ask them to complete the survey and thank them for participating.

**GROUP WORKSHOP HUMAN BODY PROGRAM**

For a group of participants, set up iPad/Chromebook learning stations, this will help keep everyone engaged while waiting to get into virtual reality.

Gather everyone together to explain the educational workshop, expectations, timing etc. Distribute participants evenly across the stations to get started – two on iPads/Chromebook and one in virtual reality. Be sure to keep tabs on timing to move everyone forward.

**WHAT:** Information literacy instruction with the sample research topic: *human biology*

**WHERE:** On an iPad/Chromebook looking at Lifeliqe 3D models and in Lifeliqe Museum Virtual Reality Human Body experience

**LEARNING OUTCOMES:**
• compare extended reality research with traditional research experiences to gain confidence that extended reality formatted research is achievable
• access and explore at least one scholarly extended reality database to conduct a basic search
• identify librarians as friendly, helpful, accessible resources to feel comfortable asking for support then you need it during a research process

SAMPLE LESSON PLAN AND SCRIPT:

1) Introduce yourself and what you do in the library
2) Goals: we will be going over extended reality research compared to traditional research resources so that you gain confidence that extended reality formatted research is achievable, and in fact more effective. You will also use a search strategy to find 3D models and virtual reality experiences.
3) First, tell me about how you typically conduct research?
   **SCENARIO:** Let’s say you are working on a 3-person team preparing for a professional conference, your group is presenting on a health issue related to the impacts of pesticides on human health, and your team is tasked with showing optimal health. So, each of you will deliver a 5-minute talk and start by explaining what “healthy” human biology looks like. You will include visuals of your favorite healthy human biological system. You must cite 1 scholarly source. What sources in information would you typically use? Give the group time to share thoughts.
4) So we need to create a research question, a sample research question might be: **What are the different systems and organs that make up human biology?**
   a. Keywording:
      • What are the most important words from the research question? **Different, systems, organs, human, biology**
5) Let’s look at the Lifeliqe database on the iPad/Chromebook. This is a collection of over 1,000 3D models, to include human biology. (Have participants go into the app.)
6) Let’s look at the interactive 3D models on human biology – browse for different systems, organs and explore.
7) Do you have good results?
8) Now look through the entire Lifeliqe catalog, see the different subjects. As two team members are looking through the iPad/Chromebook, the other enters the Lifeliqe anatomy experience.
9) Review the basic concepts covered:
   a. We’ve navigated a new kind of collection using extended reality tools and content.
   b. Remind people that they were able to explore at least one scholarly resource to conduct a basic search!
   c. Remind them that they got help from the library.
10) Thank participants and ask them to fill out the survey.

SUGGESTED LEARNING STATIONS

**LIBRARY RESEARCH:** FURNISH WITH PRE-SELECTED LIBRARY MATERIALS about human anatomy

**VIRTUAL REALITY:** With a trained XR Librarian-on-Duty, review hardware use and safety then split time equally among participants. Give participants time to explore, play, and get acclimated. Have participants start from a convenient location in above the Lifeliqe Museum Human Body experience have them tell the group 2 – 3 specific parts they are locating.

**VISUALISATION STATION CHALLENGE:** See if participants can draw what they were looking at in greater detail than they otherwise might have been able to do.